



GEO
Environmental Engineering



PHASE 1: DESK TOP STUDY REPORT

AND MINING RISK ASSESSMENT

PROPOSED RESIDENTIAL DEVELOPMENT OF LAND AT:

PARKSIDE ROAD, CLEATOR MOOR

CUMBRIA

FOR

GENESIS HOMES (NORTH) LIMITED

GEO Environmental Engineering

DOCUMENT CONTROL SHEET

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Client: Genesis Homes (North) Limited

Consultant ~



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1.0 Introduction

1.1 Instruction

Geo Environmental Engineering Ltd (GEO) have been commissioned by the Client, Genesis Homes (North) Limited to undertake a Phase 1: Desk Top Study Report and Coal Mining Risk Assessment for land off Parkside Road in Cleator Moor, Cumbria to determine any potential geohazards that may affect the development of the site.

It is understood that the Client is considering developing the site for residential end use. Further details relating to the scope of development are included in Section 2.1.

This Phase 1: Desk Top Study Report (Preliminary Geo-Environmental Appraisal) is suitable for submission to the Local Authority as part of a planning application.

1.2 Objectives

The main objective of this Phase 1: Desk Top Study (DTS) Report is to assess the geological and environmental sensitivity of the development area and the surrounding environs to determine any potential geohazards that may impact the proposed development. Particular attention is made to any potentially contaminative industries or processes that may have taken place on site or immediately adjacent which may be considered as potentially posing a risk of ground/groundwater contamination and ground gas that could negatively affect the proposed end users, adjacent sites and controlled waters. This Phase 1: Desk Top Study Report has been completed in accordance with the following documents:

- Land Contamination Risk Management Stages 1 to 4 (LCRM – www.gov.uk) – April 2021.
- CLR11: Model Procedures for the Management of Land Contamination. DEFRA/EA, 2004.
- BS10175: 2017: Code of Practice for the Investigation of Potentially Contaminated Sites.
- BS5930: 2020: Code of Practice for Site Investigations.
- BR211: 2023 Radon, Guidance on protective measures for new buildings.
- UK Specification for Ground Investigation, 2nd Edition. Site Investigation Steering Group, 2011.
- Effective Site Investigation. Site Investigation Steering Group, 2013.

1.3 Third Party Data Sources

During the completion of this DTS, information has been obtained and reviewed from the following sources:

- British Geological Survey (BGS) Geological Mapping Data
- Environment Agency (EA).
- Enviro+Geo Insight Ground Sure Report – (GSR – Appendix II).
- Ordnance Survey Historical Maps (Appendix III).
- The Coal Authority Consultants Coal Mining Report (Appendix IV) and Online Database.

A site walkover was completed in January 2024. A summary of the site walkover is included in Section 2.0 and photographs of the site are presented in Appendix I.

1.4 Limitations of Use

The information, assessments, conclusions and recommendations presented within this Phase 1: Desk Top Study (DTS) Report are solely based on, and are limited to, the boundaries of the site, the immediate area and the historical use(s) as described.

This DTS has been completed using information relating to the physical and environmental setting of the development area, highlighting, where possible, any potential geohazards that might be encountered with respect to the proposed Residential end use.

Therefore, if a change in the proposed end use is envisaged, then a reassessment of the development area should be carried out.

Consequently, any comments, opinions, diagrams, cross sections and/or sketches contained within the DTS, and/or any configuration of the findings is purely conjectural and given for guidance only as no intrusive investigation works have been completed by Geo Environmental Engineering Ltd and it is recommended that confirmation of the anticipated ground conditions should be considered before development proceeds.

The conclusions and recommendations presented within this report are considered reasonable based on the available information. However, these cannot be guaranteed to gain regulatory approval. Therefore, the report should be passed to the appropriate regulatory authorities and/ or other key stakeholders, including warranty providers in order to seek their approval of the findings prior to undertaking any works on site and prior to development.

Reliance on the report is for the named Client only. Agreement for the use or copying of this report by any Third Party must be obtained in writing from Geo Environmental Engineering Ltd. Reliance on the report is strictly in accordance with the Geo Environmental Engineering Ltd Standard Terms and Conditions, copies of which are available on request.

2.0 Site Location and Development Proposals

2.1 Development Proposal

It is understood that the site will be developed for residential end use. A proposed site layout plan has been provided and a copy is included in Appendix I. The plan indicates conventional detached and semi-detached housing with private gardens, general areas of soft landscaping, access roads, car parking and other associated infrastructure.

Further details relating to the proposed development should be obtained from the Consultant.

2.2 Site Location

The site, occupying an area of c.5ha is located in the eastern part of Cleator Moor in Cumbria as indicated on the site location plan included in Appendix I. Access to the site is from Parkside Road (A5086) to the south east.

- National Grid Reference: 302890, 515010
- Post Code: CA25 5EE (approximate only)

2.3 Site Description and Levels

A site walkover was completed in January 2024 and a selection of photographs of the site are included in Appendix I.

The site comprises several agricultural fields which are surfaced with grass and used for pasture. The site is partially delineated by fences and hedgerows. Some of the boundaries along the east of the site are not physically delineated.

There was no evidence of any contamination sources (bulk fuel/oil or chemical storage) noted on the site during the walkover.

The site undulates with a significant rise to the central part of the site. Topographical survey data is presented on the proposed site layout plan in Appendix I. The data indicates that site levels rise from the lowest point in the south east at c.90m OD, rising steadily to the highest point just west of centre at c.101m OD. Site levels along the north western boundary are at c.93m OD.

2.4 Surrounding Land Uses

Existing residential properties are present to the south. Agricultural fields are present to the north and west. The A5086 (Parkside Road) is present to the east with agricultural fields beyond.

There was no evidence of any contamination sources (heavy industry, fuel stations, etc.) noted in the area surrounding the site during the walkover.

2.5 Existing Infrastructure and Utilities

A review of statutory utility supplier records lies outside the scope of this report. It is recommended that all utility plans are reviewed prior to commencing any development works.

3.0 Geo-Environmental Setting

This section is based principally upon a search of information available on public registers and obtained through the Ground Sure Report (GSR) to determine any environmental or geological constraints to the proposed development.

- Sections 3.1 to 3.4 refer to the Enviro+Geo Insight Ground Sure Report contained in Appendix II.
- Section 3.5 refers to the Historical Map Extracts contained in Appendix III.

3.1 Development Area Geology

A geological review of the site has been undertaken using information provided on published geological maps (BGS Sheet 28 Whitehaven, Solid and Drift Edition, 1:50,000 scale) and the Ground Sure Report (GSR) contained in Appendix II.

Extract of the geological maps from the GSR are included below as Figures 1 and 2.

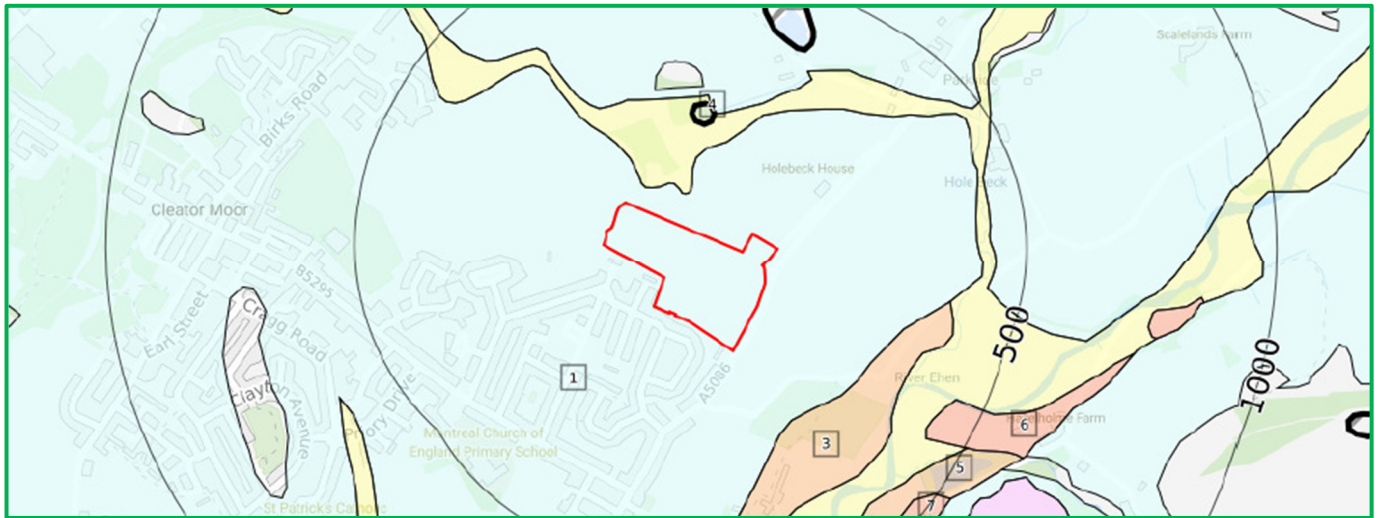


Figure 1. Drift Geological Map Extract

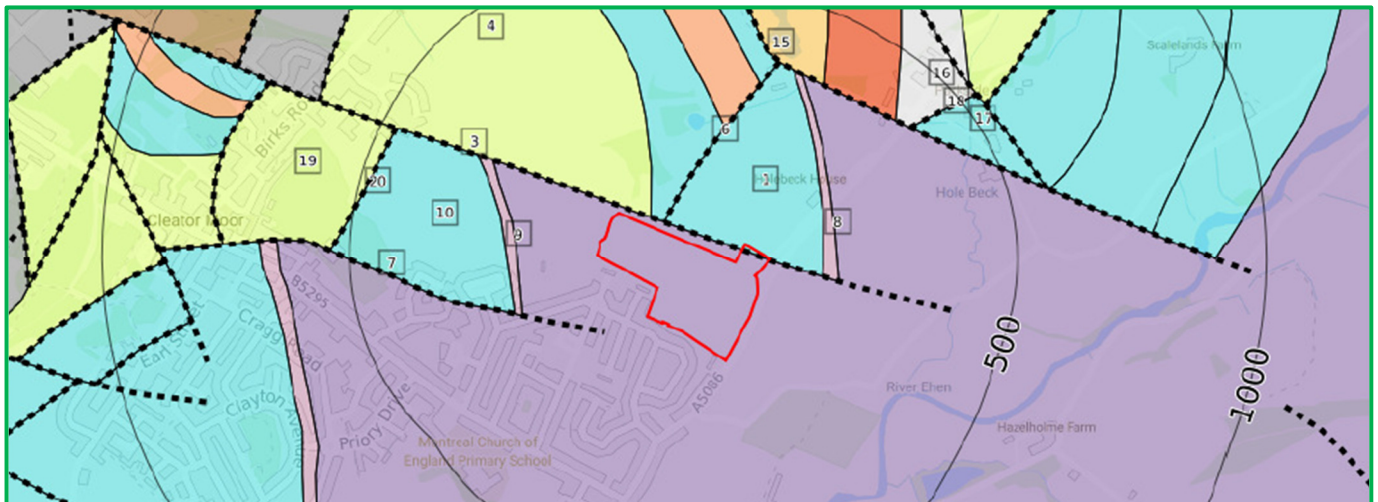


Figure 2. Solid Geological Map Extract

3.1.1 Made Ground

A review of the published geological map and the GSR does not indicate any made ground on the site, however, several areas of made ground are recorded within the vicinity. An inspection of the historical maps suggest that these are associated with former quarries and iron ore mining. The nearest area of made ground is recorded c.234m north and relates to Birks Iron Ore Works. The infilling appears to occur during the mid-1950s/60s.

Agricultural land can be disturbed/re-worked and some undulations may have been infilled. Topsoil materials on agricultural land can frequently include coarse granular anthropogenic material (i.e. fragments of ash, clinker, brick, etc.) that may have been added to aid drainage. Therefore, some made ground may be encountered on site associated with previous farming activities.

3.1.2 Drift Geological Deposits

A review of the published geological map and the GSR indicates that the site is underlain by glacial till deposits. These deposits typically comprise firm and stiff gravelly clays with bands of sand and gravel. Boulders may also be encountered.

The GSR indicates the following geohazards and associated preliminary level of risk:

■ Shrink-swell clays	very low risk.
■ Landslides	very low risk.
■ Compressible deposits	negligible risk.
■ Collapsible deposits	very low risk.
■ Running sands	very low risk.

The drift deposits are classified as a Secondary Aquifer.

Phase 2: Ground Investigation works are recommended to aid the design of foundations, roads, drainage and retaining structures. This work would be at the discretion of the Client and/or Design Team.

3.1.3 Bedrock Deposits

Reference to the published geological map and the GSR indicates the site is underlain by the Buttermere Formation. This typically comprises sheared and folded mudstone, siltstone and sandstone turbidite deposits and is devoid of coal seams.

Immediately north of the site and partially underlying the north eastern boundary are strata of the Frizington Limestone Formation. This typically comprises shales and limestones. A review of the historical maps suggest that the iron ore mining was within this strata.

The solid strata are classified as Secondary 'A' and 'B' Aquifers.

The GSR indicates a predominantly negligible risk associated with the dissolution of soluble rocks. The north eastern boundary is partially underlain by the Frizington Limestone Formation which has a very low risk of dissolution of soluble rocks, however, the proposed layout plan does not indicate any development in this part of the site.

3.1.4 Historical Investigation Records

There are several historical boreholes recorded on or close to the north western boundary, many of which appear to be exploration boreholes for Alby Quarry. Many of the borehole logs do not include depths and

reference shale, sandstone and lime strata with no further detail. None of them reference Haematite, iron ore or anything similar.

Only one of the boreholes located c.197m north includes depth data, however, this borehole is located within a different geological setting (underlain by the Frizington Limestone Formation). This indicates bedrock at c.24m bgl, underlain by limestone bedrock with occasional thin hematite veins. The shallowest hematite vein is c.0.13m thick at c.25m bgl. It is unclear if the seam was mined at this location, however, historical mapping indicates several old iron stone workings to the north and north west of the site.

3.1.5 Geological Features

An inspection of the geological map and the Coal Authority plan (Appendix IV) indicates that a fault crosses through the north western part of the site. The geology to the north of the fault appears to comprise the Buttermere Formation in which most of the Ironstone Workings are located.

3.1.6 Coal Mining Assessment

Reference to the published geological map and the GSR indicates the proposed development is underlain by the Buttermere Formation which typically comprises sheared and folded mudstone, siltstone and sandstones and is devoid of coal seams.

Reference to The Coal Authority (CA) online database indicates that the site is located within a 'Coal Mining Reporting Area' as the site is located in the vicinity of coal bearing strata. However, based on the geological setting, the coal seams are very unlikely to be present beneath the site.

A CA Consultants Coal Mining Report has been acquired for the site (ref: 51003398684001, dated: 11th January 2024). The report indicates that there is no recorded coal mining beneath the site. The CA report does not identify any other geological risks on or within the vicinity of the site.

Based on the information presented above, the risk to the site from possible coal mining is considered negligible.

3.1.7 Iron Ore and Mineral Mining / Quarrying Assessment

The GSR indicates that the site is located in an area where mineral veins may have been mined. The report includes the following comment with regards to mineral vein mining:

"Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered."

The report indicates a possible risk to the proposed development from possible mineral (iron ore) mining. A review of the geological and historical mining maps indicate that iron ore mining was located to the north of the site within the Frizington Limestone Formation.

A Coal Authority Consultants mining report was acquired for the site as the CA also keep records of iron ore mining. The report indicates that there is no known mining beneath or within the vicinity of the site. The CA report does not identify any other geological risks on or within the vicinity of the site.

Based on the information presented above, the risk to the proposed development from iron ore mining is currently considered negligible. The GSR also notes that the site is not at risk of brine extraction, tin mining, clay mining, gypsum extraction or natural cavities.

3.1.8 Radon Gas Assessment

The GSR indicates that the development site is located on the boundary of a Radon Affected Area as defined by the British Geological Survey and UK Health Security Agency, as between 10% and 30% of properties are affected (see Figure 3). This area requires full radon protection measures.

However, the majority of the site is not located within a Radon Affected Area as less than 1% of properties are above the action level. This area does not require radon protection measures.

It is recommended that the Local Authority are consulted in regard to which properties require radon protection measures. It is likely that properties along the north eastern part of the site will require radon protection measures, but this should be confirmed. The LA may require all properties to include protection measures as a precaution.

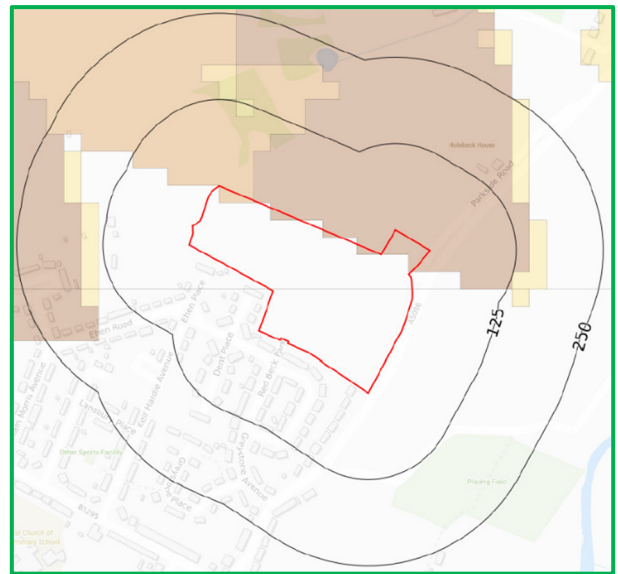


Figure 3. Radon Protection Zones

The site will require consultation with the Local Authority (LA) with respect to the appropriate protection measures and their installation. The LA may require a Ground Gas Verification Plan which provides details of the protection measures that are required and how they will be installed, along with the verification parameters.

3.2 Development Area Hydrogeology (Groundwater)

3.2.1 Made Ground/Soils

Any made ground/topsoil materials on site are likely to be classified as high permeability (i.e. worst-case scenario assumed until proven otherwise).

3.2.2 Drift Geology

The drift deposits beneath the site are classified as a Secondary Aquifer. This is assigned where it is not possible to attribute either category A or B.

3.2.3 Solid Geology

The underlying bedrock (Buttermere Formation) is designated a Secondary 'B' Aquifer status. These are predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.

3.3 Development Area Hydrology

3.3.1 Groundwater

Given the topography and anticipated ground conditions, shallow groundwater is not anticipated.

A review of the Hydrology information in the GSR indicates the following:

- No current groundwater abstractions are recorded within c.1km of the site.
- No current surface water abstractions are recorded within c.1km of the site.
- No potable water abstraction licences are held within c.2km of the site.
- The site is not recorded as being within or within c.500m of a Source Protection Zone.

3.3.2 Surface Water Features

The nearest surface water feature is a small pond and stream c.230m north.

3.3.3 Current Surface Water Run-off

Given the anticipated ground conditions, it is likely that any surface water will pond on site or infiltrate directly into the ground with some overland flow likely during heavy rainfall events.

3.4 Development Area Environmental Sensitivity

3.4.1 Site Ecology

There are no Environmental Designations (Sites of Special Scientific Interest, Special Area of Conservation, etc...) within 250m of the site.

For further details, please refer to Section 10 of the GSR in Appendix II.

3.4.2 Authorisations, Incidents and Registers

There are no Industrial Authorisations, Incidents or Registers (Pollution Incidents, Discharge consents, etc...) within 250m of the site.

For further details, please refer to Section 4 of the GSR in Appendix II.

3.4.3 Determination of Contaminated Land (Part IIA)

A review of the GSR indicates that the site is not currently recorded as being considered as Contaminated Land under Part IIA EPA 1990. In addition, no sites are determined as Contaminated Land under Part IIA EPA 1990 within c.500m of the proposed development area.

3.4.4 Historical Industrial Land Uses

A review of Section 1.0 in the GSR indicates the following historical land uses:

- Potentially Contaminative Uses (PCU) – The GSR indicates no historical industrial land uses on site. Numerous pits, heaps, mines, shafts and cuttings are recorded c.120m to 250m north and north east relating to the former iron ore mine.
- Historical Tanks – None of concern recorded on site or within c.250m.
- Potentially Infilled Land – None on site. The nearest area of made ground is recorded c.234m north and relates to Birks Iron Ore Works during the mid-1950s/60s.
- Historical Energy Features – None of concern noted within c.250m.
- Historical Petrol and Fuel Site Database – None noted within c.250m.
- Historical Garage and Motor Vehicle Repair Database – None noted within c.250m.

3.4.5 Current Industrial Land Uses

The GSR does not indicate any current industrial land uses of concern within 250m of the site.

3.4.6 Fuel Station Entries

No fuel filling stations are currently active within c.500m of the site.

3.4.7 Landfill and Waste Regulation/Management – Landfill Sites

There are no active or historical landfill sites on or within 250m of the site.

Further details are provided in Section 3.0 of the GSR in Appendix II.

3.5 Development Area Historical Plan Appraisal

This section is based on historical Ordnance Survey map data and provides a summary of the site history, highlighting any industries, processes or activities that may be considered as Geohazards. Copies of historical maps which date back to 1855 are provided in Appendix III and a summary of the site history is included below.

3.5.1 On-Site

The first historical map extract dated 1863 indicates that the site comprised several agricultural fields. The site layout has remained unchanged since.

3.5.2 Off-Site

The first historical map extract dated 1863 shows the site surrounded by agricultural fields. Birks Pit (iron ore) was present c.450m north and Aldby Quarry (limestone) was present c.250m west.

By the early 1900s, Birks Iron Ore Works (pits, shafts, railways, cuttings, heaps, etc...) had significantly expanded and expanded with the nearest shaft recorded c.180m north. Aldby Quarry appears to be infilled.

By the late 1900s Birks Iron ore Workings appears to have ceased operations with many of the pits recorded as ponds.

The historical maps do not indicate any significant industrial land uses on or in the immediate vicinity of the site. Significant iron ore mining and quarrying is recorded to the north and north west, however, the impact on the site is likely to have been negligible.

4.0 Conceptual Site Model

A Conceptual Site Model (CSM) has been designed using the information presented within this DTS to provide a model of the anticipated ground, groundwater and ground gas conditions below the development area (Existing Site CSM).

The CSM utilises the established *Source – Pathway – Receptor* pollutant linkage model and is designed to provide an improved understanding of the site characteristics. This ensures adequate and appropriate Phase 2: Ground Investigation (P2 GI) Works are designed and undertaken for wide spread and targeted investigations, should they be deemed necessary.

Depending on the results of the ground investigation, the CSM can be refined based upon the outcomes of the intrusive works to ensure that appropriate remediation (if required) is completed to ensure the development area is “fit for purpose” in relation to the proposed residential end use.

The preliminary CSM is presented in the matrix on the following page and considers the anticipated *Source – Pathway – Receptor* pollutant linkage model derived for this site.

<u>SOURCE-PATHWAY-RECEPTOR POLLUTANT LINKAGE MODEL</u>	
Sources:	
S1 = Possible Made Ground – No specific or significant sources identified.	
Historical information suggests that the site has remained undeveloped with no industries, processes or potential sources of contamination present on site or within the immediate vicinity.	
S2 = Ground Gas - Potential Sources Identified.	
The site is located within 250m of former iron ore workings which have since been infilled. The risk of ground gas generation and migration is considered very low to negligible. The site is also bounded by an area at risk of radon.	
Pathways:	
P1 = Inhalation of air (wind-blown particles, vapours, gasses)	
P2 = Dermal/direct contact (limited risk through areas of private gardens and soft landscaping)	
P3 = Ingestion (limited risk through areas of private gardens and soft landscaping)	
P4 = Migration through services (potable water supply)	
P5 = Direct contact with building materials (aggressive ground conditions for buried concrete)	
P6 = Surface Run-off	
P7 = Leaching from Soils (to underlying Secondary Aquifer)	
Receptors:	
R1 = Human Health (End users and Construction Workforce)	
R2 = Controlled Waters (Secondary Aquifer)	
R3 = Building Materials and Buried Utilities	
R4 = Flora and Fauna (future private gardens and soft landscaping)	

5.0 Preliminary Qualitative Risk Assessment

5.1 Qualitative Geotechnical Risk Assessment – Risk Meter

The preliminary Geotechnical Risk Meter below indicates the potential level of geotechnical risk associated with the proposed development. The risk meter takes into account past development, geology, mining and other geotechnical factors which have been discussed earlier in the report.

Geotechnical:						
RISK =	NEGLIGIBLE	VERY LOW	LOW	MODERATE	HIGH	VERY HIGH

A risk level of VERY LOW to LOW is determined appropriate for this development area for the following reasons:

- Historical records indicate that the site has not been previously developed.
- Geological records indicate that the site is underlain by glacial till deposits which typically comprise firm and stiff clays with layers of sand, gravel, cobbles and boulders. As such, there is a potential for some variable ground conditions.
- Information suggests that the site is not at risk of coal or iron ore mining geohazards.
- Shallow groundwater is not anticipated although some trapped “perched” water may be present within any drift deposits.
- Where clay soils are present, their soil shrinkability could be affected by mature vegetation such as trees.

Consequently, it is recommended to complete a Phase 2: Ground Investigation to confirm the underlying ground conditions (i.e. the presence of any made ground and the drift deposits) and to allow samples to be recovered for geotechnical laboratory analysis to aid the design of foundations, highways and drainage.

5.2 Qualitative Contamination Risk Assessment – Risk Meter

The following Risk Meter determines the potential level of risk associated with the development with respect to ground contamination, groundwater contamination and ground gas. The risk meter takes into account the anticipated *Sources – Pathways – Receptors* within the pollutant linkage model and CSM.

Ground Contamination:						
						
RISK =	NEGLIGIBLE	VERY LOW	LOW	MODERATE	HIGH	VERY HIGH
Groundwater Contamination:						
						
RISK =	NEGLIGIBLE	VERY LOW	LOW	MODERATE	HIGH	VERY HIGH
Ground Gas: (Carbon Dioxide and Methane)						
						
RISK =	NEGLIGIBLE	VERY LOW	LOW	MODERATE	HIGH	VERY HIGH
Radon Gas:						
	  					
	<1%	1%-3%	3%-5%	5%-10%	10%-30%	>30%*
Estimated Percentage of Dwellings Exceeding the Radon Action Level						

Ground Contamination: A risk level of NEGLIGIBLE to VERY LOW is currently determined appropriate for this development with respect to ground contamination. In summary, the site has not been developed and there have been no historical industries/processes on the site or within close proximity (with the exception of the farming activities) that are considered as posing a potential significant risk of widespread or pervasive contamination.

However, as the site will be developed for residential end use, it is recommended that intrusive investigations are completed to confirm the shallow ground conditions. Samples should be recovered to allow for chemical laboratory screening to determine if the topsoil or made ground materials are suitable for re-use in a residential context in addition to assessing any risks to Human Health.

At this stage, with no specific contamination sources identified, it is recommended that the soils are screened for a generic suite of contaminants that should include: metals, metalloids, pH, water-soluble sulphate, total organic carbon, asbestos and speciated PAH.

If, during the ground investigation, areas of made ground or evidence of contamination are identified, it may be necessary to increase the range of contaminant screening depending on the nature and type of possible contaminants encountered.

A watching brief should be implemented during the development works to ensure that if areas of significant or deep made ground including anthropogenic material such as ash, clinker, slag, etc... or visual/olfactory evidence of potential contamination (i.e. fuel/oil) are identified then works should be stopped and advice should be sought from an appropriately qualified and experienced Geo-Environmental Engineer.

Groundwater Contamination: A risk level of NEGLIGIBLE is currently considered appropriate for the site with respect to potential risks to controlled waters (groundwater, nearby surface water features) and adjacent sites, as limited potential sources have been identified.

