Coal Mining Risk Assessment

Agricultural Barn, Monument Lane, Ironville

DOCUMENT INFORMATION

Reference	Revision	Project Director	Issue Date
MJH/J2199B/D1/1	First	Marcus Hanford	31st October 2025

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Appendix A Coal Authority Mining Report

1. INTRODUCTION

1.1. This report describes a coal mining risk assessment of a site at Monument Lane, Ironville, Nottinghamshire.

1.2. The objectives of this risk assessment have been to obtain information relating to the potential mining of coal (and associated minerals) pertaining to the site and to produce a geotechnical assessment of those factors in relation to the proposed development at the site.

1.3. We have been advised that the proposed development at the site will comprise an agricultural barn. This assessment assumes that ground levels across the site will remain generally unchanged during the proposed development. If the assumptions made above and in the later sections of this report are not the case, then the recommendations presented within this report may require some amendment.

1.4. This risk assessment has been produced on behalf of the Client, Mr D. Roffey and no responsibility is accepted to any third party for all or any part. This report should not be relied upon or transferred to any other parties without the express written authorisation of Emcus Limited. If any unauthorised third party comes into possession of this report, they rely on it at their own risk and the authors owe them no duty of care or skill.

1.5. The findings and opinions conveyed from this assessment are based on information obtained from a variety of sources, as detailed within this report, which Emcus Limited believes are reliable. Nevertheless, Emcus Limited cannot and does not guarantee the authenticity or reliability of the information it has obtained from these sources, and used in the production of this report.

1.6. The site plans and drawings enclosed in this report should not be scaled off.

2. THE SITE

2.1. Site Location

2.1.1. The site is located on the western side of Monument Lane, Ironville, Nottinghamshire, (see drawings J2199/01 and J2199B/02). The National Grid Reference for the approximate centre of the site is 443110 351003.

2.2. Site Description

2.2.1. At the time of preparing this assessment, the site generally comprised part of a gently sloping field / paddock.

3. INFORMATION REVIEW

3.1. Published Geological Information

3.1.1. The interactive GeoIndex data tool available through the website of the British Geological Survey (BGS) and published map, Sheet SK45SW, scale 1:10,560 dated 1969 have been examined in respect of the strata underlying the site.

3.1.2. The natural strata beneath the site is indicated to comprise Pennine Lower Coal Measures Formation from the Carboniferous (PLCM). The PLCM typically comprise interbedded grey mudstone, siltstone and sandstone with coal seams.

3.1.3. At the time the 1:10,560 scale geological sheet was published / surveyed (1969), the Yard coal was indicated to have cropped approximately north-east / south-west orientation through the central area of the site. In addition, the Blackshale Coal is indicated to have cropped 60m to the west of the site, dipping eastwards at shallow angle beneath the site.

3.1.4. The Yard Coal is reported to be 1m thick in the area of the site. The Blackshale Coal is reported to be 1.65m thick in the area of the site.

3.1.5. In contrast to the 1:10,560 scale map, the contemporary GeoIndex Tool indicates an area of artificial ground, (considered to be associated with opencast coal mining) extending beneath the site.

3.1.6. In addition, the Tupton and Threequarters coal seams are indicated to crop 50m to the east of the site and dip eastwards away from the site.

3.2. Coal Authority Report

3.2.1. The Coal Authority (recently renamed as the Mining Remediation Authority) interactive map viewer indicates that the site is located in a Coal Mining Reporting area and Development High Risk Area.

3.2.2. We have obtained a Consultants Mining Report for the site (and an adjacent parcel of land) from the Coal Authority. Whilst the report search area is larger than the site, it is considered that the mining information is generally appropriate when considering the site in isolation. A copy of the Mining Report is presented in Appendix A and the salient information can be summarised as follows.

- The mining report advises that the ‘Stripe’ Ironstone; ‘Three Quarter’ Coal and ‘Low Main’ / ‘Thorncliffe’ Coal (also known as the Low Tupton) have mined beneath the site at 11m – 32m depth. That mining is reported to have taken place between 1870 and 1900. In addition, the mining report advises that ‘unrecorded’ workings are probably present at shallow depth beneath the site.
- The site is identified as being located within the boundary of an unlicensed opencast site.
- There are no recorded coal mine entries within, or within 100m of the site.

3.2.3. We have requested copies of the abandonment plans from the Mining Remediation Authority for the opencast sites identified in the Consultant's Report, (i.e. plan references EM1187OC; EM1193OC; and EM196OC). At the time of preparing this assessment we had not received the abandonment plans from the Authority.