Ground Gas: A risk level of NEGLIGIBLE to VERY LOW is currently considered appropriate for the site with respect to potential harmful ground gas. The site is located within 250m of former iron ore workings which have since been infilled. The risk of ground gas generation and migration is considered very low to negligible, however, it would be prudent to confirm the risk by recording the levels of carbon dioxide and methane within the ground.

A programme of ground gas monitoring should therefore be completed. Given the proposed end use (residential), the gas monitoring must comprise at least 6 visits over a minimum period of 3 months.

Radon Gas: The site is located on the boundary of a Radon Affected Area. The plan within the GSR indicates that properties along the northern part of the site require full radon protection measures, whereas elsewhere on site, radon protection measures may not be required.

It is recommended that the Local Authority are consulted in regard to which properties require radon protection measures and to what extent.

The site will require consultation with the Local Authority (LA) with respect to the appropriate protection measures and their installation. The LA may require a Ground Gas Verification Plan which provides details of the protection measures that are required, how they will be installed and their verification parameters.

6.0 Conclusions

When considering the results of this DTS report, the following can be seen:

- The development site is currently considered to represent a very low to low geotechnical risk.
- The site is currently considered to pose a negligible to very low risk to the proposed end users from ground contamination.
- The site is currently considered to pose a negligible risk to adjacent sites (the surrounding environment) and controlled waters with respect to potential ground/groundwater contamination.
- The site is currently considered to pose a very low risk to the proposed end users from ground gas.
- Variable Radon Protection Measures may be necessary across the site.

It is recommended to complete a programme of Ground Investigation works to characterise the ground/groundwater conditions and ground gas regime below the site. The resulting information should be suitable for submission to the Local Authority for planning purposes and for the appointed design team.

In summary, the site works should include, but not be limited to:

- Mini percussion boreholes and/or trial pits to determine the nature and in-situ strength of the underlying ground conditions across the development site.
- Soil logging by a suitably qualified and experienced Geo-Environmental Engineer.
- In-situ testing to aid foundation design.
- Laboratory based geotechnical testing.
- Laboratory screening of soil samples.
- Installation of ground gas monitoring wells.
- Ground gas monitoring (minimum 6 visits over 3 months).

The results of the intrusive ground investigation should be compiled in an interpretive Ground Investigation Report (GIR) and include recommendations remediation or any further works that are deemed necessary.

Laboratory screening of soil samples (topsoil and any made ground) will be required as part of a Level 1 Generic Quantitative Risk Assessment (GQRA) for Human Health to determine the risk to potential receptors, namely residents.

GEO recommends that a “watching brief” and “observational technique” be applied to this site to ensure that if ground conditions appear to vary from those inferred within this investigation report then advice should be sought from a suitably qualified and experienced Geo-Environmental Engineer. In the event that made ground is identified during works on site then sampling of those materials should be completed by an appropriate Geo-Environmental Engineer to facilitate contamination screening and a Human Health Risk Assessment.

GEO is not responsible for the accuracy and completeness of third-party information and cannot be held responsible for any errors or omissions that may occur. The contents of this report have been specifically requested by the client and therefore any items not specifically mentioned cannot be assumed to be covered.

The conclusions and recommendations presented within this report are considered reasonable based on the available information. However, these cannot be guaranteed to gain regulatory approval. Therefore, the report should be passed to the appropriate Regulatory Authorities and/ or other key stakeholders including warranty providers in order to seek their approval of the findings prior to finalising any land

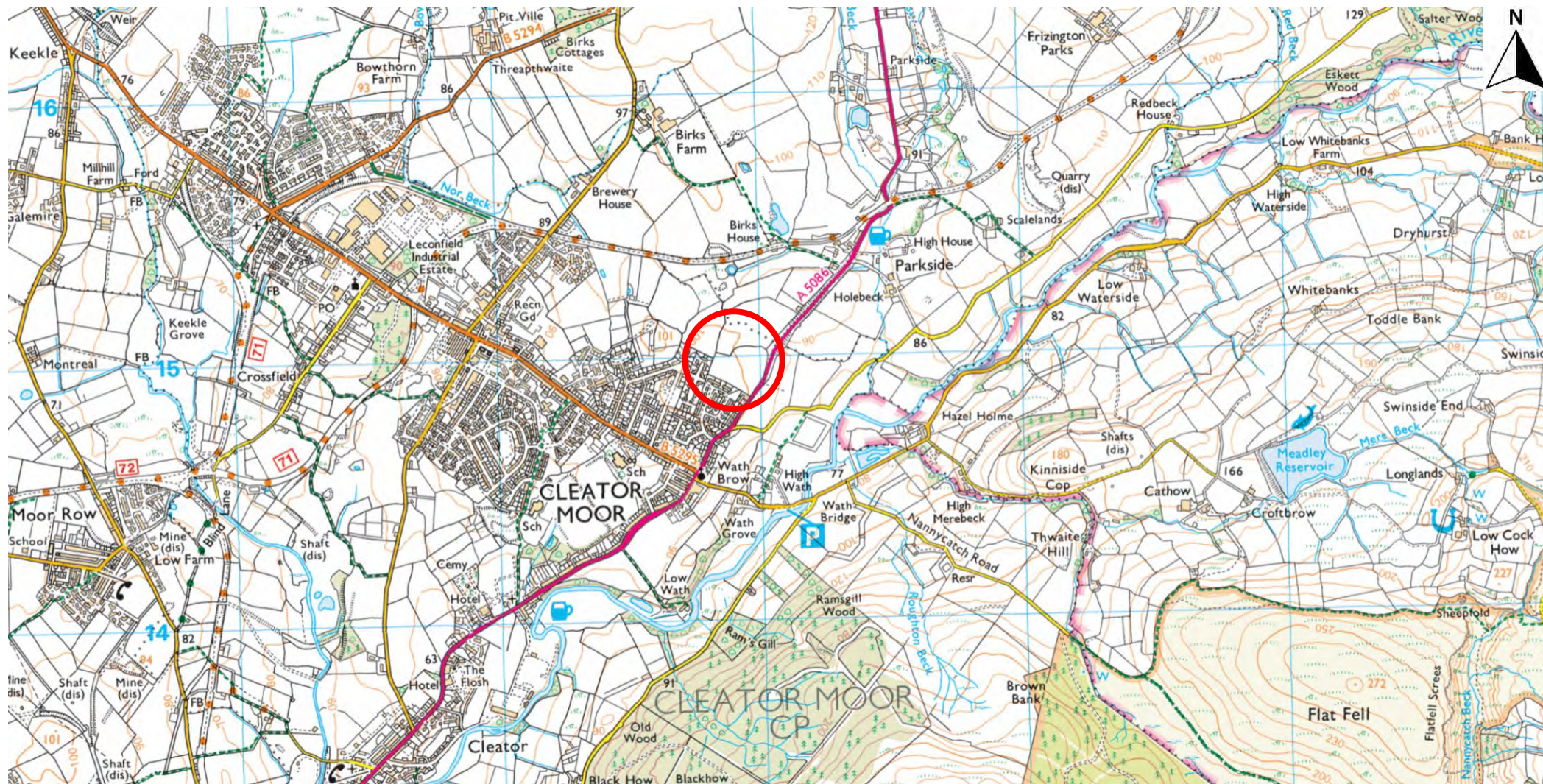
values as part of a site acquisition or prior to undertaking any construction or redevelopment works on site.

End of Report

Appendix I

- Site Location Plan
- Aerial Photograph Extract
- Site Walkover Photographs (January 2024)
- Proposed Development Plan

GEO2023-6139: Parkside Road, Cleator Moor, Cumbria – Site Location



Website: www.geoenvironmentalengineering.com

Email: info@geoenvironmentalengineering.com

Telephone: 07883 440 186

GEO2023-6139: Parkside Road, Cleator Moor, Cumbria – Aerial Photograph



Website: www.geoenvironmentalengineering.com

Email: info@geoenvironmentalengineering.com

Telephone: 07883 440 186

GEO2023-6139: Parkside Road, Cleator Moor, Cumbria – Site Photographs





Parkside Road, Cleator Moor - 104 Units				20/10/23	87-GEN-005 B			
SCHEDULE OF ACCOMMODATION								
Ref	House Name/Type No.	House Type	Sq.Ft	Garage/Parking	RSL. No.	INT. No.	OPEN No.	Total Sq.Ft
AFF								
DEE	DEE	2 bed bungalow	711	Front / Side Parking	3	3		4266
CAL	CALDEW	2 bed semi	738	Front / Side Parking	3	4		5166
PET	PETTERILL	3 bed semi	822	Front / Side Parking	4	4		6576
OMU								
DEE	DEE	2 bed bungalow	711	Front / Side Parking			1	711
DE	DERWENT	3 bed detached	946	Integral Garage			11	10406
GE	GELT	3 bed semi	967	Integral Garage			16	15472
WRE	WREAY	4 bed detached	1256	Integral Garage			14	17584
EL	ELLEN	4 bed detached	1311	Integral Garage			12	15732
ED	EDEN	4 bed detached	1326	Integral Garage			18	23868
WH	WHILLAN	5 bed detached	1851	Double Garage			11	20361
					10	11	83	
Total Number of Units and Square Foot							104	120142

Gross Site Area in Metres	50524.6372
Gross Site Area in Acres	12.48
Strategic Public open Space in M	12138.0451
Strategic Public open Space in Ac	3
Net Site Area in Metres	38386.5921
Net Site Area in Acres	9.48
Net Site Area in Hectares	3.84
Density (Sq.Ft per Acre)	12673
Density (Units Per Acre)	11
Density (Units Per Hectare)	27.11

- Private Drives - 848.7164
- Shared Drives - 476.8905
- Adopted Roads - 735.77

NOTES

Do not scale from this drawing. Only figured dimensions are to be taken from this drawing.

The contractor must verify all dimensions on site before commencing any work or shop drawings.

The contractor must report any discrepancies to Design by Pod Ltd before commencing work. If this drawing exceeds the quantities taken in any way, Design by Pod Ltd is to be informed before the work is initiated.

Ordnance Survey information is used in Design by Pod Ltd drawings. Design by Pod Ltd is not responsible for the accuracy of dimensions relating to any Ordnance Survey data, or beyond the boundary of the inserted topographic survey data.

Work within The Construction (Design and Management) Regulations 2015 is not to start until a Health and Safety Plan has been produced.

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PROJECT:

Parkside Road, Cleator Moor

DRAWING TITLE:

Block Plan

CLIENT:	Genesis Homes	DATE:	09/23
STATUS:	PLANNING	DWN BY:	JG
SCALE:	1:500	CKD BY:	AD
PROJECT NO:	87D-GEN	REVISION:	B
		SHEET SIZE:	A0
		DRAWING NO:	005

Appendix II

- Enviro+Geo Insight Ground Sure Report (GSR)

unspecified

Order Details

Date: 09/01/2024
Your ref: EMS_916890_1136521
Our Ref: EMS-916890_1168799

Site Details

Location: 302890 515010
Area: 4.95 ha
Authority: [Cumberland Council](#) ↗



Summary of findings

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

[p. 9 >](#)

OS MasterMap site plan

[p.14 >](#) groundsure.com/insightuserguide ↗

Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	0	23	66	-
19 >	1.2 >	Historical tanks >	0	0	0	7	-
19 >	1.3 >	Historical energy features >	0	0	1	2	-
20	1.4	Historical petrol stations	0	0	0	0	-
20 >	1.5 >	Historical garages >	0	0	0	3	-
21	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
22 >	2.1 >	Historical industrial land uses >	0	0	32	76	-
26 >	2.2 >	Historical tanks >	0	0	0	8	-
27 >	2.3 >	Historical energy features >	0	0	5	2	-
28	2.4	Historical petrol stations	0	0	0	0	-
28 >	2.5 >	Historical garages >	0	0	0	6	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
29	3.1	Active or recent landfill	0	0	0	0	-
29	3.2	Historical landfill (BGS records)	0	0	0	0	-
30	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
30 >	3.4 >	Historical landfill (EA/NRW records) >	0	0	0	2	-
30	3.5	Historical waste sites	0	0	0	0	-
31	3.6	Licensed waste sites	0	0	0	0	-
31 >	3.7 >	Waste exemptions >	0	0	0	10	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
33 >	4.1 >	Recent industrial land uses >	0	0	1	-	-
34	4.2	Current or recent petrol stations	0	0	0	0	-
34	4.3	Electricity cables	0	0	0	0	-
34	4.4	Gas pipelines	0	0	0	0	-
34	4.5	Sites determined as Contaminated Land	0	0	0	0	-



34	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
35	4.7	Regulated explosive sites	0	0	0	0	-
35	4.8	Hazardous substance storage/usage	0	0	0	0	-
35	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
35	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
35	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
36	4.12	Radioactive Substance Authorisations	0	0	0	0	-
36 >	4.13 >	<u>Licensed Discharges to controlled waters</u> >	0	0	0	5	-
37	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
37	4.15	Pollutant release to public sewer	0	0	0	0	-
37	4.16	List 1 Dangerous Substances	0	0	0	0	-
37	4.17	List 2 Dangerous Substances	0	0	0	0	-
37 >	4.18 >	<u>Pollution Incidents (EA/NRW)</u> >	0	0	0	2	-
38	4.19	Pollution inventory substances	0	0	0	0	-
38	4.20	Pollution inventory waste transfers	0	0	0	0	-
38	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
39 >	5.1 >	<u>Superficial aquifer</u> >	Identified (within 500m)				
41 >	5.2 >	<u>Bedrock aquifer</u> >	Identified (within 500m)				
43 >	5.3 >	<u>Groundwater vulnerability</u> >	Identified (within 50m)				
45 >	5.4 >	<u>Groundwater vulnerability- soluble rock risk</u> >	Identified (within 0m)				
45	5.5	Groundwater vulnerability- local information	None (within 0m)				
46 >	5.6 >	<u>Groundwater abstractions</u> >	0	0	0	0	2
47 >	5.7 >	<u>Surface water abstractions</u> >	0	0	0	0	4
48 >	5.8 >	<u>Potable abstractions</u> >	0	0	0	0	1
49	5.9	Source Protection Zones	0	0	0	0	-
49	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
50 >	6.1 >	<u>Water Network (OS MasterMap)</u> >	0	0	2	-	-



51 >	6.2 >	Surface water features >	0	0	2	-	-
51 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
51 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
52 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
53	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
53	7.2	Historical Flood Events	0	0	0	-	-
53	7.3	Flood Defences	0	0	0	-	-
54	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
54	7.5	Flood Storage Areas	0	0	0	-	-
55	7.6	Flood Zone 2	None (within 50m)				
55	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
56 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (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	1	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	1	0
60	10.4	Special Protection Areas (SPA)	0	0	0	0	0
61	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	0	0	0	0	0
62	10.12	Proposed Ramsar sites	0	0	0	0	0

62	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 >	2	-	-	-	-
66 >	10.18 >	SSSI Units >	0	0	0	1	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
67	11.1	World Heritage Sites	0	0	0	-	-
67	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
67	11.3	National Parks	0	0	0	-	-
67	11.4	Listed Buildings	0	0	0	-	-
68	11.5	Conservation Areas	0	0	0	-	-
68	11.6	Scheduled Ancient Monuments	0	0	0	-	-
68	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
69 >	12.1 >	Agricultural Land Classification >	Grade 3 (within 250m)				
70	12.2	Open Access Land	0	0	0	-	-
70	12.3	Tree Felling Licences	0	0	0	-	-
70 >	12.4 >	Environmental Stewardship Schemes >	2	1	1	-	-
70	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
72 >	13.1 >	Priority Habitat Inventory >	0	0	9	-	-
73	13.2	Habitat Networks	0	0	0	-	-
73	13.3	Open Mosaic Habitat	0	0	0	-	-
73	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
75 >	14.1 >	10k Availability >	Identified (within 500m)				
76	14.2	Artificial and made ground (10k)	0	0	0	0	-
77	14.3	Superficial geology (10k)	0	0	0	0	-

77	14.4	Landslip (10k)	0	0	0	0	-
78	14.5	Bedrock geology (10k)	0	0	0	0	-
78	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
79 >	15.1 >	50k Availability >	Identified (within 500m)				
80 >	15.2 >	Artificial and made ground (50k) >	0	0	2	4	-
81	15.3	Artificial ground permeability (50k)	0	0	-	-	-
82 >	15.4 >	Superficial geology (50k) >	1	1	1	5	-
83 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
83 >	15.6 >	Landslip (50k) >	0	0	1	1	-
84	15.7	Landslip permeability (50k)	None (within 50m)				
85 >	15.8 >	Bedrock geology (50k) >	2	2	4	6	-
86 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
87 >	15.10 >	Bedrock faults and other linear features (50k) >	1	1	1	3	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
88 >	16.1 >	BGS Boreholes >	2	5	12	-	-
Page	Section	Natural ground subsidence >					
90 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
91 >	17.2 >	Running sands >	Low (within 50m)				
93 >	17.3 >	Compressible deposits >	Moderate (within 50m)				
95 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
96 >	17.5 >	Landslides >	Low (within 50m)				
98 >	17.6 >	Ground dissolution of soluble rocks >	Very low (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
100 >	18.1 >	BritPits >	0	0	3	8	-
103 >	18.2 >	Surface ground workings >	0	0	21	-	-
104 >	18.3 >	Underground workings >	0	0	4	7	40
106	18.4	Underground mining extents	0	0	0	0	-
106	18.5	Historical Mineral Planning Areas	0	0	0	0	-



106 >	18.6 >	Non-coal mining >	2	1	4	7	28
111	18.7	JPB mining areas	None (within 0m)				
111	18.8	The Coal Authority non-coal mining	0	0	0	0	-
112 >	18.9 >	Researched mining >	0	0	0	1	-
112 >	18.10 >	Mining record office plans >	1	0	4	10	-
113 >	18.11 >	BGS mine plans >	0	1	5	9	-
114 >	18.12 >	Coal mining >	Identified (within 0m)				
114	18.13	Brine areas	None (within 0m)				
114	18.14	Gypsum areas	None (within 0m)				
114	18.15	Tin mining	None (within 0m)				
114	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes >	On site	0-50m	50-250m	250-500m	500-2000m
115	19.1	Natural cavities	0	0	0	0	-
116 >	19.2 >	Mining cavities >	0	0	0	0	2
116	19.3	Reported recent incidents	0	0	0	0	-
116	19.4	Historical incidents	0	0	0	0	-
117	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
118 >	20.1 >	Radon >	Between 10% and 30% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
120 >	21.1 >	BGS Estimated Background Soil Chemistry >	6	3	-	-	-
121	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
121	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
122	22.1	Underground railways (London)	0	0	0	-	-
122	22.2	Underground railways (Non-London)	0	0	0	-	-
123	22.3	Railway tunnels	0	0	0	-	-
123 >	22.4 >	Historical railway and tunnel features >	0	0	5	-	-
123	22.5	Royal Mail tunnels	0	0	0	-	-



124	22.6	Historical railways	0	0	0	-	-
124	22.7	Railways	0	0	0	-	-
124	22.8	Crossrail 1	0	0	0	0	-
124	22.9	Crossrail 2	0	0	0	0	-
124	22.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 20/04/2022

Site Area: 4.95ha



Recent site history - 2018 aerial photograph



Capture Date: 10/10/2018

Site Area: 4.95ha



Recent site history - 2016 aerial photograph



Capture Date: 16/08/2016

Site Area: 4.95ha



Recent site history - 2008 aerial photograph



Capture Date: 05/10/2008

Site Area: 4.95ha



Recent site history - 2000 aerial photograph



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

Capture Date: 16/06/2000

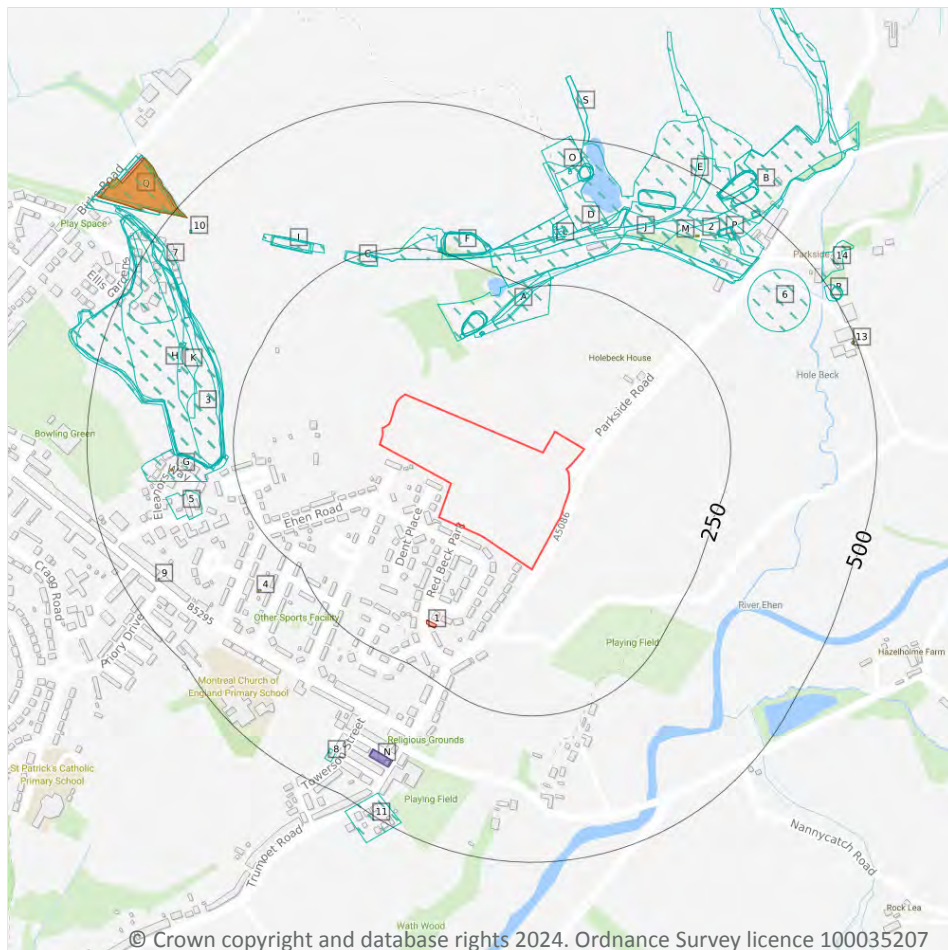
Site Area: 4.95ha



This is a detailed map of a residential area in Dent, showing a red-outlined plot of land. The map includes a north arrow, a scale bar (0 to 12.5m), and various street names like Dent Road, Dent Place, and Red Beck Park. The plot is situated between a residential area and a large green field. The map is overlaid with a grid of numbers 1 to 25.



1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

1.1 Historical industrial land uses

Records within 500m

89

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

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
A	119m N	Iron Ore Mine	1898	586365



ID	Location	Land use	Dates present	Group ID
B	125m N	Railway Sidings	1898	631028
A	131m N	Unspecified Disused Tip	1993	581102
A	131m N	Unspecified Heap	1951	602079
A	131m N	Unspecified Heap	1969	603826
A	132m N	Unspecified Heap	1926	637328
A	134m N	Unspecified Pit	1898	582499
A	134m N	Unspecified Heap	1938	597786
A	143m N	Unspecified Old Shaft	1951	620739
A	144m N	Unspecified Old Shaft	1926	590642
A	145m N	Unspecified Old Shaft	1938	622910
A	169m N	Unspecified Pit	1926	625052
A	170m N	Unspecified Pit	1938 - 1951	602374
C	224m NW	Cuttings	1926	596904
C	224m NW	Cuttings	1938 - 1951	623103
D	228m NW	Disused Iron Mine	1898	552172
D	228m NW	Railway Sidings	1898	611619
2	237m N	Railway Sidings	1926 - 1938	618281
E	237m N	Iron Ore Works	1926 - 1938	636126
F	247m N	Unspecified Pit	1898	582498
F	247m N	Unspecified Heap	1938	622614
F	248m N	Unspecified Heap	1926	601472
F	250m N	Unspecified Old Shaft	1926	609314
F	251m N	Unspecified Old Shaft	1938	623182
F	251m N	Unspecified Disused Tip	1993	581103
F	251m N	Refuse Heap	1951	588764
F	251m N	Unspecified Heap	1969	625424
F	253m N	Unspecified Old Shaft	1951	599774
G	259m W	Unspecified Depot	1993	554065



ID	Location	Land use	Dates present	Group ID
H	264m W	Unspecified Ground Workings	1969	581272
H	266m W	Refuse Heap	1938	601229
H	267m W	Refuse Heap	1926	635799
3	269m W	Unspecified Quarry	1863	558715
H	270m W	Refuse Heap	1951	614450
H	271m W	Unspecified Old Quarry	1898	574933
I	278m NW	Cuttings	1863	600422
J	283m N	Railway Sidings	1951	613976
I	288m NW	Cuttings	1938	633393
I	290m NW	Cuttings	1926	633281
I	294m NW	Cuttings	1951	592149
K	319m W	Railway Sidings	1898	596936
5	322m W	Brick Field	1863	589538
L	325m N	Railway Building	1898	557781
L	337m N	Railway Buildings	1898	549472
M	338m NE	Railway Sidings	1863	600526
M	356m NE	Coal Depot	1863	579516
H	358m W	Unspecified Old Shaft	1863	586831
6	365m NE	Unspecified Pit	1898	582502
H	365m NW	Engine House	1863	551993
7	377m NW	Railway Sidings	1863	633663
K	377m NW	Cuttings	1863	584754
M	386m NE	Railway Station	1863	579215
O	411m N	Coal Pit	1863	552019
E	414m NE	Unspecified Pit	1926	623385
E	415m NE	Unspecified Ground Workings	1938	581274
E	416m NE	Unspecified Pit	1951	627103
P	429m NE	Railway Station	1938	595169



ID	Location	Land use	Dates present	Group ID
P	429m NE	Railway Station	1898	607450
O	430m N	Unspecified Ground Workings	1938	581275
O	430m N	Unspecified Pit	1898	582497
P	430m NE	Railway Station	1926	597362
P	431m NE	Goods Station	1951	570886
O	432m N	Unspecified Heap	1926	622143
O	435m N	Unspecified Heap	1951	600549
O	435m N	Unspecified Heap	1969	631584
8	436m SW	Smithy	1898	580582
O	441m N	Unspecified Old Shaft	1926 - 1938	635432
O	445m N	Unspecified Old Shaft	1951	629259
10	454m NW	Iron Shaft	1863	554509
11	464m S	Water Works	1863	579281
12	477m NE	Unspecified Pit	1898	633998
Q	485m NW	Unspecified Commercial/Industrial	1938	576971
Q	485m NW	Gas Works	1898 - 1926	632512
B	485m NE	Unspecified Heaps	1926	636638
B	487m NE	Unspecified Heap	1938	561721
B	487m NE	Unspecified Pit	1898	606625
B	487m NE	Unspecified Heaps	1969 - 1993	590665
B	487m NE	Unspecified Heaps	1951	616928
B	488m NE	Unspecified Heap	1938	561720
B	488m NE	Unspecified Pit	1898	611861
R	489m NE	Unspecified Heap	1863	603250
B	489m NE	Railway Building	1926	612484
B	489m NE	Railway Building	1951	628486
S	494m N	Unspecified Ground Workings	1951	607672
S	494m N	Unspecified Ground Workings	1969	612456



ID	Location	Land use	Dates present	Group ID
Q	495m NW	Unspecified Works	1969	552681
R	496m NE	Unspecified Heap	1938	611809
14	497m NE	Unspecified Disused Mill	1926 - 1938	596206
R	497m NE	Unspecified Heap	1926	598654

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	7
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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 15 >](#)

ID	Location	Land use	Dates present	Group ID
4	320m SW	Tank or Trough	1863	75524
G	356m W	Unspecified Tank	1991	72931
J	358m NE	Unspecified Tank	1863	72927
M	409m NE	Unspecified Tank	1925	72928
9	440m W	Tanks or Troughs	1863	74914
Q	477m NW	Gas Works	1899	75474
13	491m E	Unspecified Tank	1991 - 1995	76869

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	3
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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 15 >](#)

ID	Location	Land use	Dates present	Group ID
1	169m S	Electricity Substation	1981 - 1995	42847
Q	477m NW	Gas Works	1899	42531
Q	483m NW	Urban District Council Gas Works	1925	42519

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

3

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'.

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
N	404m S	Garage	1995	14110
N	404m S	Garage	1961	13912
N	404m S	Garage	1981 - 1991	14151

This data is sourced from Ordnance Survey / Groundsure.



1.6 Historical military land

Records within 500m

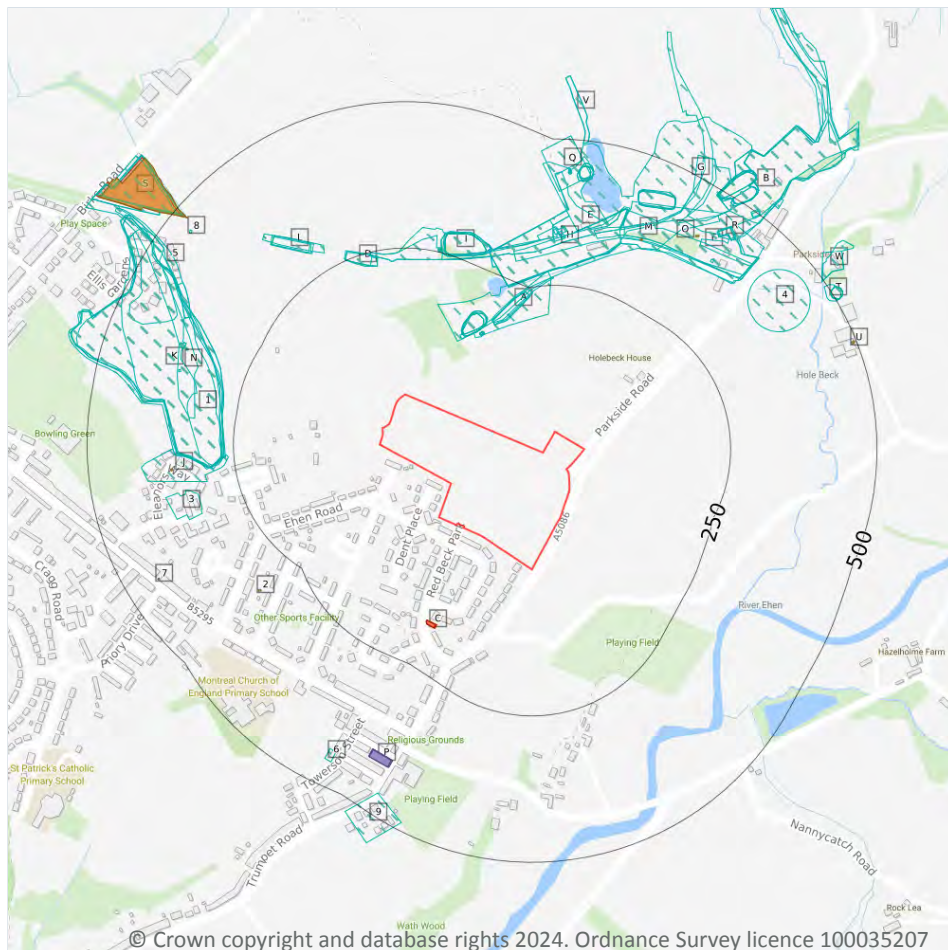
0

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
- Historical garages

2.1 Historical industrial land uses

Records within 500m

108

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

Features are displayed on the Past land use - un-grouped map on [page 22](#) >

ID	Location	Land Use	Date	Group ID
A	119m N	Iron Ore Mine	1898	586365
B	125m N	Railway Sidings	1898	631028
A	131m N	Unspecified Heap	1951	602079



ID	Location	Land Use	Date	Group ID
A	131m N	Unspecified Heap	1969	603826
A	131m N	Unspecified Disused Tip	1993	581102
A	132m N	Unspecified Heap	1926	637328
A	132m N	Unspecified Heap	1926	637328
A	134m N	Unspecified Pit	1898	582499
A	134m N	Unspecified Heap	1938	597786
A	143m N	Unspecified Old Shaft	1951	620739
A	144m N	Unspecified Old Shaft	1926	590642
A	144m N	Unspecified Old Shaft	1926	590642
A	145m N	Unspecified Old Shaft	1938	622910
A	169m N	Unspecified Pit	1926	625052
A	169m N	Unspecified Pit	1926	625052
A	170m N	Unspecified Pit	1938	602374
A	173m N	Unspecified Pit	1951	602374
D	224m NW	Cuttings	1926	596904
D	224m NW	Cuttings	1938	623103
E	228m NW	Disused Iron Mine	1898	552172
E	228m NW	Railway Sidings	1898	611619
D	228m NW	Cuttings	1951	623103
F	237m N	Railway Sidings	1926	618281
G	237m N	Iron Ore Works	1926	636126
F	239m N	Railway Sidings	1938	618281
H	239m N	Iron Ore Works	1938	636126
I	247m N	Unspecified Pit	1898	582498
I	247m N	Unspecified Heap	1938	622614
I	248m N	Unspecified Heap	1926	601472
I	248m N	Unspecified Heap	1926	601472
I	250m N	Unspecified Old Shaft	1926	609314



ID	Location	Land Use	Date	Group ID
I	250m N	Unspecified Old Shaft	1926	609314
I	251m N	Unspecified Old Shaft	1938	623182
I	251m N	Refuse Heap	1951	588764
I	251m N	Unspecified Heap	1969	625424
I	251m N	Unspecified Disused Tip	1993	581103
I	253m N	Unspecified Old Shaft	1951	599774
J	259m W	Unspecified Depot	1993	554065
K	264m W	Unspecified Ground Workings	1969	581272
K	266m W	Refuse Heap	1938	601229
K	267m W	Refuse Heap	1926	635799
K	267m W	Refuse Heap	1926	635799
1	269m W	Unspecified Quarry	1863	558715
K	270m W	Refuse Heap	1951	614450
K	271m W	Unspecified Old Quarry	1898	574933
L	278m NW	Cuttings	1863	600422
M	283m N	Railway Sidings	1951	613976
L	288m NW	Cuttings	1938	633393
L	290m NW	Cuttings	1926	633281
L	294m NW	Cuttings	1951	592149
N	319m W	Railway Sidings	1898	596936
3	322m W	Brick Field	1863	589538
H	325m N	Railway Building	1898	557781
H	337m N	Railway Buildings	1898	549472
O	338m NE	Railway Sidings	1863	600526
O	356m NE	Coal Depot	1863	579516
K	358m W	Unspecified Old Shaft	1863	586831
4	365m NE	Unspecified Pit	1898	582502
K	365m NW	Engine House	1863	551993



ID	Location	Land Use	Date	Group ID
5	377m NW	Railway Sidings	1863	633663
N	377m NW	Cuttings	1863	584754
O	386m NE	Railway Station	1863	579215
Q	411m N	Coal Pit	1863	552019
G	414m NE	Unspecified Pit	1926	623385
G	414m NE	Unspecified Pit	1926	623385
G	415m NE	Unspecified Ground Workings	1938	581274
G	416m NE	Unspecified Pit	1951	627103
R	429m NE	Railway Station	1938	595169
R	429m NE	Railway Station	1898	607450
Q	430m N	Unspecified Ground Workings	1938	581275
Q	430m N	Unspecified Pit	1898	582497
R	430m NE	Railway Station	1926	597362
R	431m NE	Goods Station	1951	570886
Q	432m N	Unspecified Heap	1926	622143
Q	432m N	Unspecified Heap	1926	622143
Q	435m N	Unspecified Heap	1951	600549
Q	435m N	Unspecified Heap	1969	631584
6	436m SW	Smithy	1898	580582
Q	441m N	Unspecified Old Shaft	1926	635432
Q	441m N	Unspecified Old Shaft	1926	635432
Q	443m N	Unspecified Old Shaft	1938	635432
Q	445m N	Unspecified Old Shaft	1951	629259
8	454m NW	Iron Shaft	1863	554509
9	464m S	Water Works	1863	579281
10	477m NE	Unspecified Pit	1898	633998
S	485m NW	Unspecified Commercial/Industrial	1938	576971
S	485m NW	Gas Works	1898	632512



ID	Location	Land Use	Date	Group ID
B	485m NE	Unspecified Heaps	1926	636638
B	485m NE	Unspecified Heaps	1926	636638
S	486m NW	Gas Works	1926	632512
B	487m NE	Unspecified Pit	1898	606625
B	487m NE	Unspecified Heap	1938	561721
B	487m NE	Unspecified Heaps	1951	616928
B	487m NE	Unspecified Heaps	1969	590665
B	487m NE	Unspecified Heaps	1993	590665
B	488m NE	Unspecified Pit	1898	611861
B	488m NE	Unspecified Heap	1938	561720
T	489m NE	Unspecified Heap	1863	603250
B	489m NE	Railway Building	1926	612484
B	489m NE	Railway Building	1951	628486
V	494m N	Unspecified Ground Workings	1951	607672
V	494m N	Unspecified Ground Workings	1969	612456
S	495m NW	Unspecified Works	1969	552681
T	496m NE	Unspecified Heap	1938	611809
W	497m NE	Unspecified Disused Mill	1926	596206
T	497m NE	Unspecified Heap	1926	598654
T	497m NE	Unspecified Heap	1926	598654
W	497m NE	Unspecified Disused Mill	1938	596206

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

8

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

Features are displayed on the Past land use - un-grouped map on [page 22 >](#)



ID	Location	Land Use	Date	Group ID
2	320m SW	Tank or Trough	1863	75524
J	356m W	Unspecified Tank	1991	72931
M	358m NE	Unspecified Tank	1863	72927
O	409m NE	Unspecified Tank	1925	72928
7	440m W	Tanks or Troughs	1863	74914
S	477m NW	Gas Works	1899	75474
U	491m E	Unspecified Tank	1991	76869
U	493m E	Unspecified Tank	1995	76869

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

7

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

Features are displayed on the Past land use - un-grouped map on [page 22 >](#)

ID	Location	Land Use	Date	Group ID
C	169m S	Electricity Substation	1995	42847
C	169m S	Electricity Substation	1995	42847
C	170m SW	Electricity Substation	1985	42847
C	170m SW	Electricity Substation	1981	42847
C	170m SW	Electricity Substation	1991	42847
S	477m NW	Gas Works	1899	42531
S	483m NW	Urban District Council Gas Works	1925	42519

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**6**

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

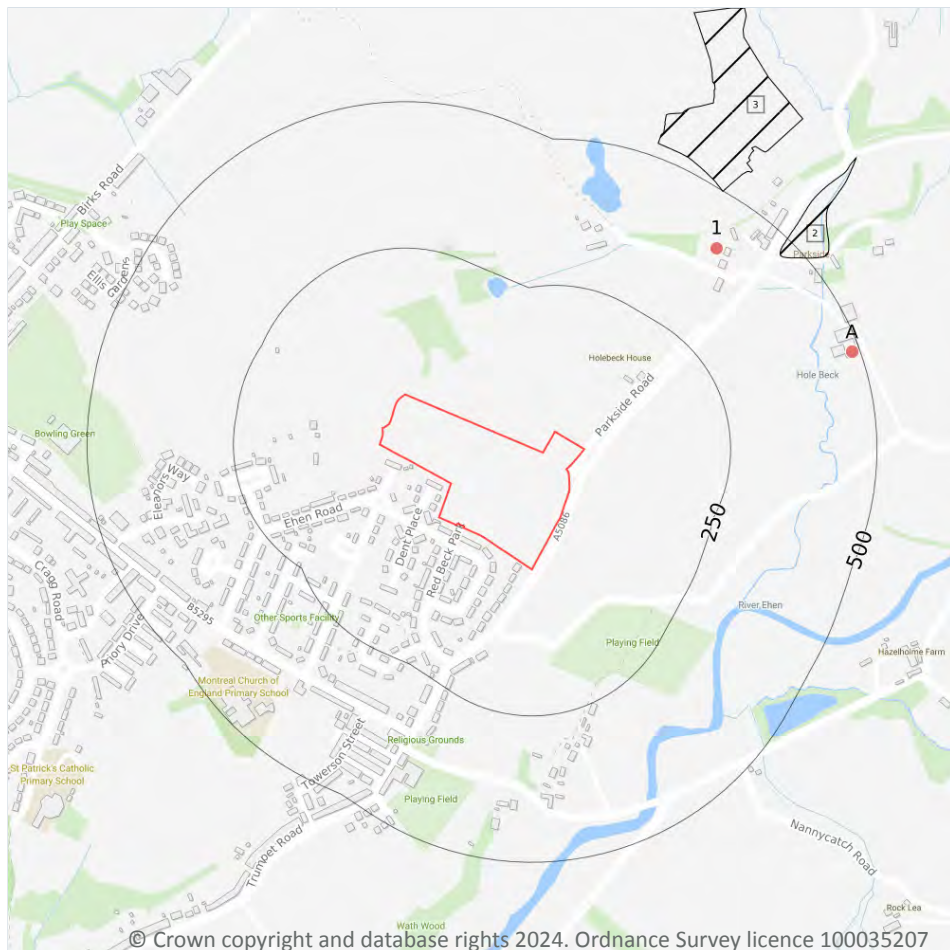
Features are displayed on the Past land use - un-grouped map on [page 22 >](#)

ID	Location	Land Use	Date	Group ID
P	404m S	Garage	1995	14110
P	404m S	Garage	1995	14110
P	404m S	Garage	1961	13912
P	404m S	Garage	1981	14151
P	404m S	Garage	1991	14151
P	404m S	Garage	1985	14151

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical landfill (EA/NRW)
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

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

2

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

Features are displayed on the Waste and landfill map on [page 29 >](#)

ID	Location	Details		
2	470m NE	Site Address: Parkside, Cleator Moor, Parkside, Cumbria Licence Holder Address: Whitehaven, Moresby Parks, Cumbria	Waste Licence: - Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 23/06/1992 Licence Surrender: -	Operator: Fisher D C Licence Holder: Fisher D C First Recorded - Last Recorded: -
3	499m NE	Site Address: Parkside North, Frizington, Parkside, Cleator Moor, Cumbria Licence Holder Address: Hazelholme, Kinniside, Cleator Moor, Cumbria	Waste Licence: Yes Site Reference: 147, W176.4.173 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 04/01/1991 Licence Surrender: 24/04/1992	Operator: Mossops Haulage Licence Holder: Mr Clem Mossop First Recorded 31/12/1931 Last Recorded: 06/12/1995

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	10
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Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on [page 29 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
1	411m NE	Red Bank House Parkside Road Cleator Moor Cumbria CA25 5HE	EPR/QF0808VL/A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste in construction
A	486m E	Holebeck Farm CLEATOR MOOR Cumbria CA25 5HJ	EPR/ME5582GB/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
A	486m E	Holebeck Farm CLEATOR MOOR Cumbria CA25 5HJ	EPR/ME5582GB/A001	Storing waste exemption	Agricultural Waste Only	Storage of waste in secure containers
A	486m E	Holebeck Farm CLEATOR MOOR Cumbria CA25 5HJ	EPR/ME5582GB/A001	Storing waste exemption	Agricultural Waste Only	Storage of waste in a secure place
A	486m E	Holebeck Farm CLEATOR MOOR Cumbria CA25 5HJ	EPR/ME5582GB/A001	Treating waste exemption	Agricultural Waste Only	Cleaning, washing, spraying or coating relevant waste
A	486m E	Holebeck Farm CLEATOR MOOR Cumbria CA25 5HJ	EPR/ME5582GB/A001	Treating waste exemption	Agricultural Waste Only	Aerobic composting and associated prior treatment
A	486m E	Holebeck Farm CLEATOR MOOR Cumbria CA25 5HJ	EPR/ME5582GB/A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	486m E	Holebeck Farm CLEATOR MOOR Cumbria CA25 5HJ	EPR/ME5582GB/A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose

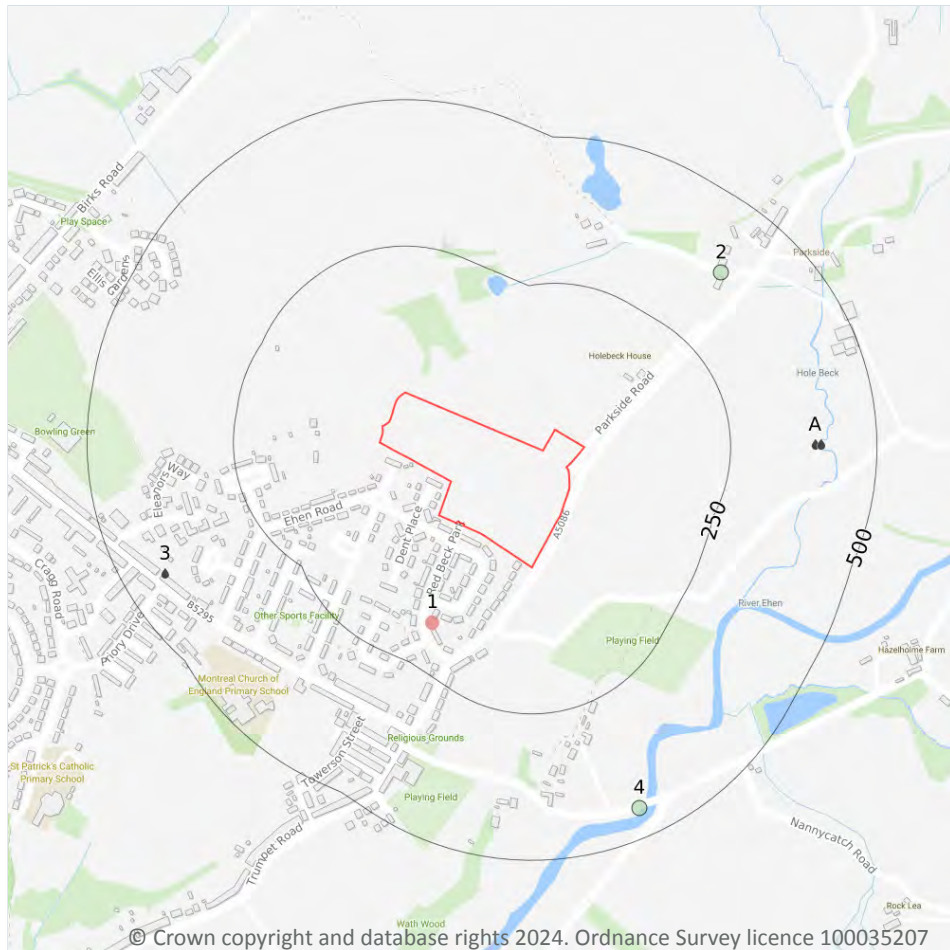


ID	Location	Site	Reference	Category	Sub-Category	Description
A	486m E	Holebeck Farm CLEATOR MOOR Cumbria CA25 5HJ	EPR/ME5582G B/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
A	486m E	Holebeck Farm CLEATOR MOOR Cumbria CA25 5HJ	EPR/ME5582G B/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open

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 33](#) >

ID	Location	Company	Address	Activity	Category
1	172m S	Electricity Sub Station	Cumbria, CA25	Electrical Features	Infrastructure and Facilities

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

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

5

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 33](#) >

ID	Location	Address	Details	
A	394m E	PARKSIDE PUMPING STATION, PARKSIDE ROAD, PARKSIDE, CUMBRIA	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: 017480424 Permit Version: 1 Receiving Water: HOLE BECK	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 11/03/2005 Effective Date: 31/03/2005 Revocation Date: -
A	404m E	PARKSIDE STW, CLEATOR, CUMBRIA	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 017470031 Permit Version: 3 Receiving Water: HOLE BECK	Status: REVOKED - UNSPECIFIED Issue date: 01/11/1985 Effective Date: 01/11/1985 Revocation Date: 09/11/2005
A	404m E	PARKSIDE STW, CLEATOR, CUMBRIA	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 017470031 Permit Version: 1 Receiving Water: HOLE BECK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 28/12/1979 Revocation Date: 30/01/1985
A	404m E	PARKSIDE STW, CLEATOR, CUMBRIA	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 017470031 Permit Version: 2 Receiving Water: HOLE BECK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 31/01/1985 Revocation Date: 31/10/1985
3	429m W	ENNERDALE RD, CLEATOR MOOR, COPELAND, CUMBRIA	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 01COP0023 Permit Version: 1 Receiving Water: KIRTING BECK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 15/09/1993 Revocation Date: 15/09/1993



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

4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

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

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

4.15 Pollutant release to public sewer

Records within 500m

0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m

0

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

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

4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

2

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

Features are displayed on the Current industrial land use map on [page 33](#) >

ID	Location	Details	
2	378m NE	Incident Date: 12/04/2002 Incident Identification: 70994 Pollutant: Oils and Fuel Pollutant Description: Mixed/Waste Oils	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
4	449m SE	Incident Date: 17/11/2001 Incident Identification: 43418 Pollutant: Inorganic Chemicals/Products Pollutant Description: Other Inorganic Chemical or Product	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) 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.

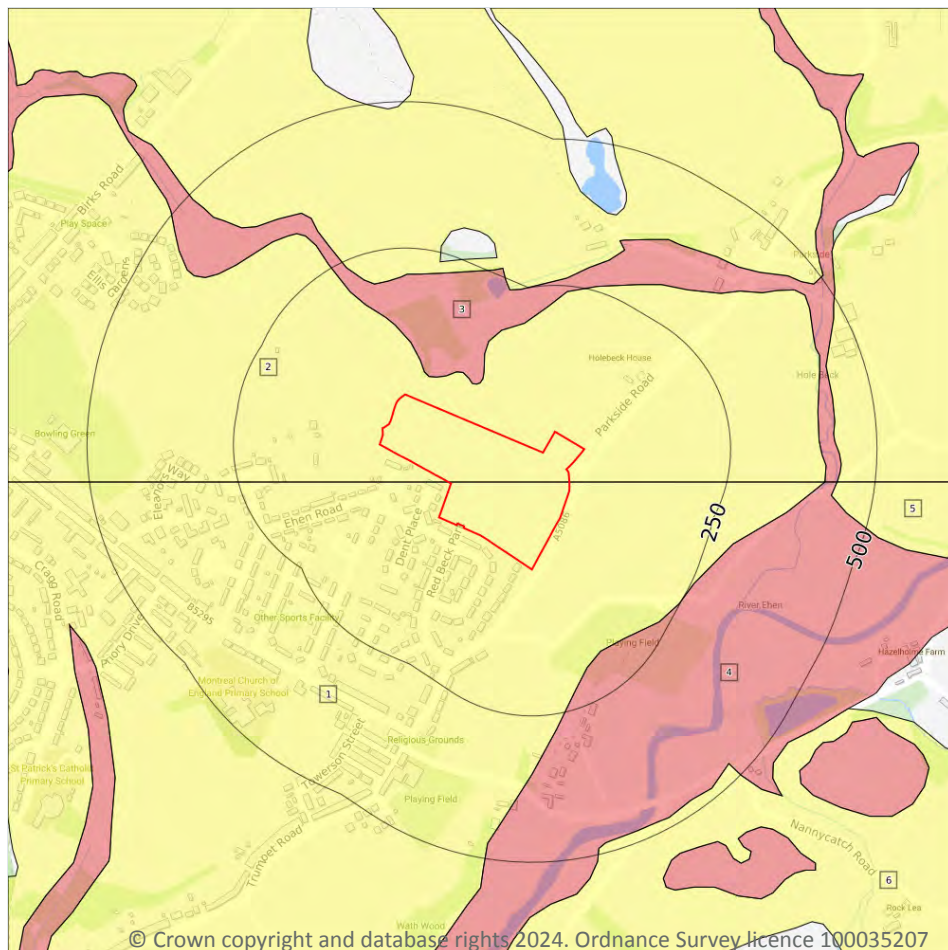
4.21 Pollution inventory radioactive waste

Records within 500m	0
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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

6

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 39 >](#)

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
2	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

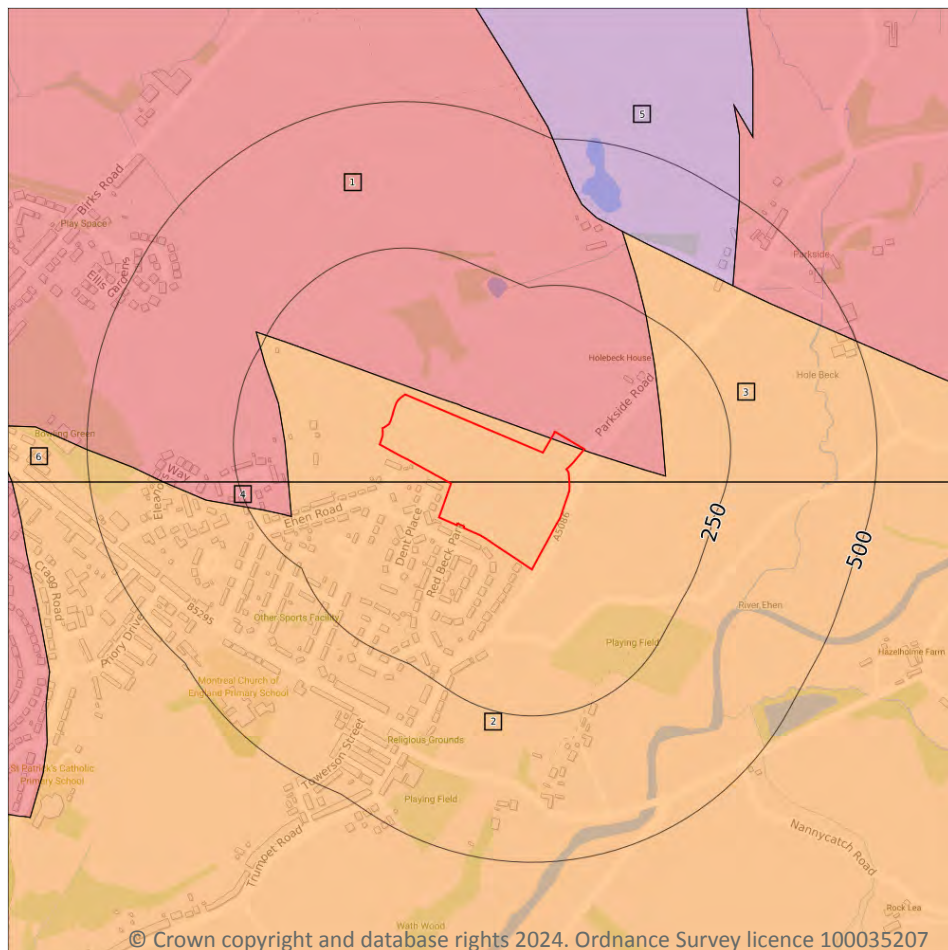


ID	Location	Designation	Description
3	44m NW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	182m SE	Secondary 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
5	429m E	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
6	472m SE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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



Bedrock aquifer



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

5.2 Bedrock aquifer

Records within 500m

6

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on [page 41](#) >

ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	On site	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers

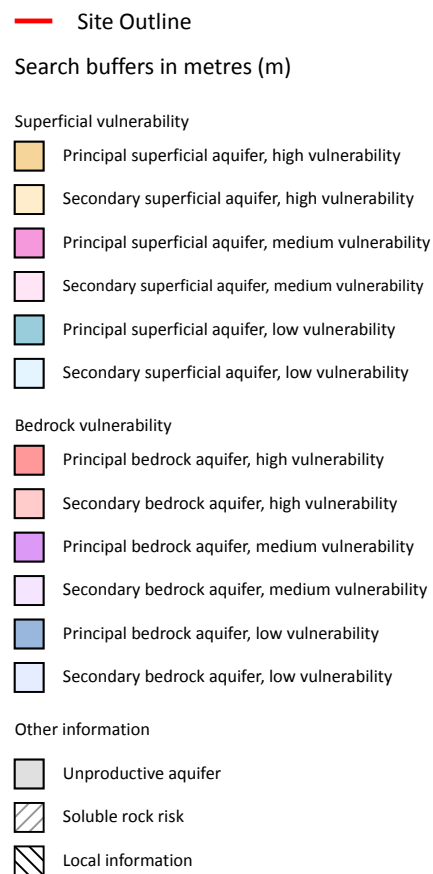
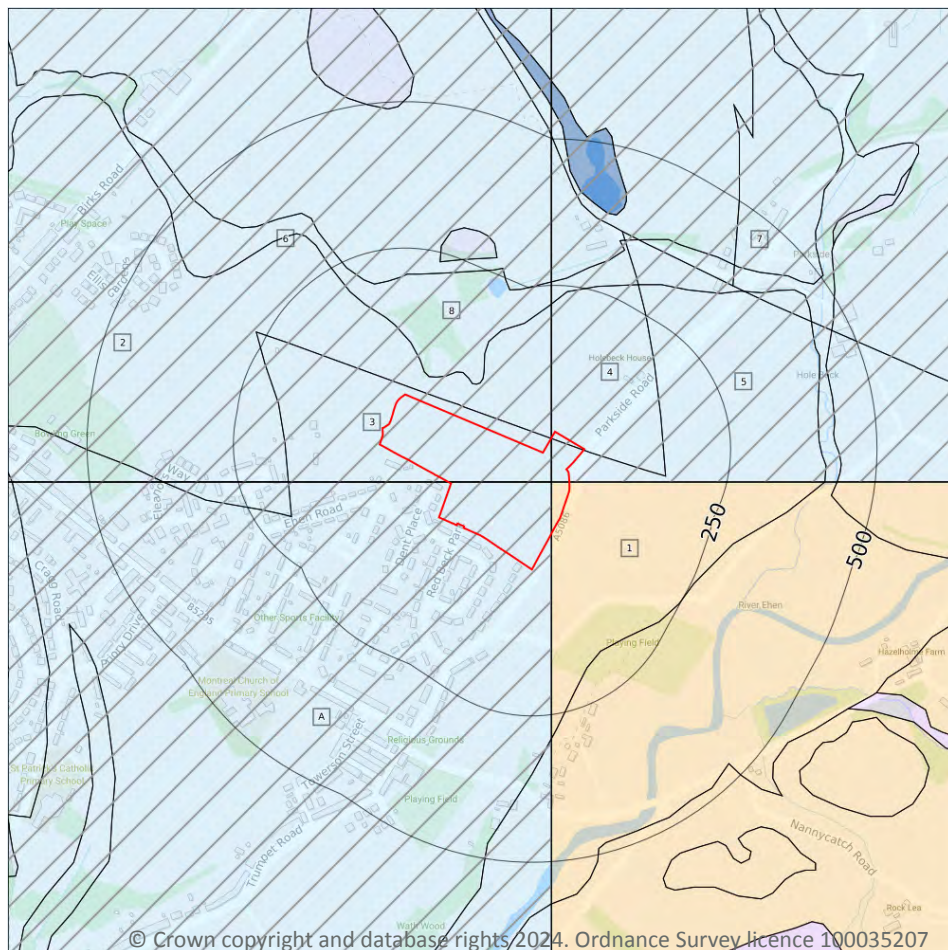


ID	Location	Designation	Description
3	On site	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers
4	169m W	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
5	357m NE	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
6	375m W	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-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

7

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 43](#) >



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: High	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary superficial aquifer - Low 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: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
3	On site	Summary Classification: Secondary superficial aquifer - Low 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: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
4	On site	Summary Classification: Secondary superficial aquifer - Low 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: >10m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
5	On site	Summary Classification: Secondary superficial aquifer - Low 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: >10m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
A	On site	Summary Classification: Secondary superficial aquifer - Low 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: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
8	44m NW	Summary Classification: Secondary superficial aquifer - Low 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: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low 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	3
------------------------	----------

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

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
6	Significant soluble rocks are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.	16.0%
7	Significant soluble rocks are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.	18.0%
A	Significant soluble rocks are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.	4.0%

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

5.5 Groundwater vulnerability- local information

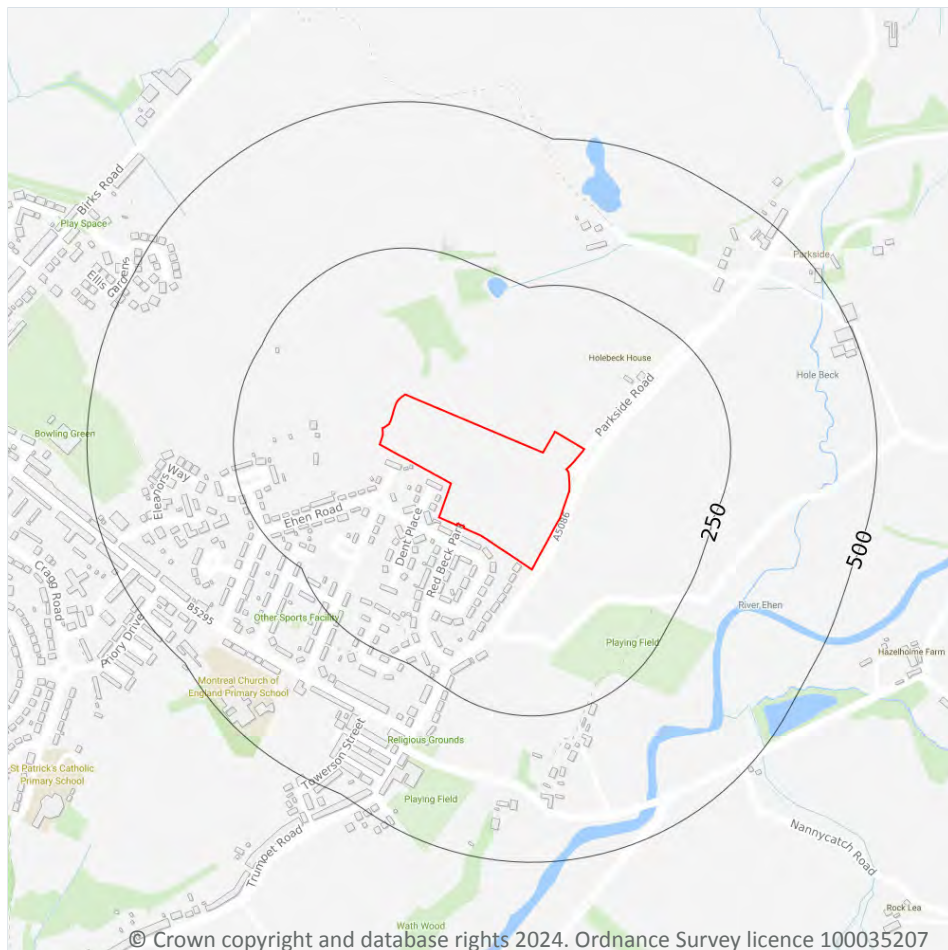
Records on site	0
------------------------	----------

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

2

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 46 >](#)



ID	Location	Details	
-	951m N	Status: Historical Licence No: 2774004002 Details: General Farming & Domestic Direct Source: Ground Water - North West Region Point: "WELL AT BIRKS FARM, CLEATOR MOOR, CUMBRIA" Data Type: Point Name: J CHARLTON & SONS Easting: 302700 Northing: 516100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1965 Version End Date: -
-	951m N	Status: Historical Licence No: 2774004002 Details: General Farming & Domestic Direct Source: Ground Water - North West Region Point: WELL AT BIRKS FARM, CLEATOR MOOR, CUMBRIA Data Type: Point Name: J CHARLTON & SONS Easting: 302700 Northing: 516100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1965 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	4
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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 46 >](#)

ID	Location	Details	
-	796m S	Status: Historical Licence No: 2774003011 Details: Fish Farm/Cress Pond Throughflow Direct Source: Surface, Non-Tidal - North West Region Point: RIVER EHEN AT BECK SIDE Data Type: Point Name: JACQUES Easting: 302700 Northing: 514100	Annual Volume (m ³): 416100 Max Daily Volume (m ³): 1140 Original Application No: - Original Start Date: 14/09/1994 Expiry Date: - Issue No: 100 Version Start Date: 14/09/1994 Version End Date: -



ID	Location	Details	
-	1620m SE	Status: Historical Licence No: 2774003010 Details: Water Bottling Direct Source: Surface, Non-Tidal - North West Region Point: SPRING FED STORAGE TANK AT KINNISIDECLEATOR Data Type: Point Name: ROBERTS Easting: 304200 Northing: 513800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 04/11/1991 Expiry Date: - Issue No: 100 Version Start Date: 04/11/1991 Version End Date: -
-	1957m E	Status: Historical Licence No: 2774003004 Details: Hydroelectric Power Generation Direct Source: "Surface, Non-Tidal - North West Region" Point: "MEADLEY RESERVOIR AT WATH BROW, CLEATOR" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 304900 Northing: 514400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 04/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2001 Version End Date: -
-	1957m E	Status: Historical Licence No: 2774003004 Details: Hydroelectric Power Generation Direct Source: Surface, Non-Tidal - North West Region Point: MEADLEY RESERVOIR AT WATH BROW, CLEATOR Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 304900 Northing: 514400	Annual Volume (m ³): 818280 Max Daily Volume (m ³): 2273 Original Application No: - Original Start Date: 04/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2001 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

1

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 46](#) >



ID	Location	Details	
-	1620m SE	Status: Historical Licence No: 2774003010 Details: Water Bottling Direct Source: Surface, Non-Tidal - North West Region Point: SPRING FED STORAGE TANK AT KINNISIDECLEATOR Data Type: Point Name: ROBERTS Easting: 304200 Northing: 513800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 04/11/1991 Expiry Date: - Issue No: 100 Version Start Date: 04/11/1991 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.

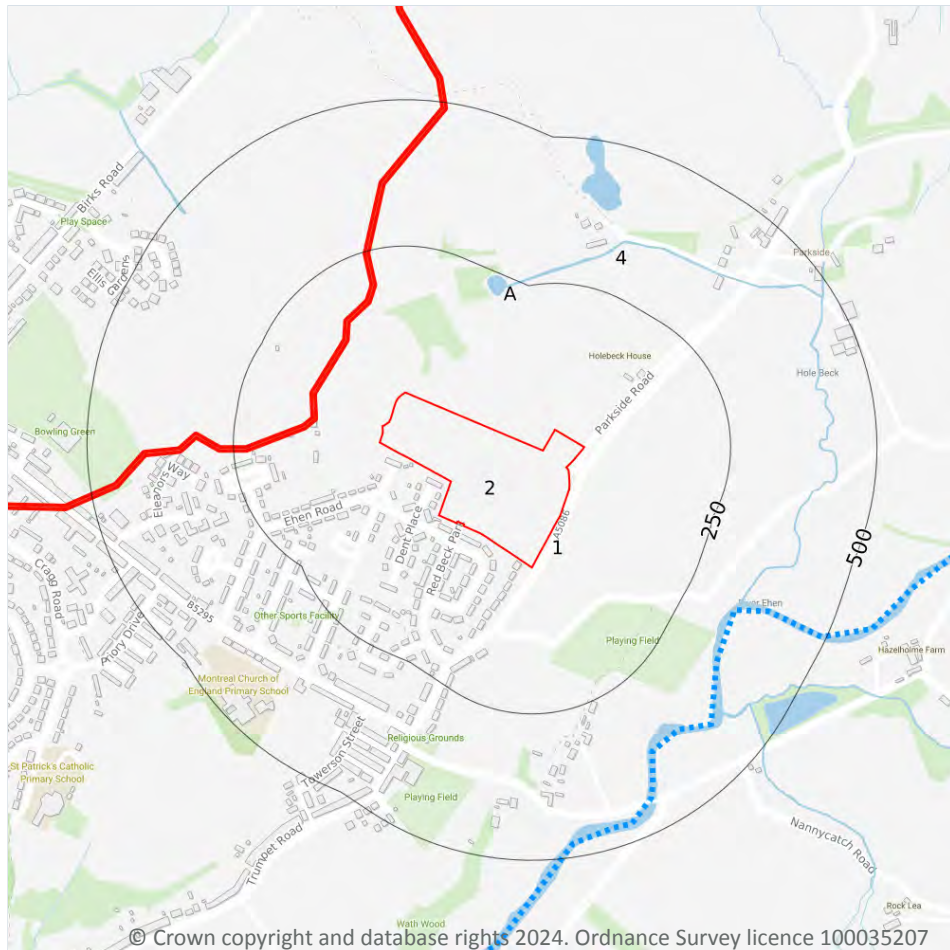
5.10 Source Protection Zones (confined aquifer)

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

2

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 50 >](#)

ID	Location	Type of water feature	Ground level	Permanence	Name
A	230m N	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
4	233m N	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	2
----------------------------	----------

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 50 >](#)

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 50 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River	Ehen (upper including Liza)	GB112074070010	Ehen-Calder	South West Lakes

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 50 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
8	339m SE	River	Ehen (upper including Liza)	GB112074070010 ↗	Moderate	Fail	Good	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 50 >](#)

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	On site	Derwent and West Cumbria Lower Palaeozoic and Carboniferous Aquifers	GB41202G103700 ↗	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

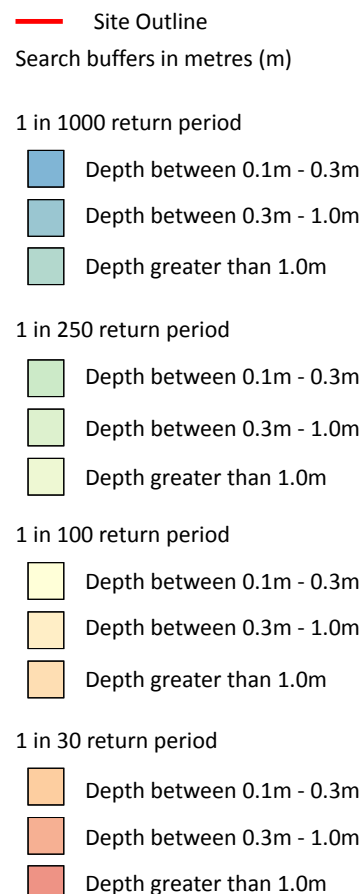
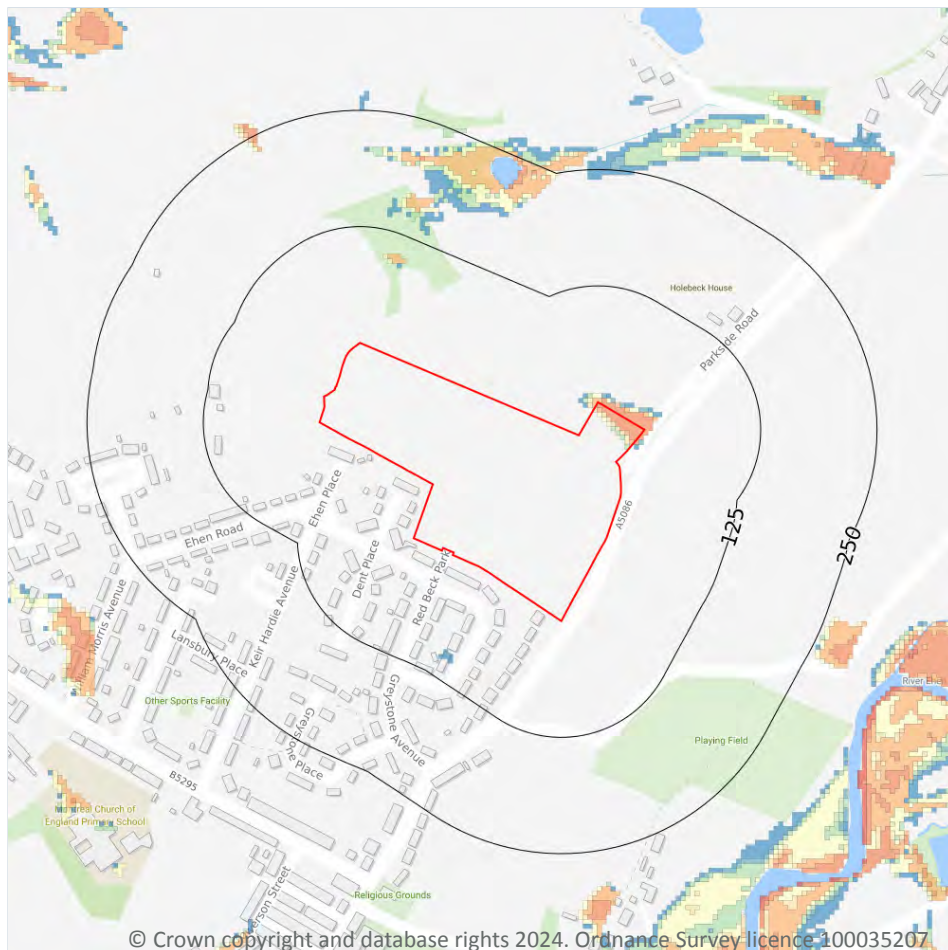
Records within 50m

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

1 in 30 year, 0.3m - 1.0m

Highest risk within 50m

1 in 30 year, 0.3m - 1.0m

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

Features are displayed on the Surface water flooding map on [page 56](#) >

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

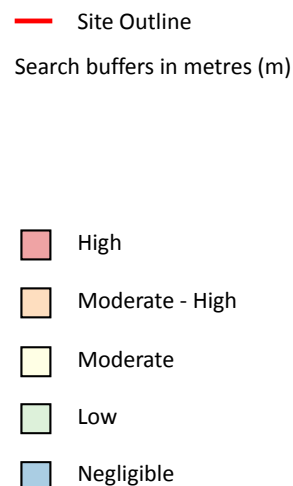
The table below shows the maximum flood depths for a range of return periods for the site.

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

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

Low

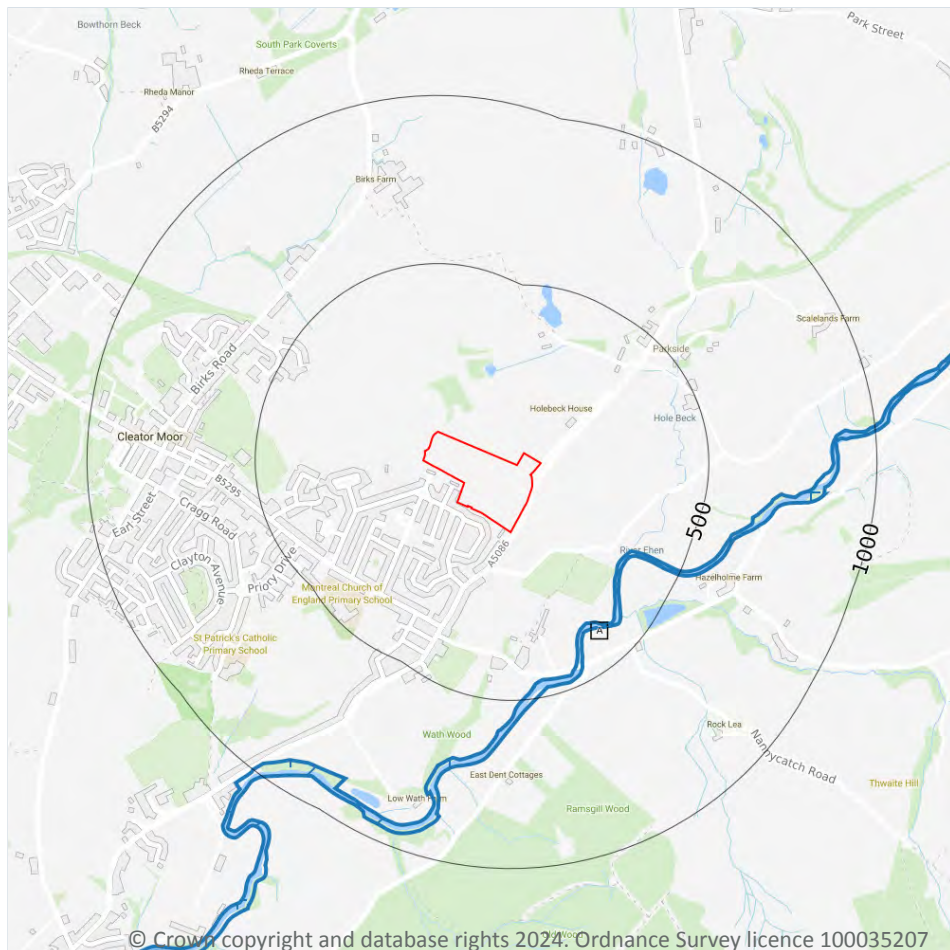
Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks 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)
- Sites of Special Scientific Interest (SSSI)
- + Special Areas of Conservation (SAC)
- Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

1

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.

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

ID	Location	Name	Data source
A	326m SE	River Ehen (Ennerdale Water to Keekle Confluence)	Natural England



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

1

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.

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

ID	Location	Name	Features of interest	Habitat description	Data source
A	326m SE	River Ehen	Brook lamprey; Atlantic salmon; Freshwater pearl mussel.	Inland water bodies (Standing water, Running water); Coniferous woodland; Broad-leaved deciduous woodland	Natural England

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
-	1528m S	Unknown	Ancient Replanted Woodland
-	1532m S	Unknown	Ancient Replanted Woodland
-	1613m S	Unknown	Ancient Replanted Woodland

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

10.8 Biosphere Reserves

Records within 2000m**0**

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



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

10.9 Forest Parks

Records within 2000m	0
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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
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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	0
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Areas designated to prevent urban sprawl by keeping land permanently open.

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

10.12 Proposed Ramsar sites

Records within 2000m	0
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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
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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.

Topographic map of the area around Cleator Moor, showing contour lines, roads, and buildings. A red outline highlights a specific area, and a black box with the number 1 is placed near it. Other features include Cleator Moor, St Patrick's Catholic Primary School, and various farms and woods.

10.17 SSSI Impact Risk Zones

Records on site

2

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 - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha. Residential - Residential development of 100 units or more. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any development that could cause AIR POLLUTION (incl: industrial/commercial processes, livestock & poultry units, slurry lagoons & digestate stores, manure stores). Combustion - All general combustion processes. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management. Composting - Any composting proposal. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Discharges - Any discharge of water or liquid waste that is discharged to ground (ie to seep away) or to surface water, such as a beck or stream. Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .
2	On site	Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha. Residential - Residential development of 100 units or more. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t). Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Discharges - Any discharge of water or liquid waste of more than 2m³/day to ground (ie to seep away) or to surface water, such as a beck or stream. Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .

This data is sourced from Natural England.



10.18 SSSI Units

Records within 2000m

1

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.

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

ID: 4
Location: 326m SE
SSSI name: River Ehen (Ennerdale Water to Keekle Confluence)
Unit name: Old Units 3-6
Broad habitat: Rivers And Streams
Condition: Unfavourable - Declining
Reportable features:

Feature name	Feature condition	Date of assessment
Population of Schedule 5 mollusc - Margaritifera margaritifera, Freshwater Pearl Mussel	Unfavourable - Declining	13/08/2012
Rivers and Streams	Unfavourable - No change	13/08/2012
S1029 Freshwater pearl mussel, Margaritifera margaritifera	Unfavourable - Declining	13/08/2012
S1106 Atlantic salmon, Salmo salar	Unfavourable - No change	13/08/2012

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



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

0

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



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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

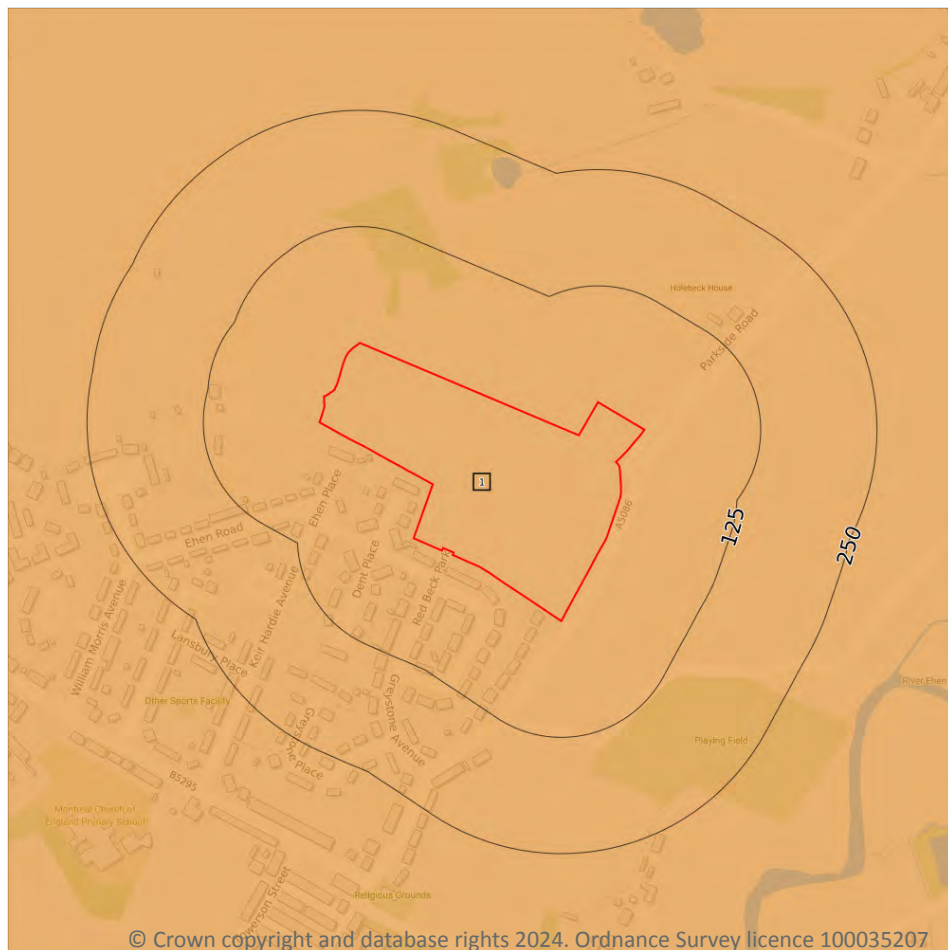
0

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

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



12 Agricultural designations



- 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 69](#) >

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

This data is sourced from Natural England.



12.2 Open Access Land

Records within 250m**0**

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

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

12.3 Tree Felling Licences

Records within 250m**0**

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m**4**

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.

Location	Reference	Scheme	Start Date	End date
On site	AG00520993	Entry Level plus Higher Level Stewardship	01/06/2013	31/05/2023
On site	AG00299921	Entry Level plus Higher Level Stewardship	01/09/2010	31/08/2020
21m SE	AG00299921	Entry Level plus Higher Level Stewardship	01/09/2010	31/08/2020
213m SE	AG00299921	Entry Level plus Higher Level Stewardship	01/09/2010	31/08/2020

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m**0**

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



This data is sourced from Natural England.



13 Habitat designations



- Site Outline
- Search buffers in metres (m)
- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders
- Habitat Networks
- Primary Habitat
- Restorable Habitat
- Associated Habitats
- Habitat Restoration-Creation
- Network Enhancement Zone 1
- Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m

9

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

Features are displayed on the Habitat designations map on [page 72](#) >

ID	Location	Main Habitat	Other habitats
1	86m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	101m N	Purple moor grass and rush pastures	Main habitat: LMEAD (INV > 50%); PMGRP (INV > 50%); Additional: LFENS (FEP 50%)
2	123m N	Purple moor grass and rush pastures	Main habitat: LMEAD (INV > 50%); PMGRP (INV > 50%); Additional: LFENS (FEP 50%)



ID	Location	Main Habitat	Other habitats
A	136m N	No main habitat but additional habitats present	Additional: LFENS (FEP 50%); GQSIG (FEP 50%)
3	156m N	Purple moor grass and rush pastures	Main habitat: LMEAD (INV > 50%); PMGRP (INV > 50%); Additional: LFENS (FEP 50%)
B	173m N	No main habitat but additional habitats present	Additional: LFENS (FEP 50%); GQSIG (FEP 50%)
4	181m N	Purple moor grass and rush pastures	Main habitat: LMEAD (INV > 50%); PMGRP (INV > 50%)
5	197m N	No main habitat but additional habitats present	Additional: LFENS (FEP 50%); GQSIG (FEP 50%)
B	198m N	No main habitat but additional habitats present	Additional: LFENS (FEP 50%); GQSIG (FEP 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

0

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



remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



- Site Outline**
- Search buffers in metres (m)**
- Full coverage
 - Partial coverage
 - No coverage

14.1 10k Availability

Records within 500m

1

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

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

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

This data is sourced from the British Geological Survey.



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

14.2 Artificial and made ground (10k)

Records within 500m

0

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.

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m

0

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.

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

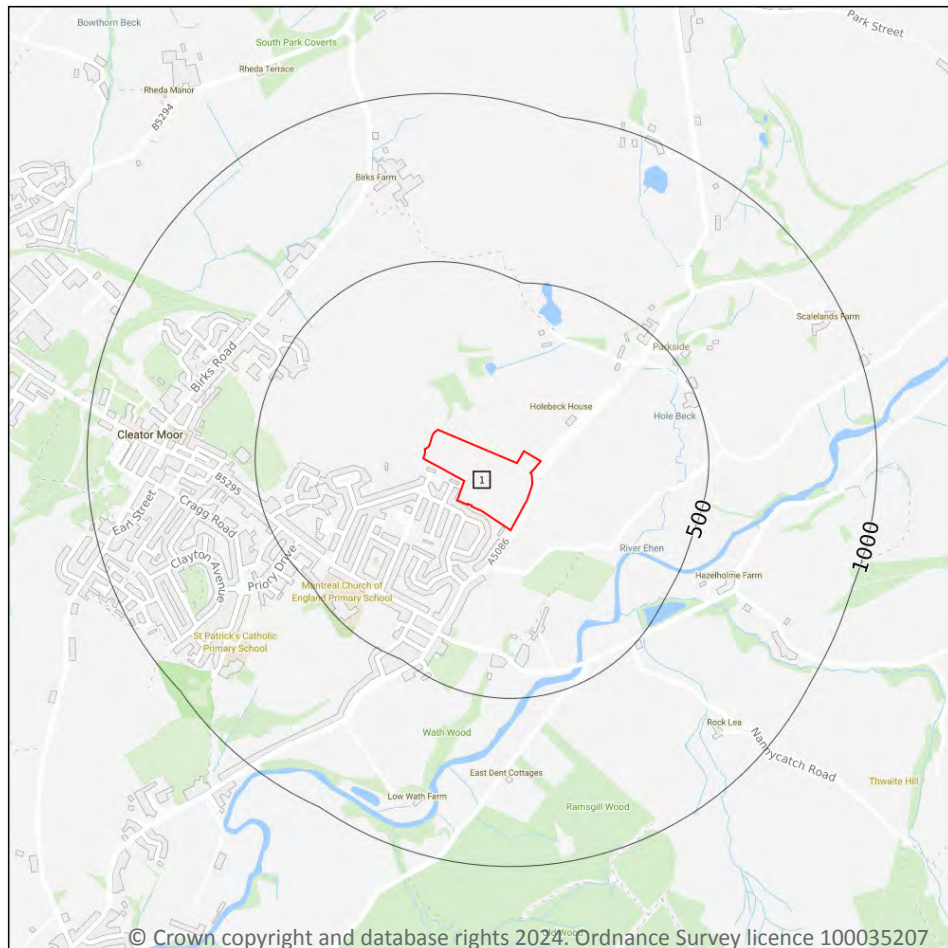
0

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

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— 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.

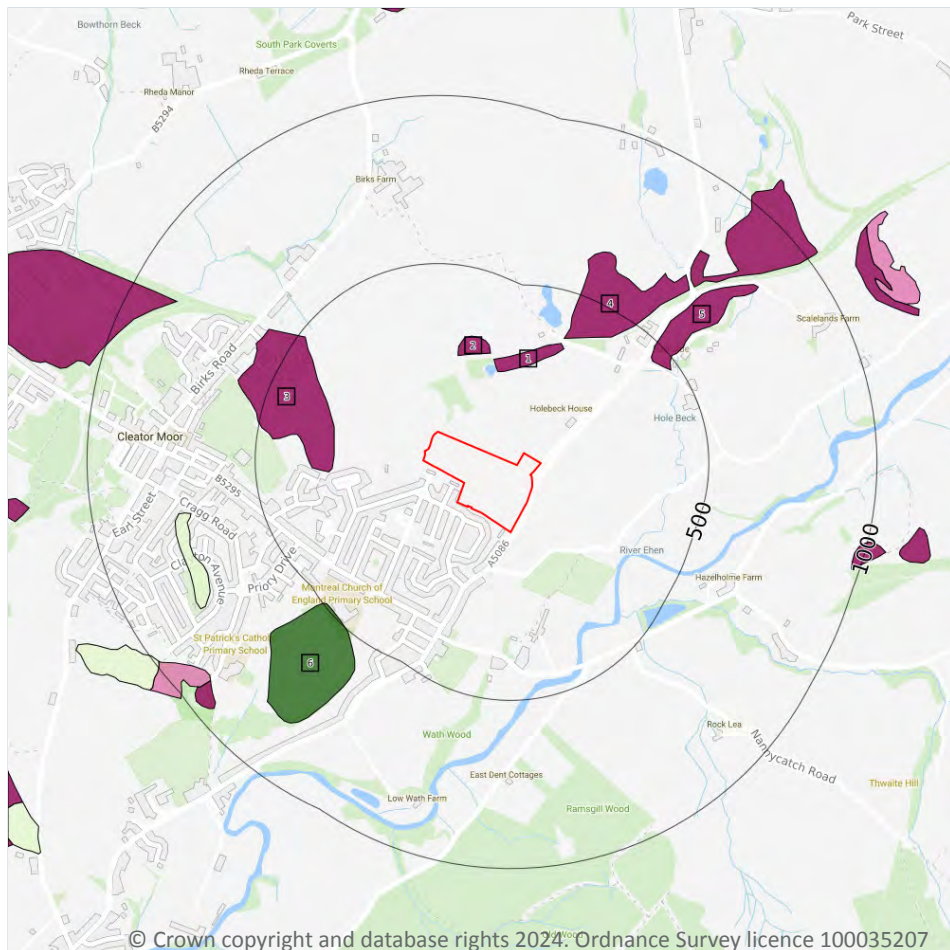
Features are displayed on the Geology 1:50,000 scale - Availability map on [page 79](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW028_whitehaven_v4

This data is sourced from the British Geological Survey.



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



- Site Outline**
- Search buffers in metres (m)**
- Made ground
 - Worked ground
 - Infilled ground
 - Disturbed ground
 - Landscaped ground

15.2 Artificial and made ground (50k)

Records within 500m

6

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

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on [page 80](#) >

ID	Location	LEX Code	Description	Rock description
1	234m N	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	234m N	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
3	265m W	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
4	362m NE	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT



ID	Location	LEX Code	Description	Rock description
5	450m NE	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
6	491m SW	LSGR-ARTGR	LANDSCAPED GROUND (UNDIVIDED)	ARTIFICIALLY MODIFIED GROUND

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

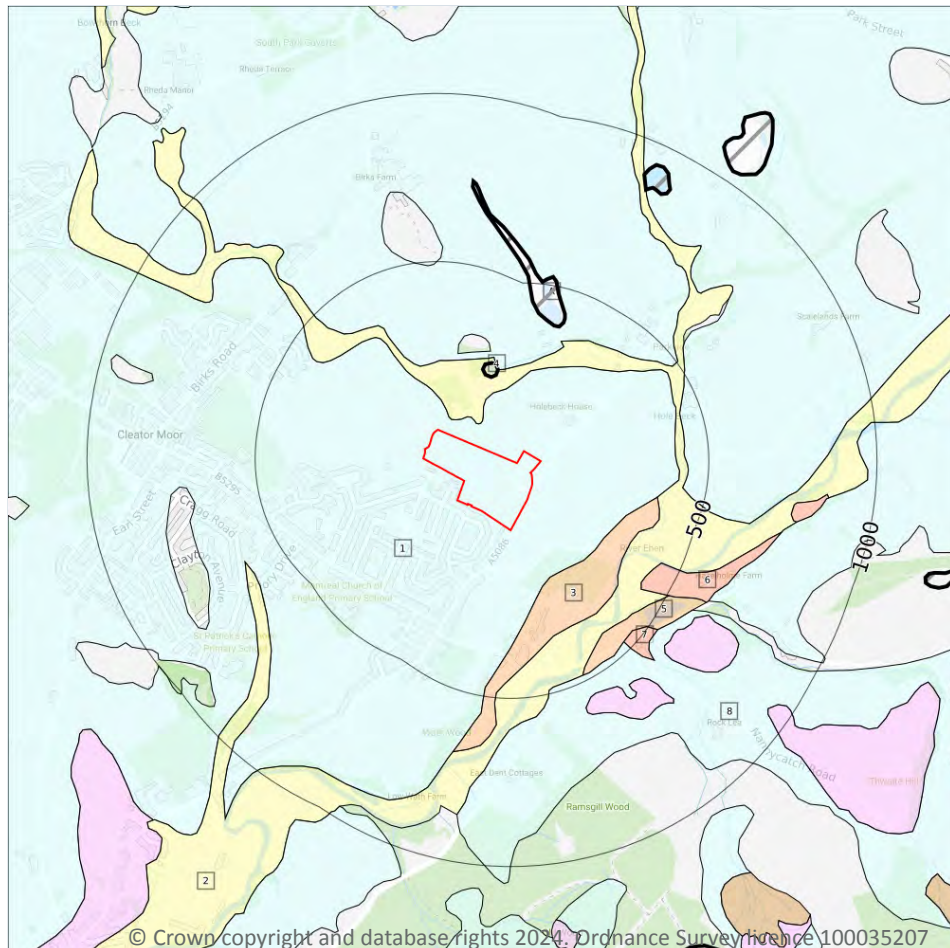
0

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

8

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 82](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON
2	44m NW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
3	182m SE	RTD1-XCSV	RIVER TERRACE DEPOSITS, 1	CLAY, SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
A	384m NE	SUPNM-UNKNOWN	SUPERFICIAL THEME NOT MAPPED [FOR DIGITAL MAP USE ONLY]	UNKNOWN/UNCLASSIFIED ENTRY
5	411m SE	RTD1-XCSV	RIVER TERRACE DEPOSITS, 1	CLAY, SAND AND GRAVEL
6	415m SE	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL
7	469m SE	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL
8	472m SE	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

3

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	High	Low
On site	Mixed	High	Low
44m NW	Intergranular	High	Very Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

2

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 82 >](#)

ID	Location	LEX Code	Description	Rock description
4	206m N	FOUN-UNKNOWN	FOUNDERED STRATA	UNKNOWN/UNCLASSIFIED ENTRY
A	384m NE	FOUN-UNKNOWN	FOUNDERED STRATA	UNKNOWN/UNCLASSIFIED ENTRY

This data is sourced from the British Geological Survey.



15.7 Landslip permeability (50k)

Records within 50m

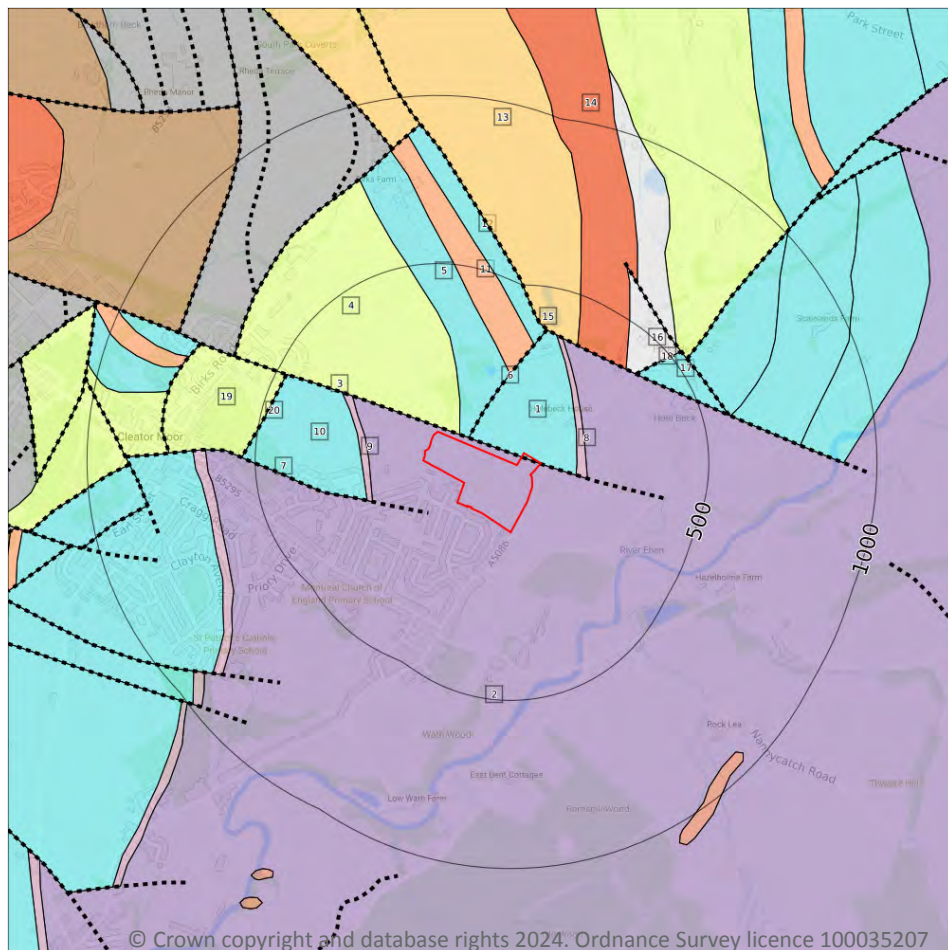
0

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

14

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 85 >](#)

ID	Location	LEX Code	Description	Rock age
1	On site	FRLI-LMST	FRIZINGTON LIMESTONE FORMATION - LIMESTONE	WISEAN
2	On site	BUF-MDSD	BUTTERMERE FORMATION - MUDSTONE AND SANDSTONE	-
4	14m NW	SMGP-MDSS	STAINMORE FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	NAMURIAN



ID	Location	LEX Code	Description	Rock age
5	17m NW	ESKT-LMST	ESKETT LIMESTONE FORMATION - LIMESTONE	WISEAN
8	108m E	MASA-CONG	MARSETT SANDSTONE FORMATION - CONGLOMERATE	TOURNAISIAN
9	161m W	MASA-CONG	MARSETT SANDSTONE FORMATION - CONGLOMERATE	TOURNAISIAN
10	182m W	FRLI-LMST	FRIZINGTON LIMESTONE FORMATION - LIMESTONE	WISEAN
11	239m N	OBS-SDST	OREBANK SANDSTONE - SANDSTONE	WISEAN
12	324m N	ESKT-LMST	ESKETT LIMESTONE FORMATION - LIMESTONE	WISEAN
13	357m NE	SBS-SDST	ST BEES SANDSTONE MEMBER - SANDSTONE	-
14	357m NE	BK-BREC	BROCKRAM - BRECCIA	-
16	377m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
17	388m NE	FRLI-LMST	FRIZINGTON LIMESTONE FORMATION - LIMESTONE	WISEAN
19	470m NW	SMGP-MDSS	STAINMORE FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	NAMURIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	5
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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	Very High	High
On site	Fracture	Moderate	Low
On site	Fracture	Moderate	Low
14m NW	Fracture	Moderate	Low
17m NW	Fracture	Very High	High

This data is sourced from the British Geological Survey.



15.10 Bedrock faults and other linear features (50k)

Records within 500m

6

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.

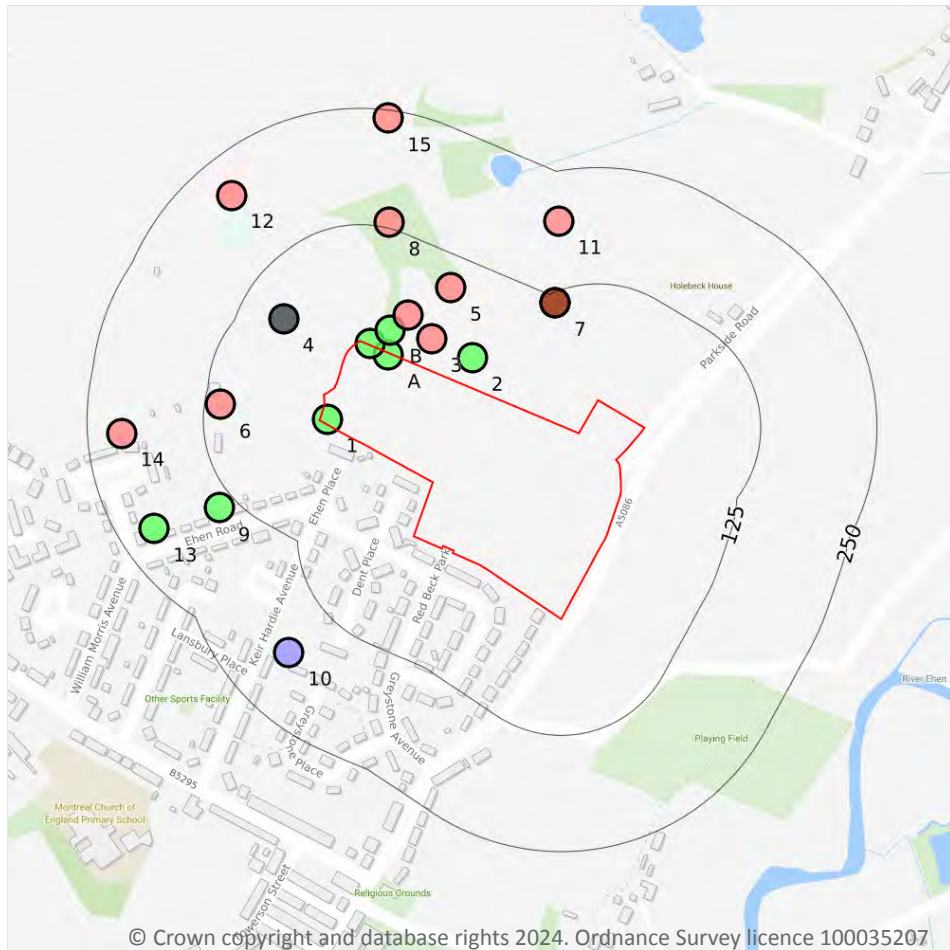
Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 85](#) >

ID	Location	Category	Description
3	On site	FAULT	Fault, inferred, displacement unknown
6	20m N	FAULT	Fault, inferred, displacement unknown
7	92m SW	FAULT	Fault, inferred, displacement unknown
15	358m NE	FAULT	Fault, inferred, displacement unknown
18	388m NE	FAULT	Fault, inferred, displacement unknown
20	470m NW	FAULT	Fault, inferred, displacement unknown

This data is sourced from the British Geological Survey.



16 Boreholes



— Site Outline
Search buffers in metres (m)

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

16.1 BGS Boreholes

Records within 250m

19

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

Features are displayed on the Boreholes map on [page 88](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	On site	302715 515065	BH NO. 7 ALDBY (CROSS SECTION)	13.0	N	838011 ↗
A	On site	302781 515134	BH NO. 3 ALDBY (CROSS SECTION)	30.0	N	838007 ↗
A	2m NW	302761 515147	BH NO. 4 ALDBY (CROSS SECTION)	27.0	N	838008 ↗

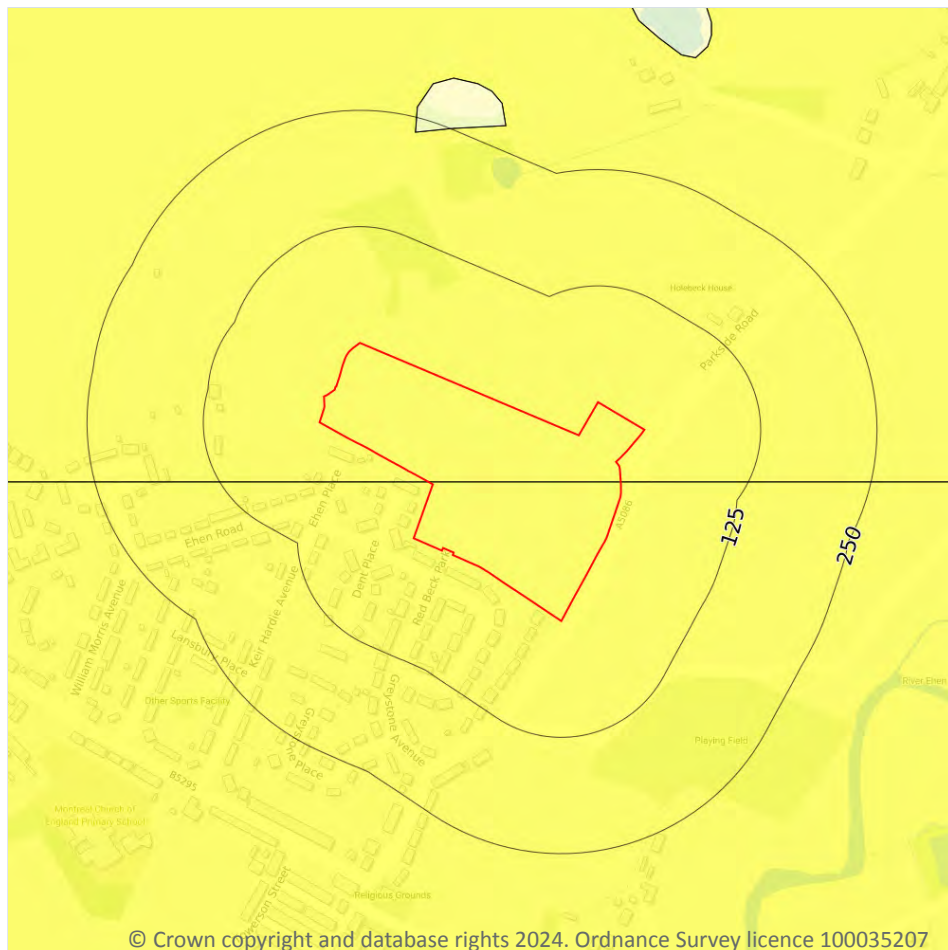


ID	Location	Grid reference	Name	Length	Confidential	Web link
B	23m NW	302783 515161	NO.5 ALDBY (CROSS SECTION)	21.0	N	838009 ↗
2	30m N	302871 515131	BH NO. 1 ALDBY (CROSS SECTION)	18.0	N	838005 ↗
3	32m NW	302827 515152	BH NO. 2 ALDBY (CROSS SECTION)	64.0	N	838006 ↗
B	46m NW	302802 515177	BH NO. 6 ALDBY (CROSS SECTION)	100.0	N	838010 ↗
4	77m NW	302668 515173	ALDBY ESTATE 10	-	Y	N/A
5	91m N	302848 515207	BH NO. 10 ALDBY (CROSS SECTION)	77.0	N	838012 ↗
6	108m W	302600 515081	ALDBY ESTATE NO. 8 BH	54.25	N	837957 ↗
7	114m N	302960 515190	MARGARET MINE (FILE) (M)	-1.0	N	838025 ↗
8	132m N	302782 515277	NO. 1 DB ALDBY (CROSS SECTION)	146.0	N	838013 ↗
9	143m W	302599 514970	BH NO. 8 CLEATOR MOOR (CROSS SECTION)	18.0	N	896735 ↗
10	183m SW	302674 514815	BH NO. 12 CLEATOR MOOR (CROSS SECTION)	10.0	N	896738 ↗
11	197m N	302964 515278	BH10 HOLEBECK	44.0	N	837996 ↗
12	208m NW	302612 515306	ALDBY ESTATE 4	36.57	N	837953 ↗
13	212m W	302529 514948	NO. 3 DB CLEATOR MOOR (CROSS SECTION)	12.0	N	896740 ↗
14	213m W	302494 515050	ALDBY ESTATE NO. 7 BH	45.02	N	837956 ↗
15	242m N	302781 515389	BIRKS 15 (CROSS SECTION)	200.76	N	837935 ↗

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).

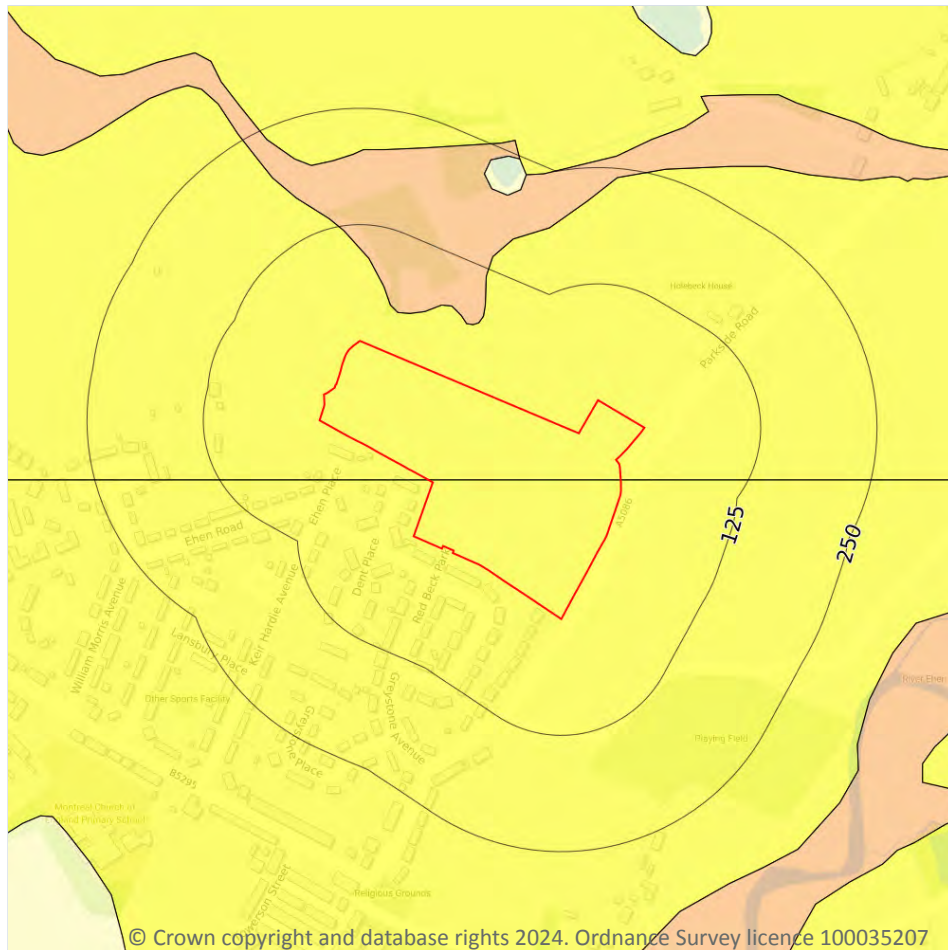
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 90](#) >

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

2

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

Features are displayed on the Natural ground subsidence - Running sands map on [page 91](#) >

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.

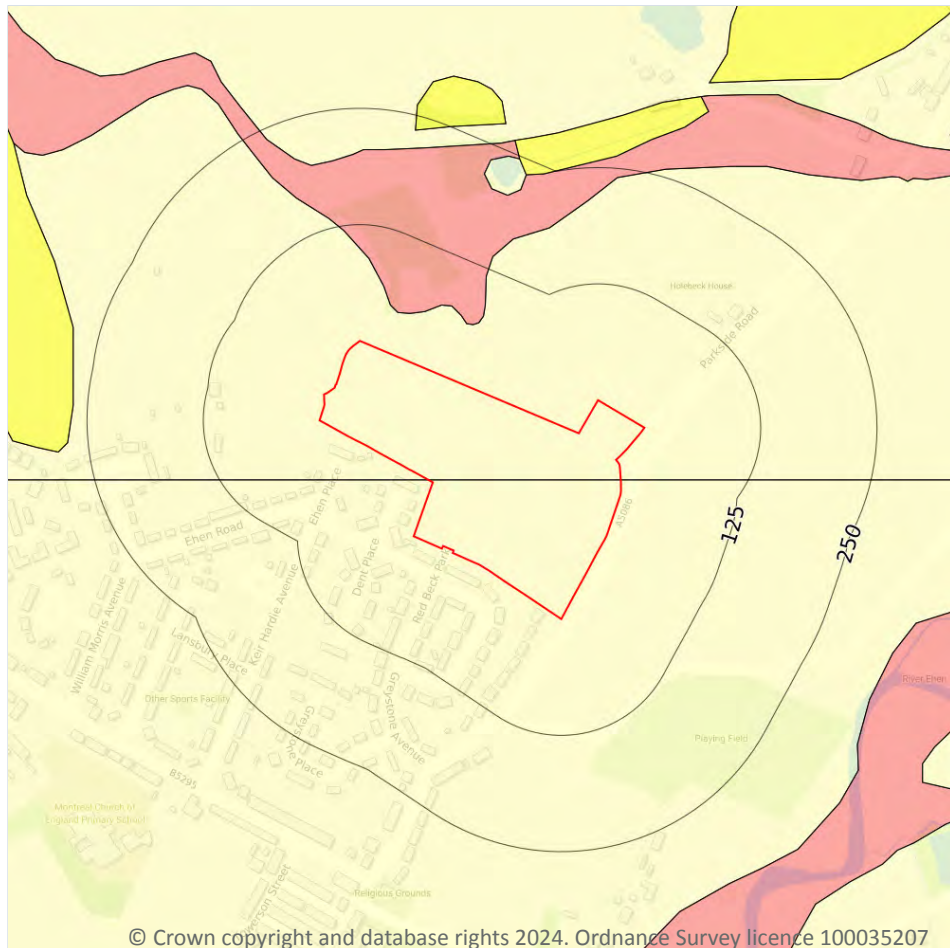


Location	Hazard rating	Details
44m NW	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.

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

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17.3 Compressible deposits

Records within 50m

2

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

Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 93](#) >

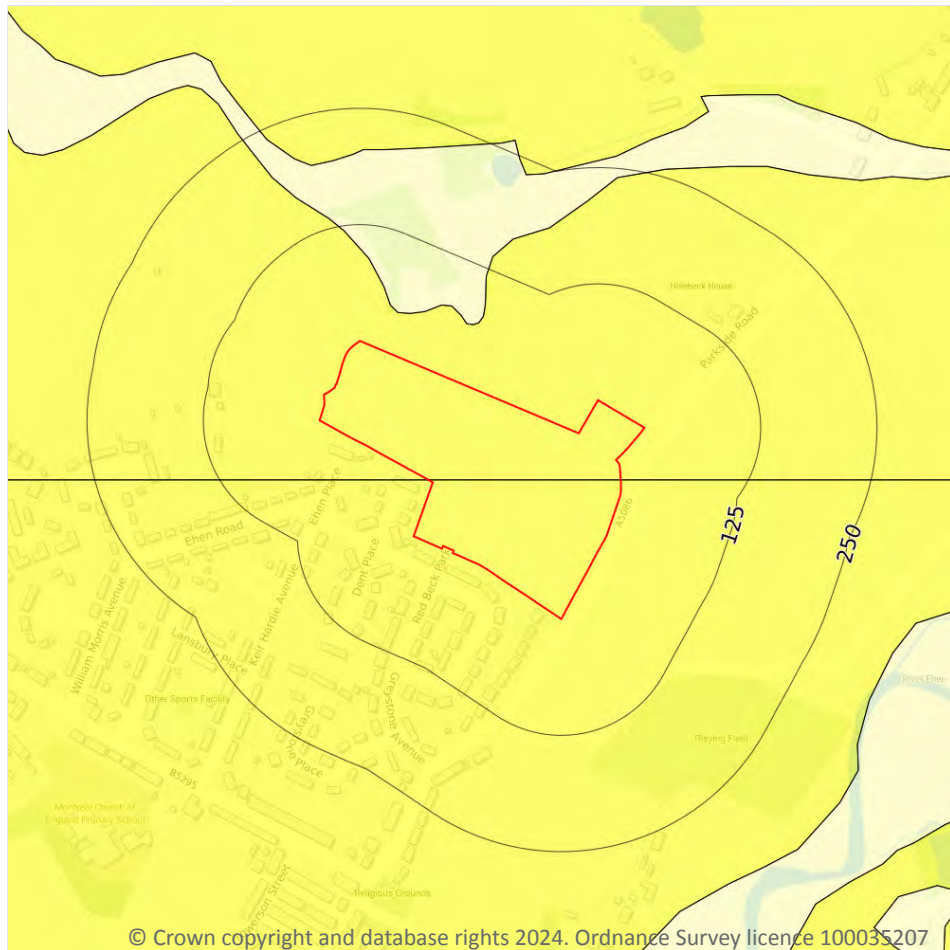
Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
44m NW	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.



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

2

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.

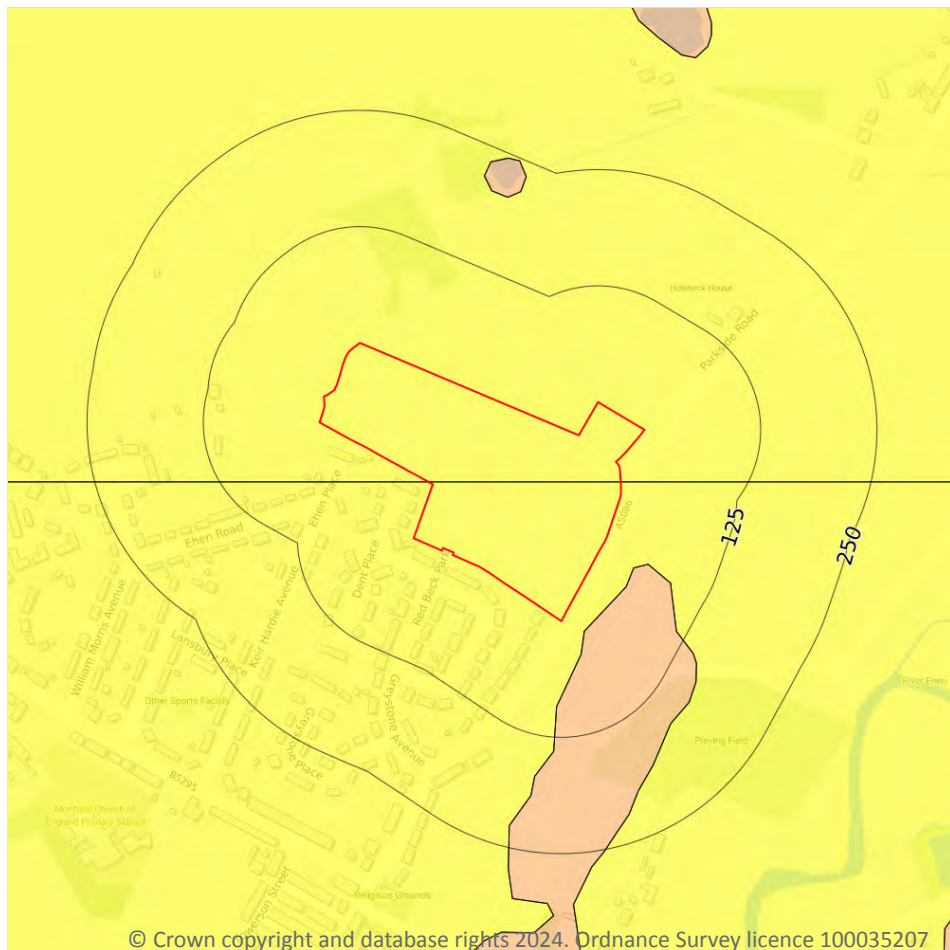
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 95](#) >

Location	Hazard rating	Details
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.
44m NW	Negligible	Deposits with potential to collapse when loaded and saturated are believed not 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

2

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 96 >](#)

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

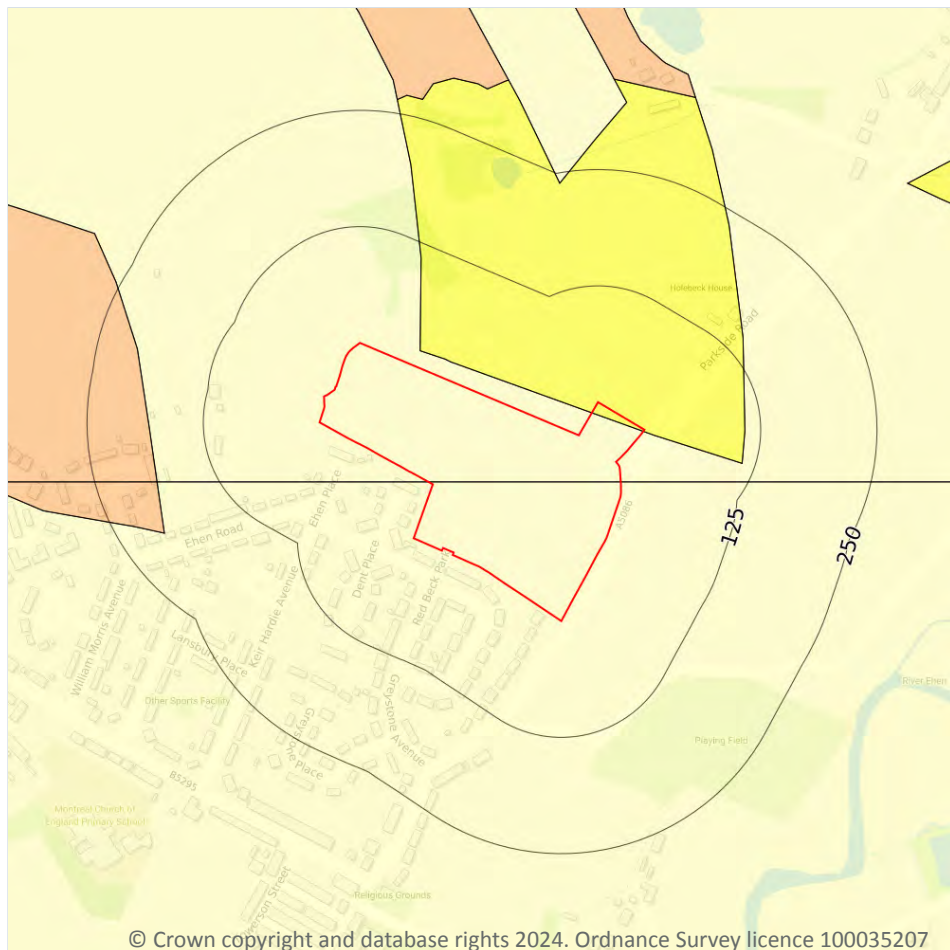


Location	Hazard rating	Details
27m SE	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

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

2

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 98](#)

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.

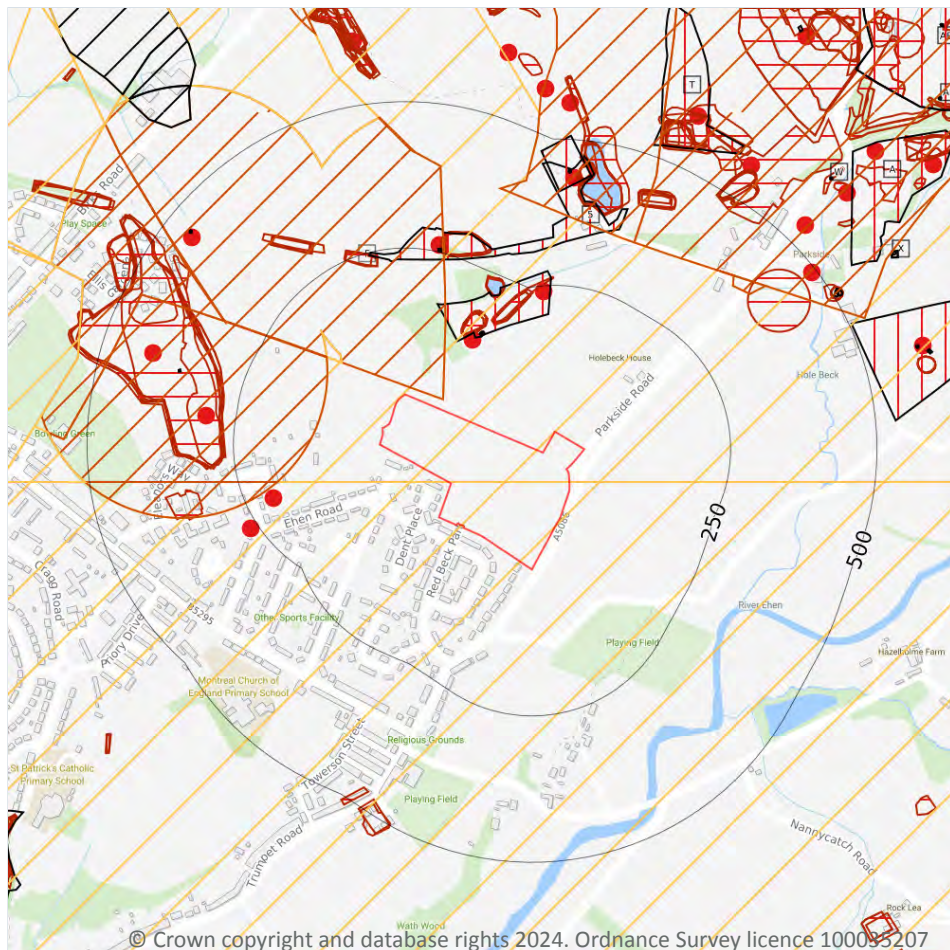


Location	Hazard rating	Details
On site	Very low	Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.

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

11

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 100](#) >



ID	Location	Details	Description
D	131m N	Name: Holebeck Iron Ore Mine, Pit No. 4 Address: CLEATOR MOOR, Cumbria Commodity: Hematite (Iron Ore) Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
4	202m W	Name: Aldby Brick Field Address: CLEATOR MOOR, Cumbria Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
D	241m N	Name: Holebeck Iron Ore Mine, Pit No. 2 Address: CLEATOR MOOR, Cumbria Commodity: Hematite (Iron Ore) Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
G	261m N	Name: Birks Iron Ore Mine, Pit No. 7 Address: CLEATOR MOOR, Cumbria Commodity: Hematite (Iron Ore) Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) 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
6	263m W	Name: Aldby Brick Field Address: CLEATOR MOOR, Cumbria Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority



ID	Location	Details	Description
C	301m W	Name: Aldby Quarry Address: CLEATOR MOOR, Cumbria Commodity: Limestone 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
H	412m W	Name: Aldby Quarry Address: CLEATOR MOOR, Cumbria Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
L	435m N	Name: Birks Iron Ore Mine, Pit No. 1 Address: CLEATOR MOOR, Cumbria Commodity: Hematite (Iron Ore) Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
L	435m N	Name: Birks Iron Ore Mine, Pit No. 1 Address: CLEATOR MOOR, Cumbria Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) 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
N	448m NW	Name: Aldby Iron Pit Address: CLEATOR MOOR, Cumbria Commodity: Hematite (Iron Ore) Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority



ID	Location	Details	Description
Q	491m NE	Name: High House Iron Ore Mine, Pit No. 4 Address: CLEATOR MOOR, Cumbria Commodity: Hematite (Iron Ore) Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) 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	21
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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 100](#) >

ID	Location	Land Use	Year of mapping	Mapping scale
D	131m N	Unspecified Heap	1951	1:10560
D	131m N	Unspecified Heap	1969	1:10560
D	131m N	Unspecified Disused Tip	1993	1:10000
D	132m N	Unspecified Heap	1926	1:10560
D	132m N	Unspecified Heap	1926	1:10560
D	134m N	Unspecified Pit	1898	1:10560
D	134m N	Unspecified Heap	1938	1:10560
D	169m N	Unspecified Pit	1926	1:10560
D	169m N	Unspecified Pit	1926	1:10560
D	170m N	Unspecified Pit	1938	1:10560
D	173m N	Unspecified Pit	1951	1:10560
D	211m N	Pond	1926	1:10560
D	212m N	Pond	1938	1:10560
D	216m N	Pond	1951	1:10560
F	224m NW	Cuttings	1926	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
F	224m NW	Cuttings	1938	1:10560
F	228m NW	Cuttings	1951	1:10560
G	247m N	Unspecified Pit	1898	1:10560
G	247m N	Unspecified Heap	1938	1:10560
G	248m N	Unspecified Heap	1926	1:10560
G	248m N	Unspecified Heap	1926	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m

51

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 100 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
D	119m N	Iron Ore Mine	1898	1:10560
D	143m N	Unspecified Old Shaft	1951	1:10560
D	145m N	Unspecified Old Shaft	1938	1:10560
5	228m NW	Disused Iron Mine	1898	1:10560
G	251m N	Unspecified Old Shaft	1938	1:10560
G	253m N	Unspecified Old Shaft	1951	1:10560
H	358m W	Unspecified Old Shaft	1863	1:10560
L	411m N	Coal Pit	1863	1:10560
L	443m N	Unspecified Old Shaft	1938	1:10560
L	445m N	Unspecified Old Shaft	1951	1:10560
N	454m NW	Iron Shaft	1863	1:10560
Q	502m NE	Unspecified Old Shaft	1938	1:10560
S	504m E	Iron Ore Mine	1898	1:10560
Q	505m NE	Unspecified Old Shaft	1951	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
Q	507m NE	Unspecified Disused Shaft	1969	1:10560
Q	509m NE	Iron Shaft	1863	1:10560
T	518m NE	Iron Ore Mine	1898	1:10560
A	554m NE	Iron Ore Mine	1898	1:10560
S	593m E	Unspecified Old Shaft	1898	1:10560
S	610m E	Unspecified Old Shaft	1926	1:10560
S	610m E	Unspecified Old Shaft	1951	1:10560
X	619m NE	Unspecified Old Shaft	1926	1:10560
X	619m NE	Unspecified Old Shaft	1951	1:10560
W	624m NE	Iron Shaft	1863	1:10560
X	624m NE	Unspecified Old Shaft	1898	1:10560
-	693m N	Unspecified Old Shaft	1938	1:10560
AE	798m NE	Disused Iron Ore Mine	1926	1:10560
AE	798m NE	Iron Ore Mines	1898	1:10560
K	801m NE	Iron Shaft	1863	1:10560
-	813m N	Iron Shaft	1863	1:10560
-	847m NE	Unspecified Old Shaft	1898	1:10560
AH	851m NE	Unspecified Old Shafts	1898	1:10560
34	871m SW	Old Iron Ore Mine	1898	1:10560
-	881m E	Unspecified Old Shaft	1898	1:10560
-	887m NE	Iron Shafts	1863	1:10560
-	904m N	Unspecified Old Shaft	1938	1:10560
-	904m N	Unspecified Old Shaft	1898	1:10560
-	905m N	Unspecified Old Shaft	1951	1:10560
-	931m NE	Unspecified Old Shaft	1926	1:10560
-	931m E	Disused Lead Mine	1898	1:10560
-	933m NE	Unspecified Old Shaft	1951	1:10560
AE	946m NE	Iron Shaft	1863	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
-	947m W	Unspecified Old Shaft	1938	1:10560
-	949m NE	Unspecified Old Shaft	1926	1:10560
-	949m NE	Unspecified Old Shaft	1951	1:10560
-	954m W	Unspecified Old Shaft	1898	1:10560
-	958m E	Disused Lead Mine	1926	1:10560
-	961m NE	Iron Shaft	1863	1:10560
-	983m W	Old Iron Shaft	1863	1:10560
-	991m NE	Iron Shaft	1863	1:10560
-	994m NE	Iron Ore Mine	1898	1:10560

This 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

42

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 100](#) >

ID	Location	Name	Commodity	Class	Likelihood
1	On site	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
A	On site	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
B	14m NW	Not available	Ironstone (bedded)/Iron Ore (Non Vein)	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
C	108m W	Not available	Ironstone (bedded)/Vein Mineral	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
2	116m NW	Not available	Iron Ore (Non Vein)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
3	142m NW	Not available	Ironstone (bedded)/Vein Mineral	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
E	187m W	Not available	Ironstone (bedded)/Vein Mineral	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
I	325m NW	Not available	Ironstone (bedded)	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
J	325m NW	Not available	Ironstone (bedded)/Iron Ore (Non Vein)	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.



ID	Location	Name	Commodity	Class	Likelihood
7	350m NE	Not available	Ironstone (bedded)	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
K	351m NE	Not available	Ironstone (bedded)/Iron Ore (Non Vein)	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
9	377m NE	Not available	Ironstone (bedded)/Vein Mineral	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
10	414m NW	Not available	Iron Ore (Non Vein)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
11	414m N	Not available	Ironstone (bedded)/Vein Mineral	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
12	508m W	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
13	534m W	Not available	Iron Ore (Non Vein)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
17	596m NW	Not available	Ironstone (bedded)/Iron Ore (Non Vein)	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
18	633m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



ID	Location	Name	Commodity	Class	Likelihood
19	635m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
20	635m N	Not available	Ironstone (bedded)/Iron Ore (Non Vein)	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
21	642m NW	Not available	Iron Ore (Non Vein)	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	649m W	Not available	Ironstone (bedded)/Iron Ore (Non Vein)	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	660m W	Not available	Ironstone (bedded)/Iron Ore (Non Vein)	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
AA	688m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
AA	690m NW	Not available	Iron Ore (Non Vein)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
24	703m NW	Not available	Iron Ore (Bedded)	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
26	738m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	765m N	Not available	Iron Ore (Non Vein)	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.



ID	Location	Name	Commodity	Class	Likelihood
-	765m N	Not available	Ironstone (bedded)/Iron Ore (Non Vein)	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	803m N	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	804m NW	Not available	Ironstone (bedded)	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	828m NW	Not available	Ironstone (bedded)/Vein Mineral	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
AJ	850m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	866m NW	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	880m E	Not available	Vein Mineral	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	891m NE	Not available	Iron Ore (Non Vein)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	909m N	Not available	Ironstone (bedded)/Iron Ore (Non Vein)	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.



ID	Location	Name	Commodity	Class	Likelihood
-	928m NW	Not available	Iron Ore (Non Vein)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
40	935m 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.
-	947m N	Not available	Iron Ore (Non Vein)	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	980m E	Not available	Vein Mineral	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	989m N	Not available	Iron Ore (Non Vein)	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should 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

1

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

Location	Mineral type
355m NW	Unspecified

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m

15

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.

Location	Mineral
On site	Iron ore
97m N	Iron ore
103m N	Iron ore
140m N	Iron ore
173m NE	IRON ORE OR IRONSTONE UNDIFFERENTIATED
315m NE	Iron ore
360m N	Iron ore
371m N	Iron ore
413m NE	Iron ore
443m NE	Iron ore
445m N	Iron ore
471m NE	Iron ore
478m NE	Iron ore



Location	Mineral
487m N	Iron ore
498m NE	Iron ore

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m

15

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

Location	Mineral
42m N	Ironstone
78m N	Iron ore
94m N	Ironstone
128m N	Ironstone
135m N	Ironstone
187m N	Ironstone
273m W	Limestone
337m W	Iron ore
348m NE	Ironstone
380m NE	Iron ore
398m N	Ironstone
422m NW	Iron ore
441m NE	Ironstone
456m NW	Ironstone
470m NE	Ironstone

This data is sourced from Groundsure.



18.12 Coal mining

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

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

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

This data is sourced from the Coal Authority.

18.13 Brine areas

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

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

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

18.14 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

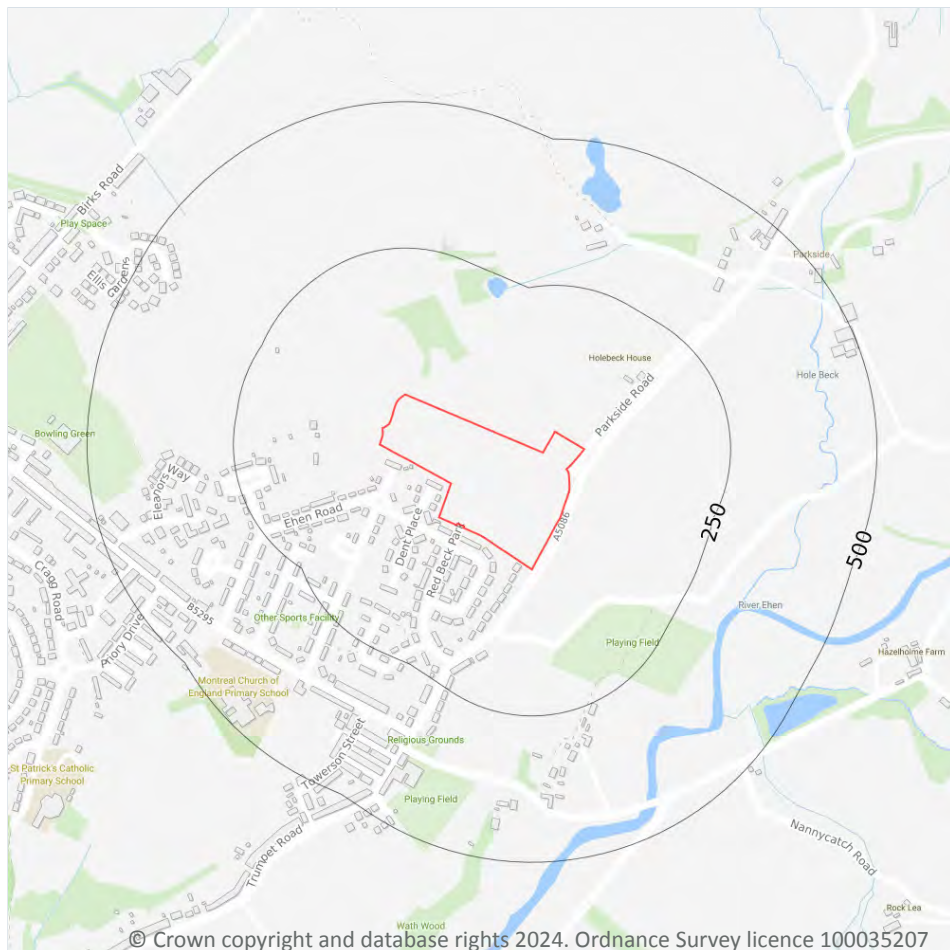
Records on site	0
-----------------	---

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

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



19 Ground cavities and sinkholes



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- Mining cavities
- Reported recent incidents
- Historical incidents
- BGS karst database (Point)
- BGS karst database (Line)
- BGS karst database (Area)

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
2

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.

Features are displayed on the Ground cavities and sinkholes map on [page 115 >](#)

ID	Location	Mine Address	Mineral	Data source	Publisher
-	935m W	Berrier Mine, Cumbria	Hematite	CATALOGUE OF MINING INFORMATION (OTHER THAN COAL, FIRECLAY & SLATE) FOR THE L.D	BGS
-	960m N	High Crossgill Mine, Cumbria	Hematite	CATALOGUE OF MINING INFORMATION (OTHER THAN COAL, FIRECLAY & SLATE) FOR THE L.D	BGS

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.

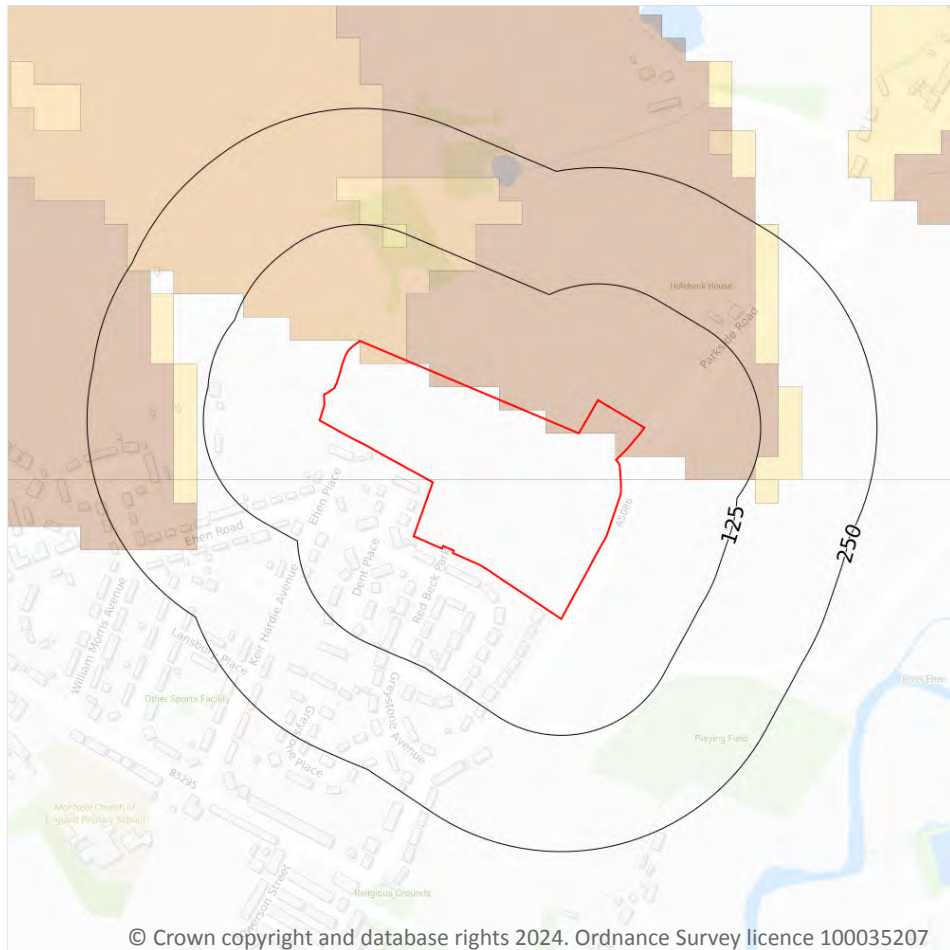
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over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



- Site Outline**
- Search buffers in metres (m)**
- Greater than 30%
 - Between 10% and 30%
 - Between 5% and 10%
 - Between 3% and 5%
 - Between 1% and 3%
 - Less than 1%

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20.1 Radon

Records on site

3

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 118](#) >

Location	Estimated properties affected	Radon Protection Measures required
On site	Between 10% and 30%	Full



Location	Estimated properties affected	Radon Protection Measures required
On site	Between 5% and 10%	Basic
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

9

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 - 25 mg/kg	No data	200 - 300 mg/kg	120 - 240 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	300 - 600 mg/kg	240 - 360 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	200 - 300 mg/kg	120 - 240 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	25 - 35 mg/kg	No data	200 - 300 mg/kg	120 - 240 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
14m NW	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
17m NW	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
44m NW	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 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



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- Site Outline
- Search buffers in metres (m)
- C1 Crossrail 1 Stations
- Crossrail 1 Route
- C2 Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

22.1 Underground railways (London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m

0

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



This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m

5

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

Features are displayed on the Railway infrastructure and projects map on [page 122 >](#)

Location	Land Use	Year of mapping	Mapping scale
125m N	Railway Sidings	1898	10560
129m N	Railway Sidings	1899	2500
228m NW	Railway Sidings	1898	10560
237m N	Railway Sidings	1926	10560
239m N	Railway Sidings	1938	10560

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m

0

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

This data is sourced from Groundsure/the Postal Museum.



22.6 Historical railways

Records within 250m**0**

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

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m**0**

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m**0**

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m**0**

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

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m**0**

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

This data is sourced from HS2 Ltd.



Data providers

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

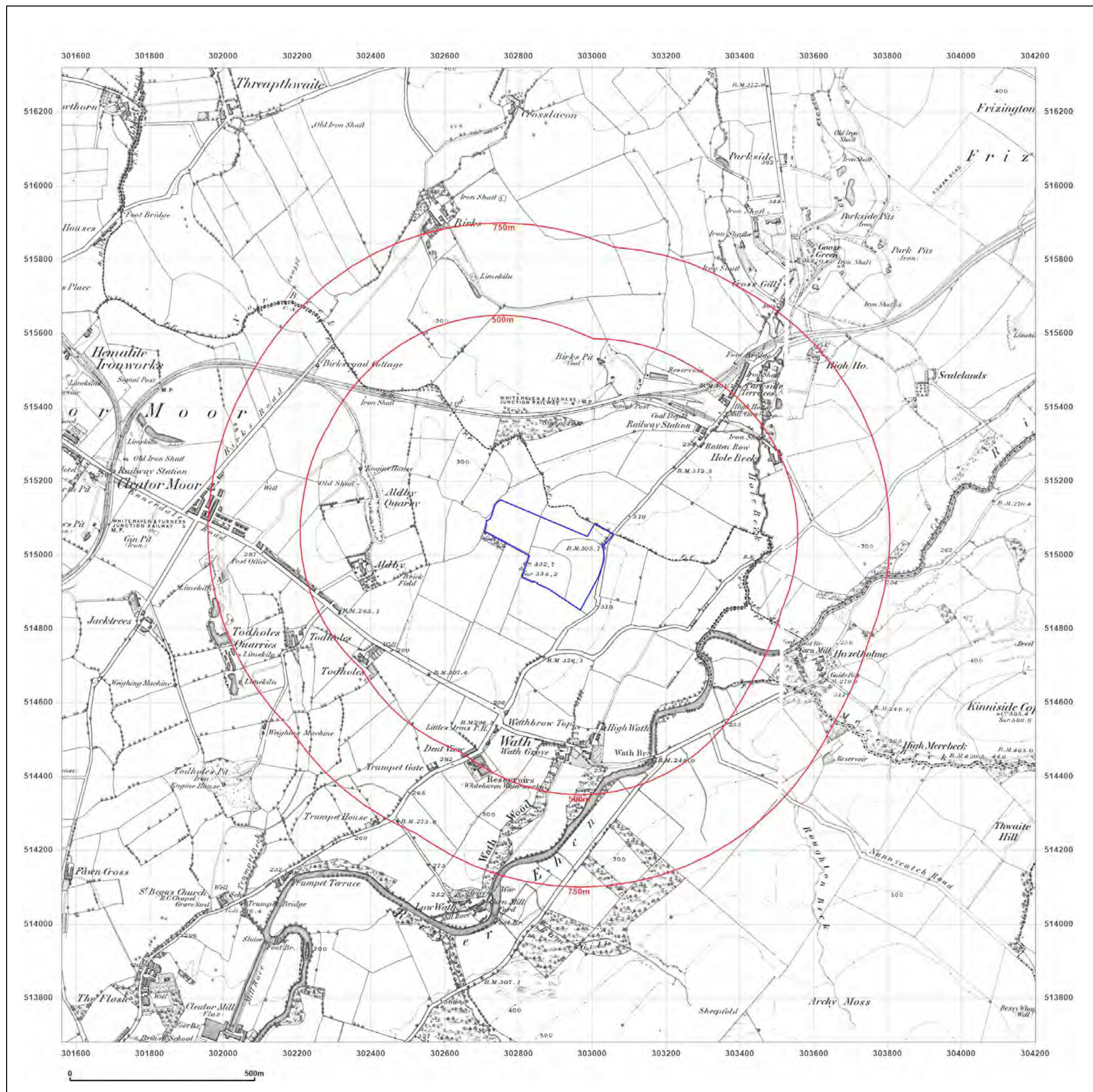
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Appendix III

- Historical Map Extracts



EMAPSITE™

Site Details:

unspecified

Client Ref: EMS_916890_1136521
Report Ref: EMS-916890_1168798
Grid Ref: 302881, 514999

Map Name: County Series

Map date: 1863

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1863
Revised 1863
Edition N/A
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Surveyed 1863
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Map legend available at:
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Site Details:

unspecified

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Report Ref: EMS-916890_1168798
Grid Ref: 302881, 514999

Map Name: County Series

Map date: 1898

Scale: 1:10,560

Printed at: 1:10,560



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 Revised 1898
 Edition N/A
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 Levelled N/A

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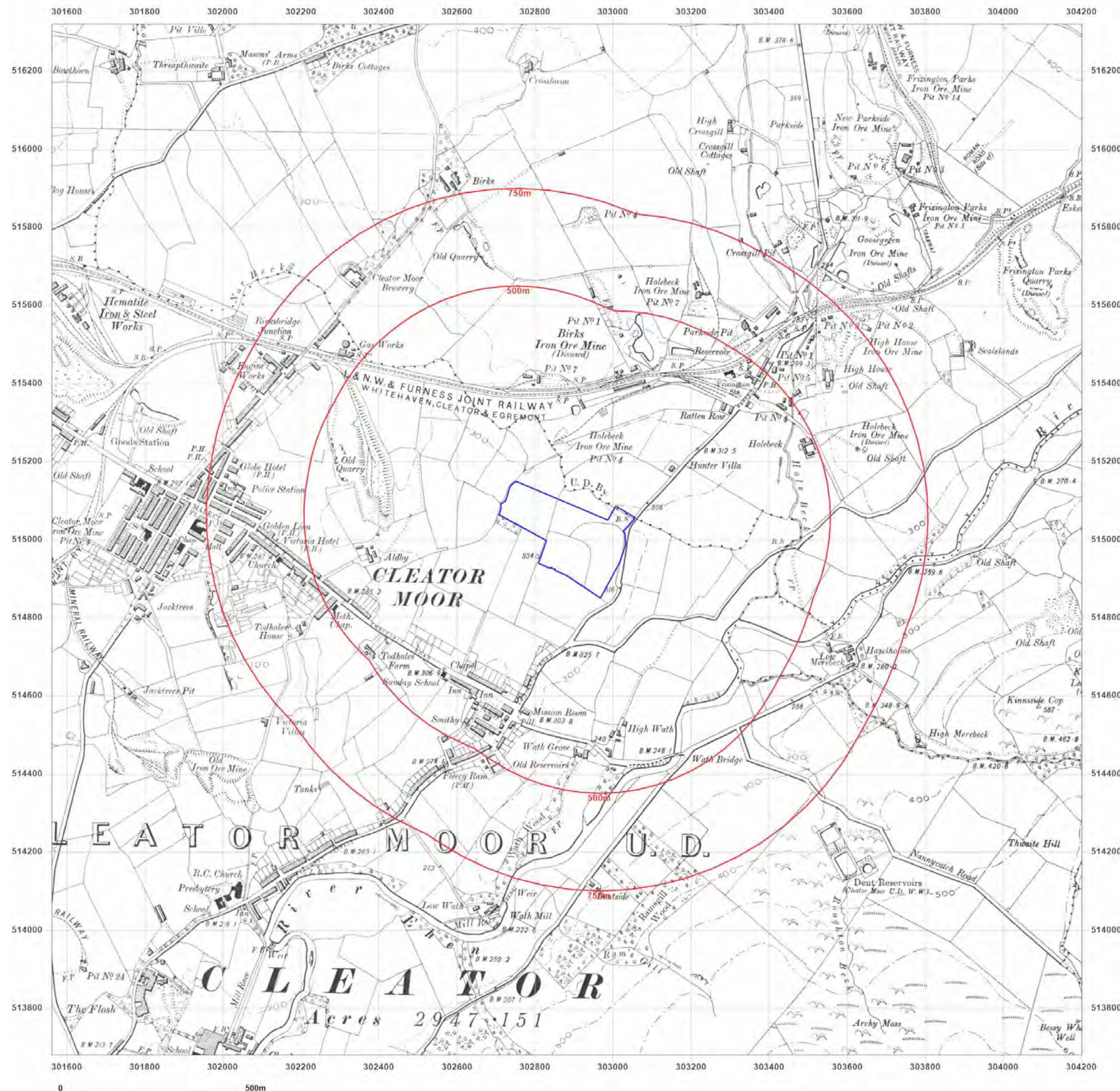


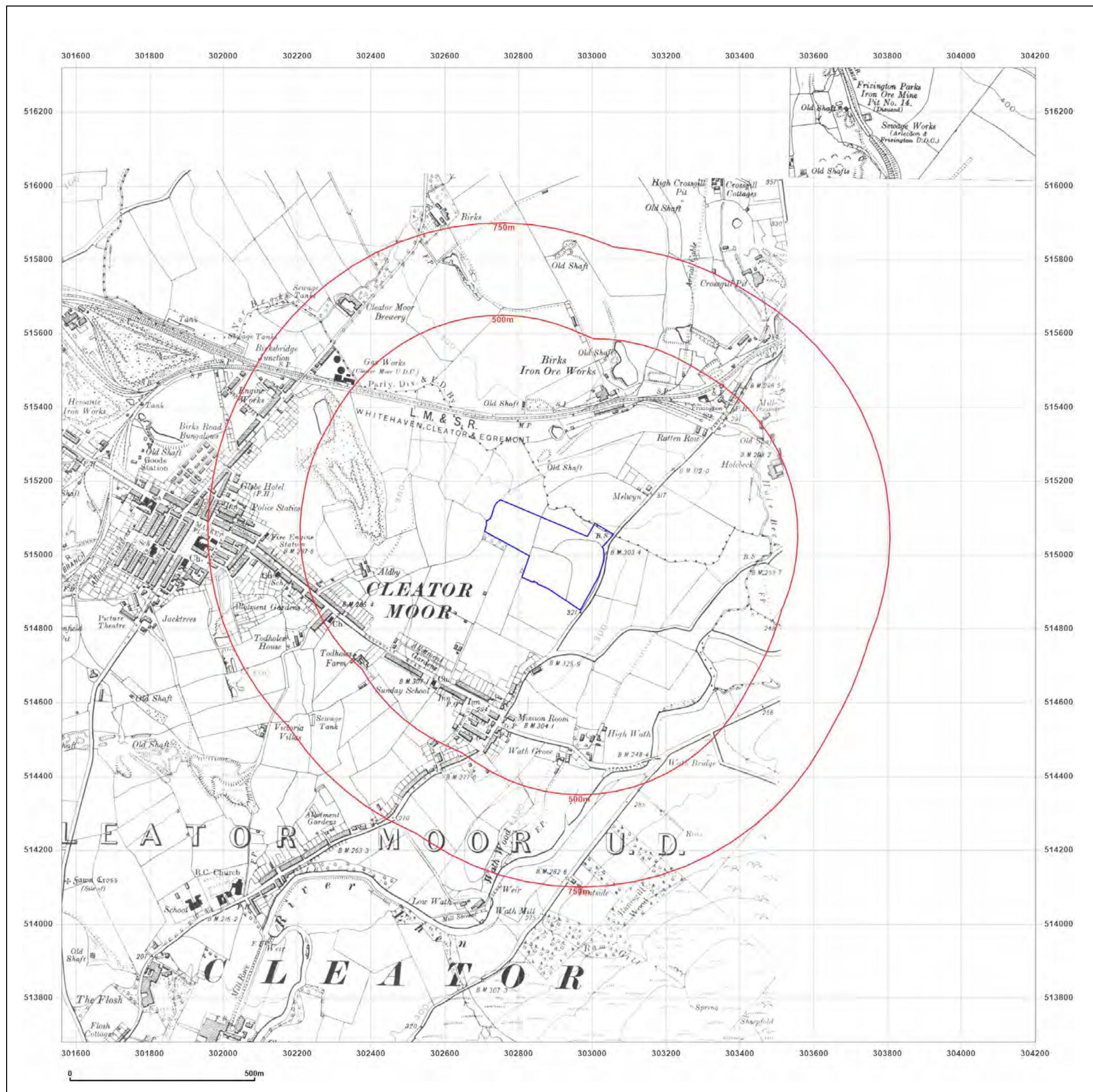
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Report Ref: EMS-916890_1168798
Grid Ref: 302881, 514999

Map Name: County Series

Map date: 1923-1926

Scale: 1:10,560

Printed at: 1:10,560



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Revised 1926
Edition 1926
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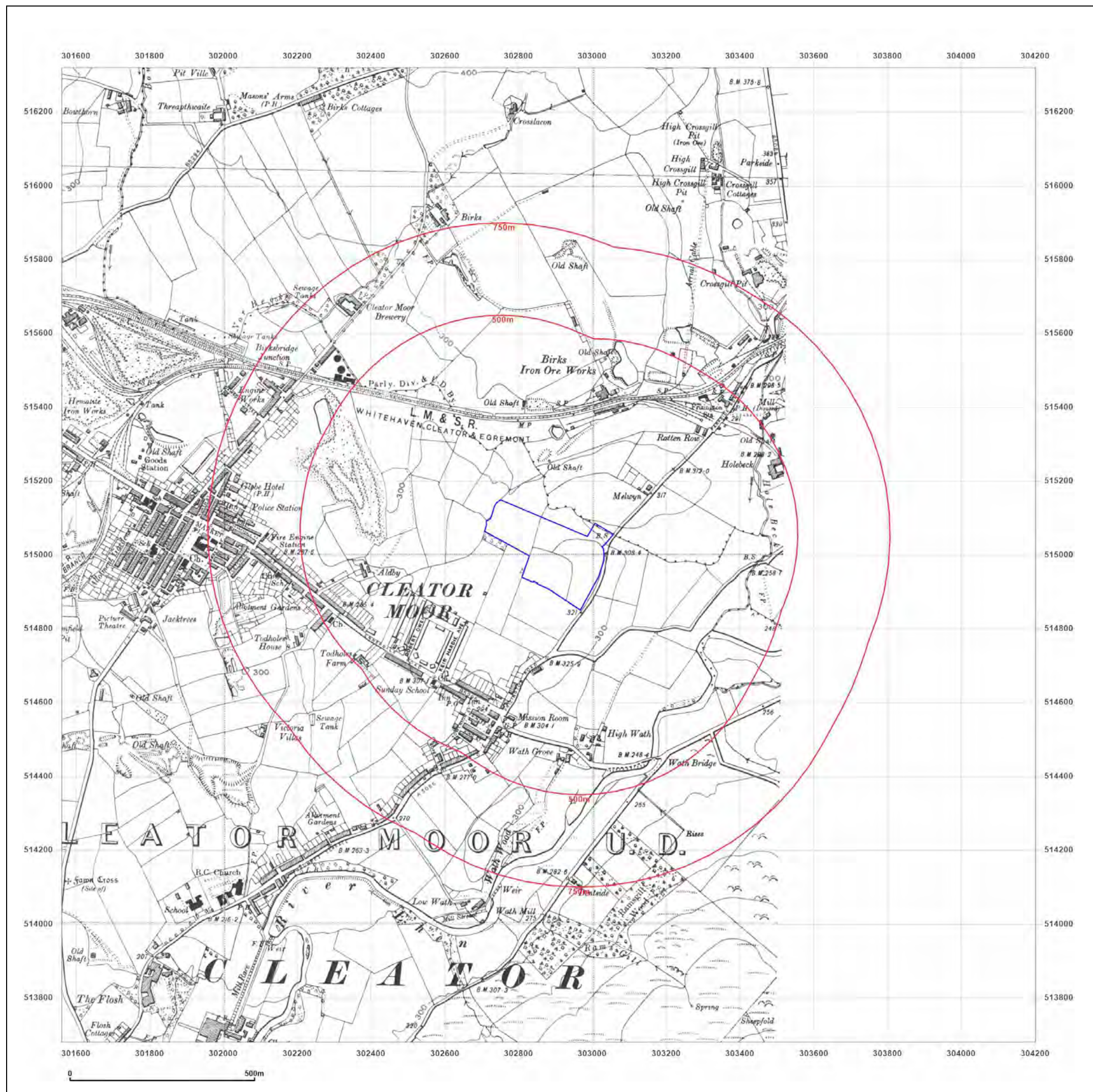


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unspecified

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Report Ref: EMS-916890_1168798
Grid Ref: 302881, 514999

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



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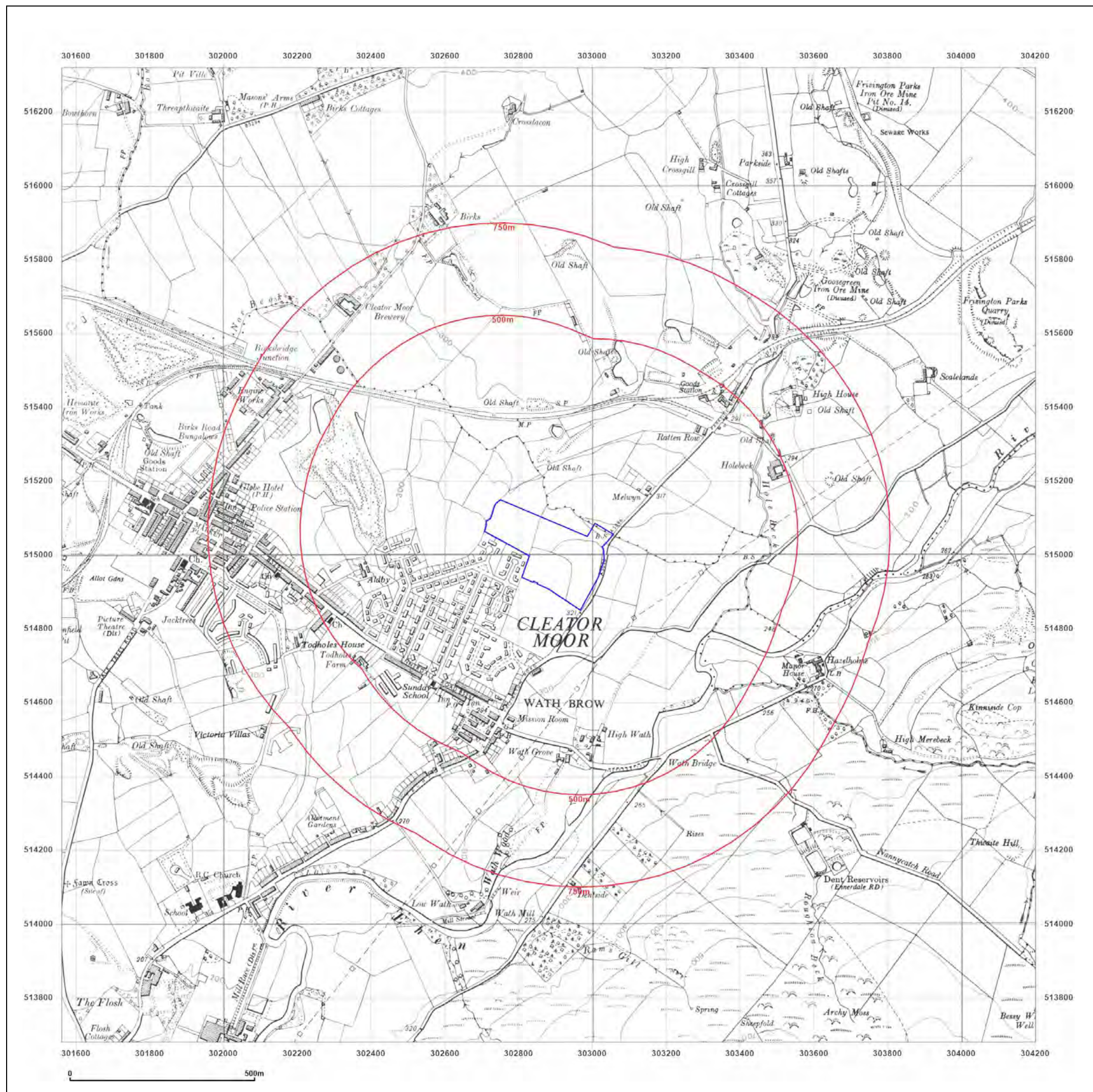


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Grid Ref: 302881, 514999

Map Name: Provisional

Map date: 1956-1957

Scale: 1:10,560

Printed at: 1:10,560



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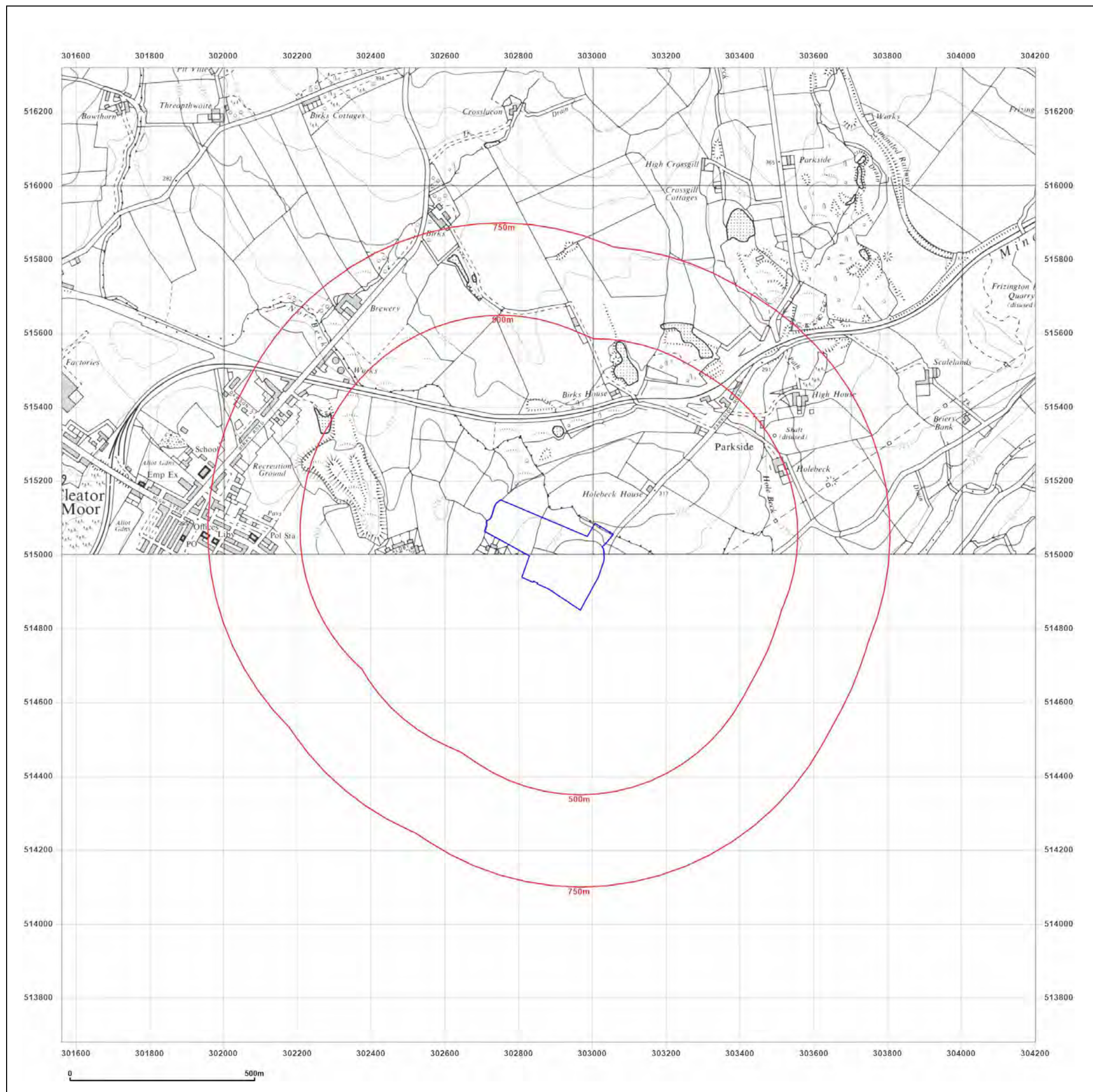


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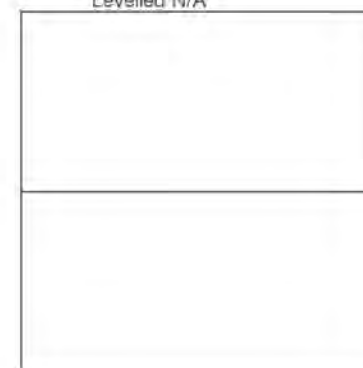
Map date: 1969

Scale: 1:10,560

Printed at: 1:10,560



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Edition N/A
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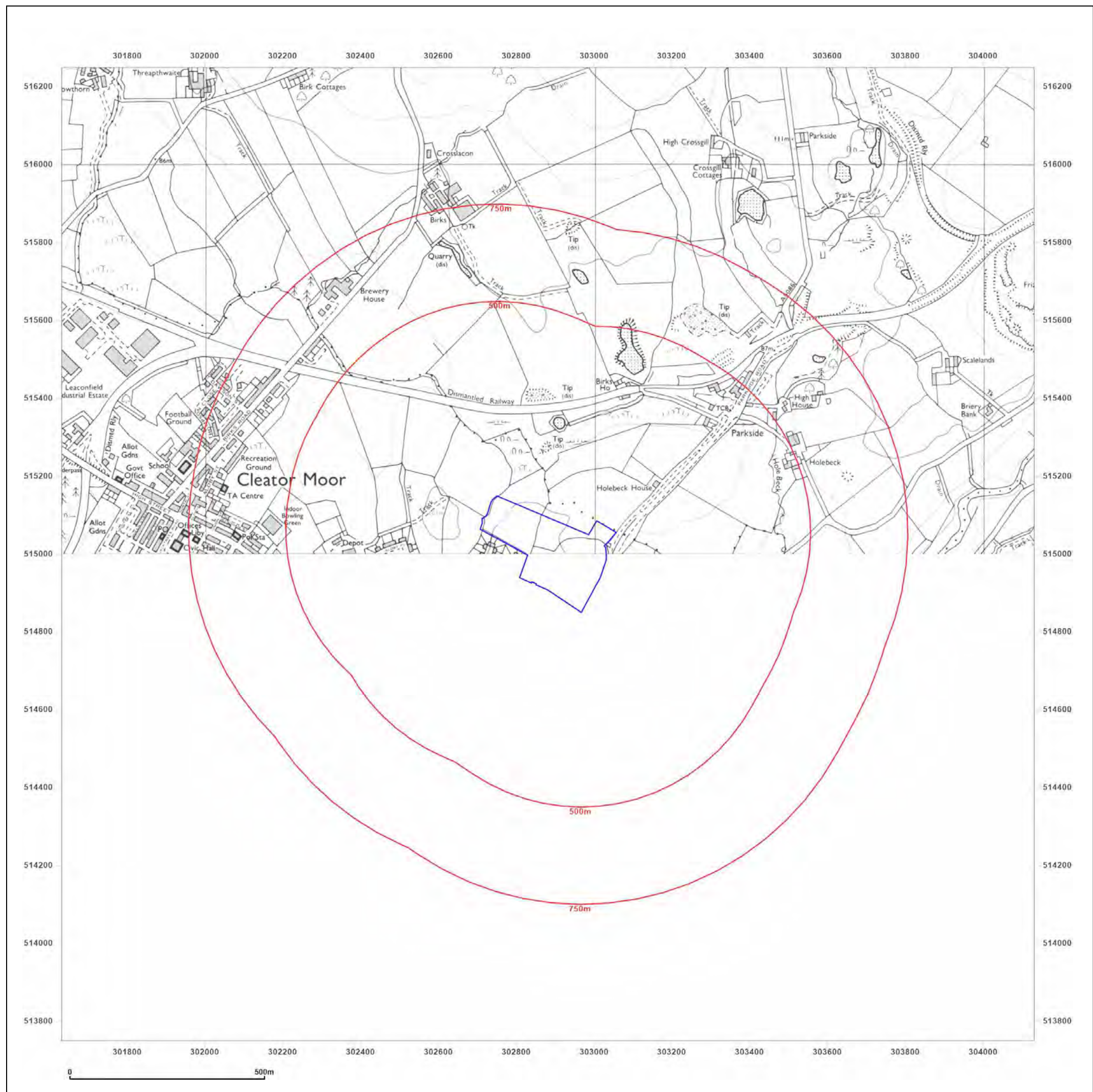


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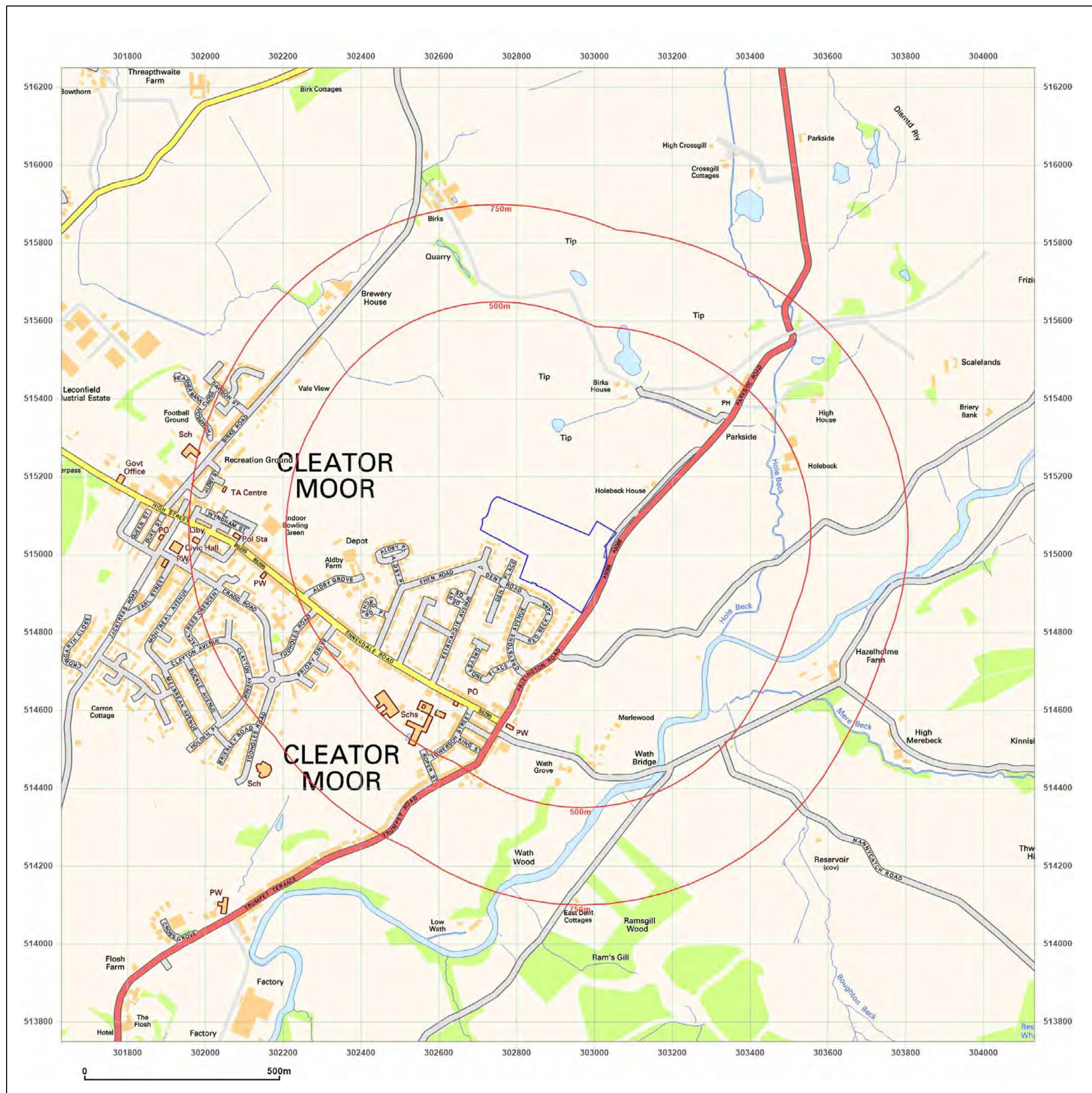
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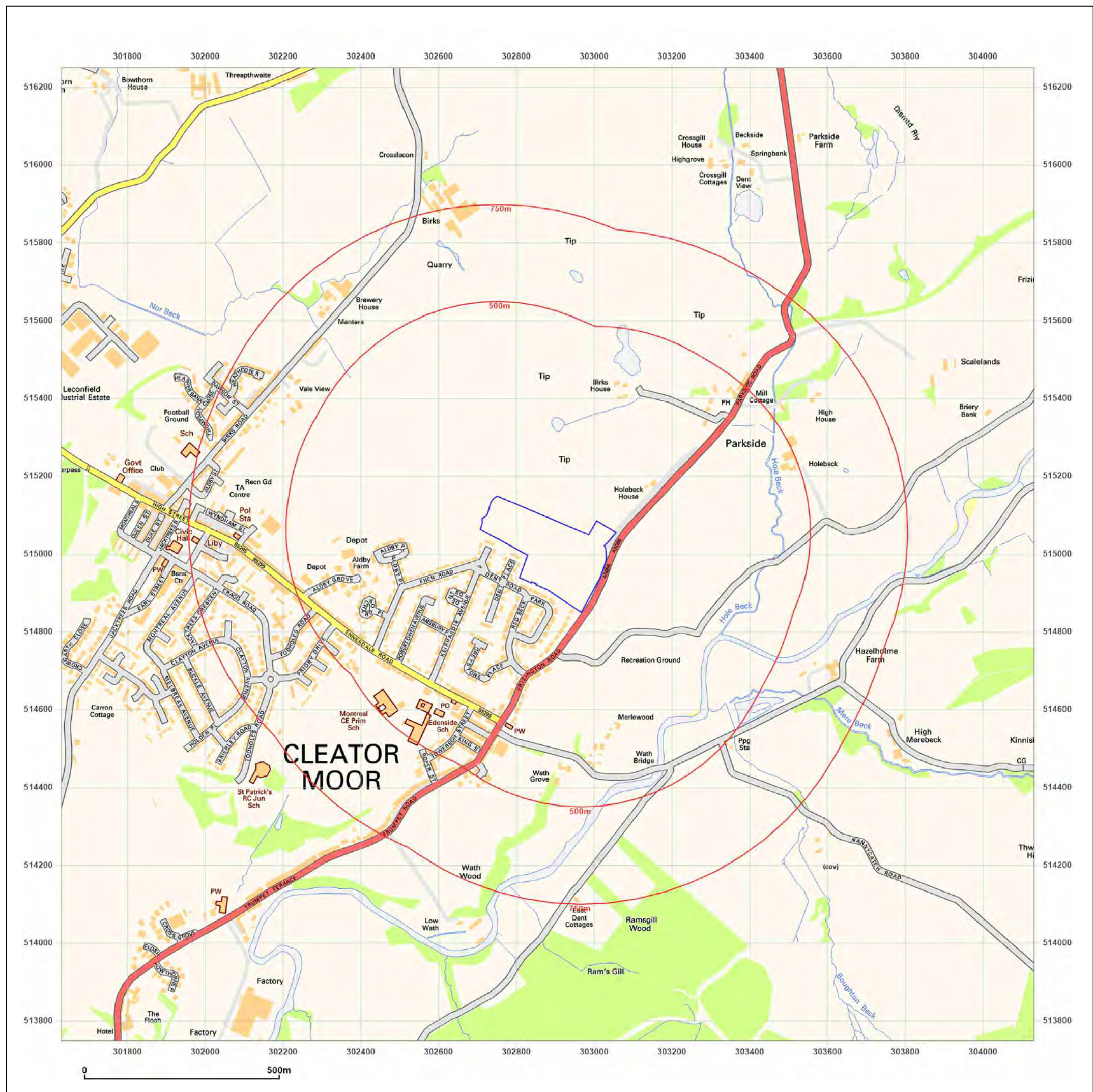
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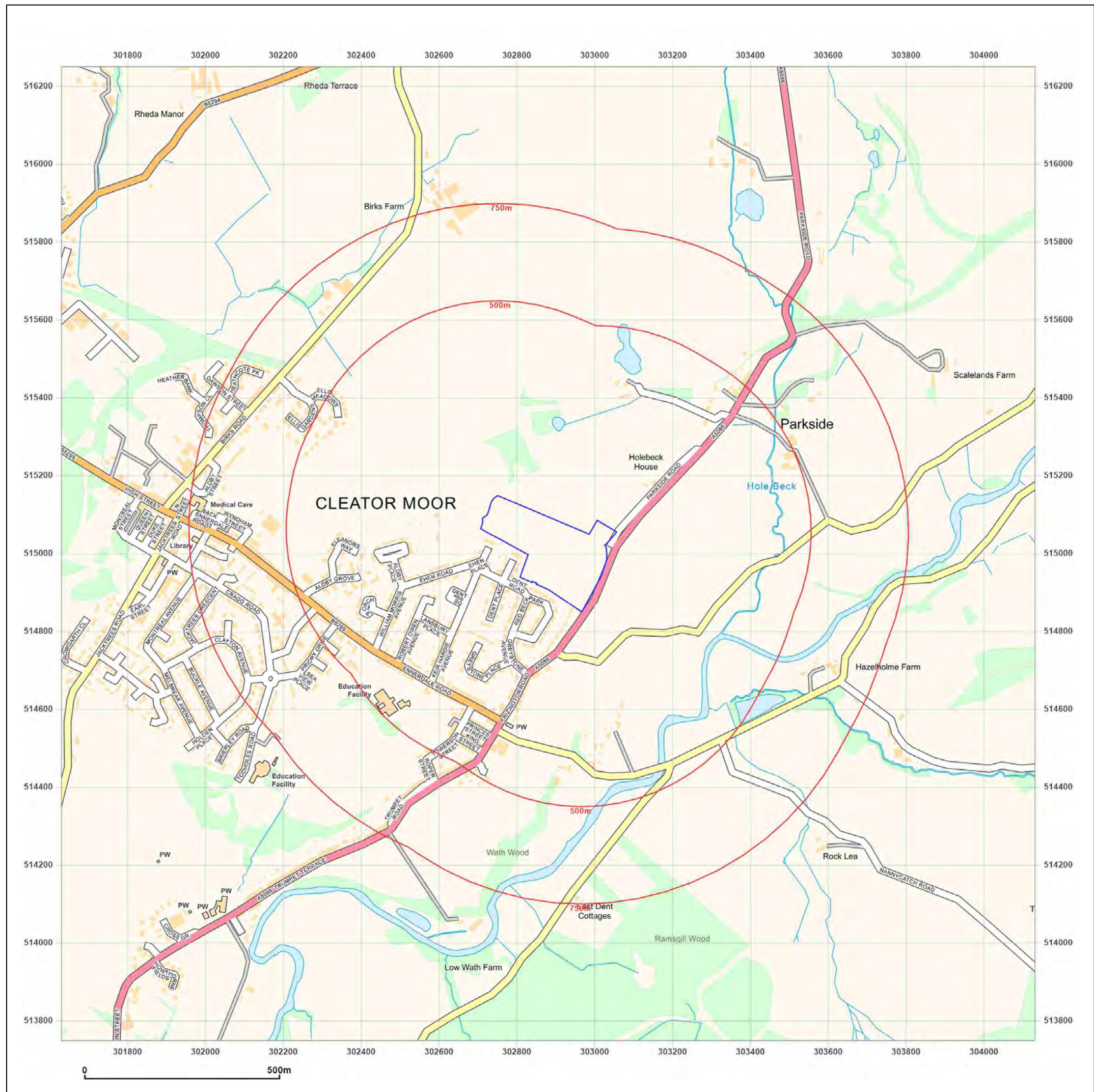


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Production date: 09 January 2024

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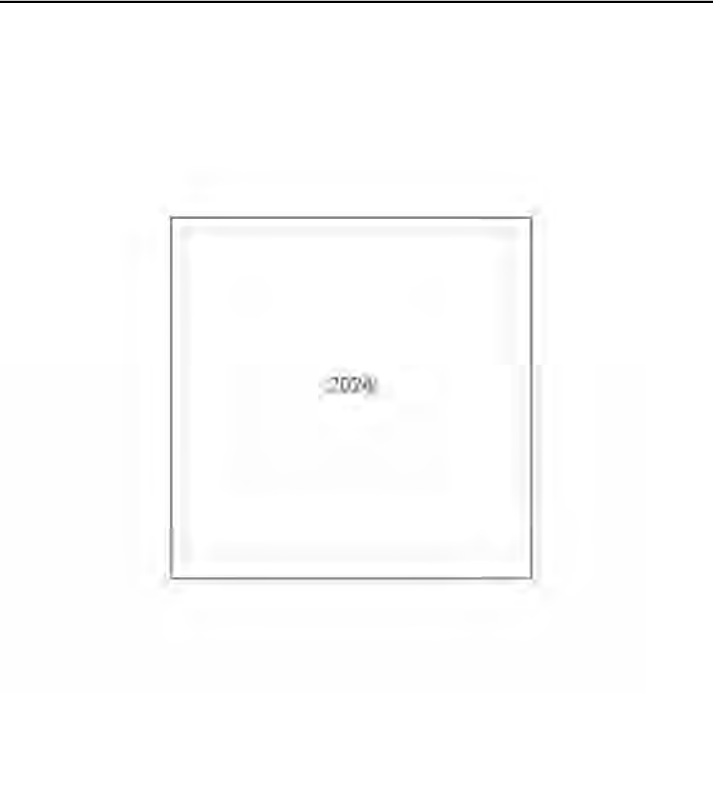


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Grid Ref: 302881, 514999

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Appendix IV

- The Coal Authority - Consultants Coal Mining Report



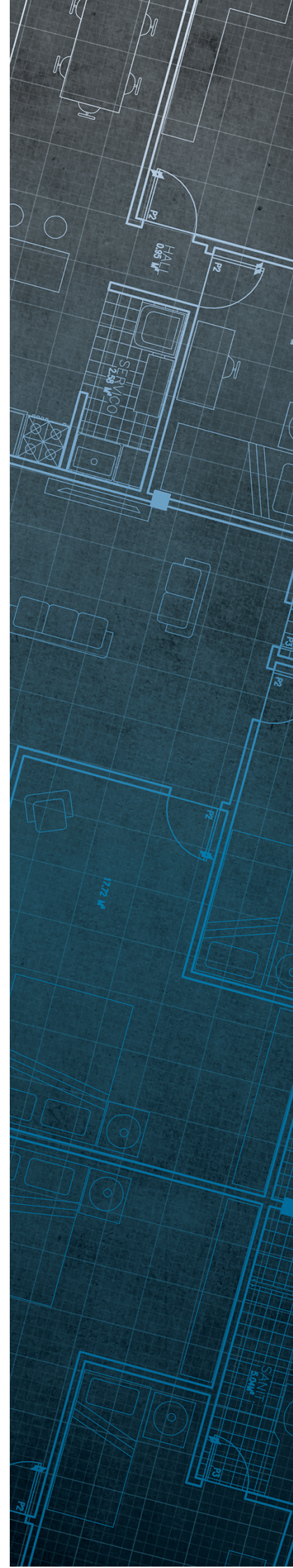
The Coal
Authority

Consultants Coal Mining Report

Parkside Road
Cleator Moor
Cumbria
CA25 5EE

Date of enquiry:	11 January 2024
Date enquiry received:	11 January 2024
Issue date:	11 January 2024

Our reference:	51003398684001
Your reference:	2023-6139



Consultants

Coal Mining Report

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

Client name

Curtis Evans

Enquiry address

Parkside Road
Cleator Moor
Cumbria
CA25 5EE

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200 Lichfield Lane
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NG18 4RG

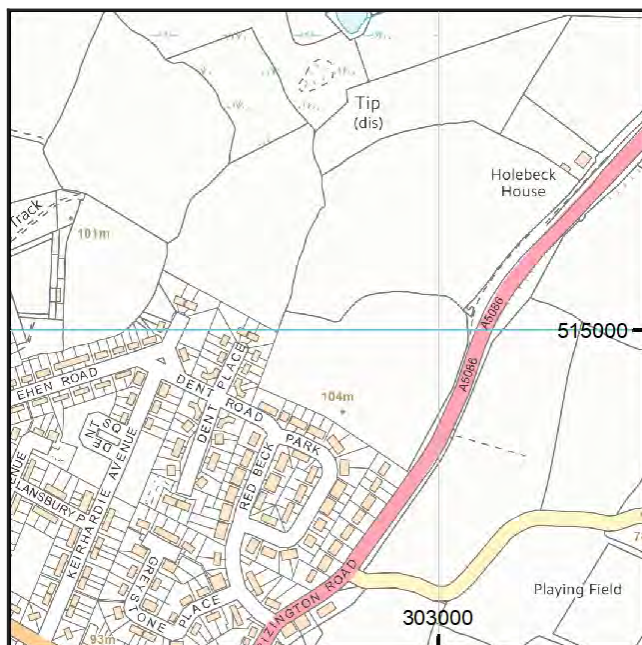
www.groundstability.com

 @coalauthority

 /company/the-coal-authority

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Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

No past mining recorded.

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

None available.

Outcrops

No outcrops recorded.

Geological faults, fissures and breaklines

Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Faults under or close to the property recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

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

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

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

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

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

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

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

Withdrawal of support notices

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

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

Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Section 4 – Further information

Based on the responses in this report, no further information has been highlighted.

Future development

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

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

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

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

Probable unrecorded shallow workings

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

Spine roadways at shallow depth

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

Mine entries

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

Abandoned mine plan catalogue numbers

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

Outcrops

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

Geological faults, fissures and breaklines

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

Opencast mines

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

Coal Authority managed tips

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

Site investigations

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

Remediated sites

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

Coal mining subsidence

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

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

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

Mine gas

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

Mine water treatment schemes

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

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

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

Future underground mining

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

Coal mining licensing

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

Court orders

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

Section 46 notices

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

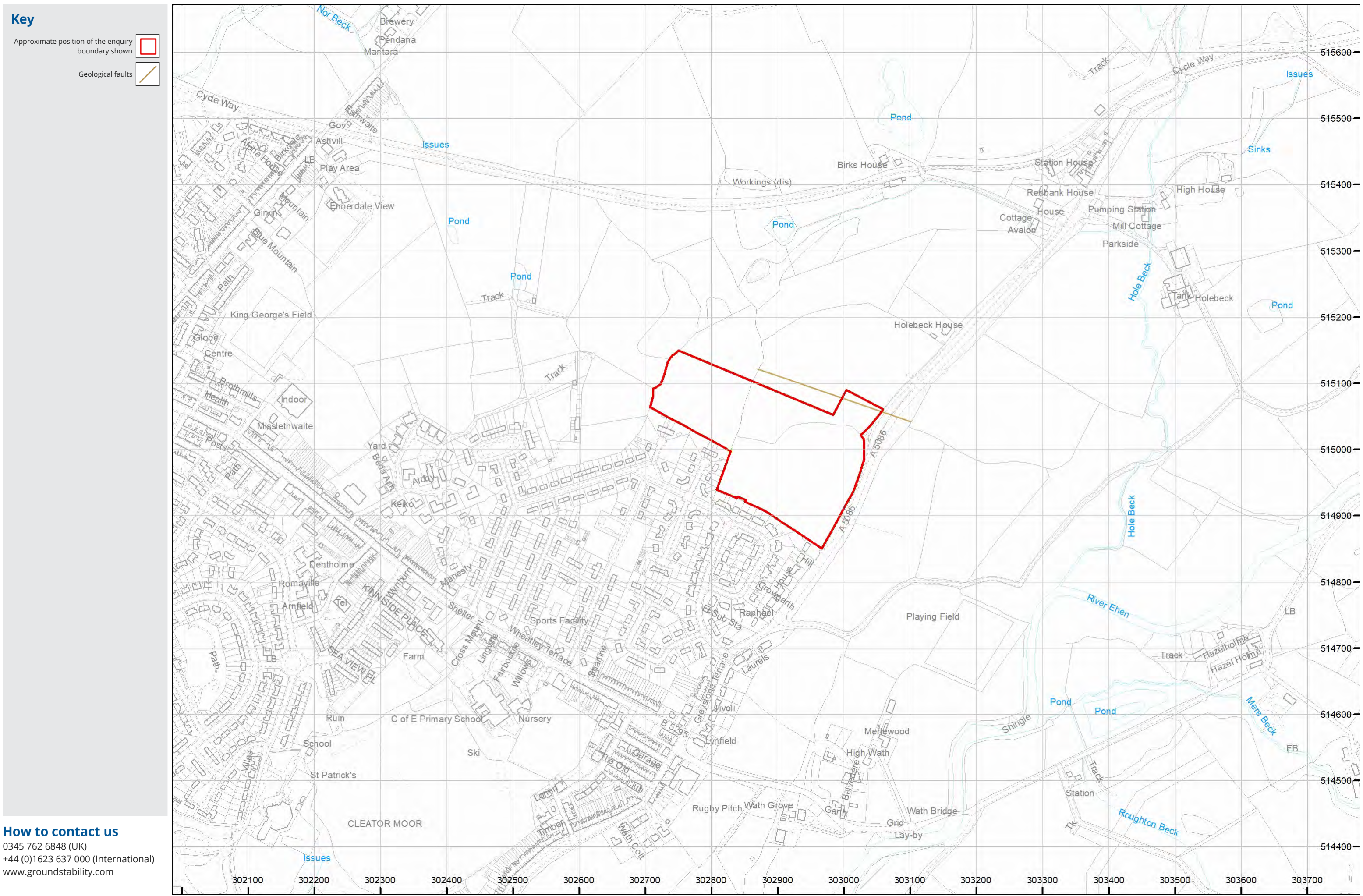
Withdrawal of support notices

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

Payment to owners of former copyhold land

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

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





GEO Environmental Engineering Ltd

Geotechnical and Environmental
Consultants
&
Drilling Experts

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