4. ASSESSMENT OF SITE SPECIFIC COAL MINING RISKS

4.1. From a review of the information sources above, the range of coal mining related hazards relevant to the proposed surface development at the site with a small hardstanding infill can be summarised as follows:

Coal Mining Hazard	**Potential for Coal Mining Hazard to impact proposed development of the site**
Deep underground coal mining >30m depth. (Past, present and currently proposed)	No significant risk identified.
Recorded shallow underground coal mining <30m depth	Recorded workings are identified in the Three-Quarter Coal; Low Main / Thorncliffe / Tupton Coals; and Stripe Ironstone beneath the mining report search area. However, those recorded workings in the Three-Quarters coal and Low Main / Thorncliffe / Tupton coal are considered, to be present to the east of the smaller subject site.
Un-recorded shallow (<30m depth) underground coal mine workings and associated entries. (Includes bell pits, pillar & stall and crop working, etc.)	The site is located in an area where unrecorded shallow mine workings are probably present.
Recorded Mine entries (shafts and adits)	No significant risk identified.
Coal mining induced or reactivated faults / lines of weaknesses (fissures, etc.)	No significant risk identified.
Mine gas emissions	No significant risk identified.
Recorded surface mining (opencast workings)	The site is located in an opencast excavation.

5. GEOTECHNICAL ASSESSMENT

5.1. Summary of Mining Legacy

5.1.1. The site is indicated to be underlain by Pennine Lower Coal Measures. Before the commencement of mining / quarrying in the area, the Yard coal seam is indicated to have cropped across the site and the Blackshale coal seam cropped 60m to the west of the site. The Tupton and Threequarters coal seams are indicated by the geological map to crop 50m to the east of the site and dip eastwards away from the site.

5.1.2. The mining report for the larger search area advises that underground mine workings are present at shallow depth in the 'Three Quarter' Coal; 'Low Main' / 'Thorncliffe' Coal' and 'Stripe' Ironstone in the area of the site. Those recorded workings in the coal seams (Three Quarter coal and Low Main / Thorncliffe coal) are considered to be present approximately 50m to the east of the subject site, beyond the indicated crop of those seam horizons. The recorded workings in the Stripe Ironstone included the strata between the Yard and Threequarters coal seam horizons and may extend beneath the subject site. In addition, to the 'recorded' workings, the mining report advises, that 'unrecorded' workings are probably being present at shallow depth beneath the site. Those unrecorded workings were potentially present in the Yard Coal and / or Blackshale Coal seam horizons.

5.1.3. Following completion of the shallow underground mining, the site is indicated to have formed part of an opencast mine. That opencasting is likely to have 'unroofed' / excavated historic mine workings and resulted in deeper backfill / Made Ground and buried quarry structures (highwalls, ramps, etc.) being formed beneath the site.

5.2. Mining Assessment

5.2.1. If coal (and associated minerals) are mined at 'shallow depth', (i.e. less than 30m bgl.), beneath a proposed development site, established practice in the UK is to use a 'safe depth' principle to define a depth below rockhead beyond which the 'crown hole' collapse of the workings in that seam will not impact surface development. This is based on the assumption that, due to bulking of rock on break-up, an upward migrating collapse void will eventually choke itself. The established rule is to use a safe depth of 10 times the seam thickness (or combined thickness if more than 1 seam is present) in rock, (i.e. excluding depth of Made Ground & clays, etc.) to the top of the seam, (i.e. for the extraction of a 1m thick seam you would require 10m of rock cover to the seam). It is this 'safe depth' principle which is used to establish the depth of investigation and treatment of shallow mine-workings.

5.2.2. From consideration of the geological sequence and recorded mining in the area, tempered by the subsequent opencast quarrying of the site, the risk of shallow mine workings impacting the proposed development at the site through crown hole collapse / subsidence could be considered 'low'.

5.2.3. In addition, deeper backfill / Made Ground and potentially buried quarry structures (highwalls, ramps, etc.) may be present beneath the site, associated with the more recent opencasting

operations. The settlement characteristics of opencast backfill / Made Ground and potential buried quarry structures, etc., will have to be considered when designing the foundations and floor-slab of the proposed development.

5.3. Recommendations

5.3.1. As the potential for the proposed development to be impacted by mining legacy features cannot be discounted, it is recommended that appropriate intrusive ground investigation and geotechnical assessments are undertaken, prior to development. That investigation and assessment should generally comprise the following:

- Investigation of the opencast excavation depth / profile beneath the site.
- Investigation and determination of the engineering / settlement characteristics of the opencast backfill / Made Ground beneath the site.
- Investigation and assessment of potential coal and ironstone mineworkings remaining at shallow depth beneath / beyond the opencast excavation.

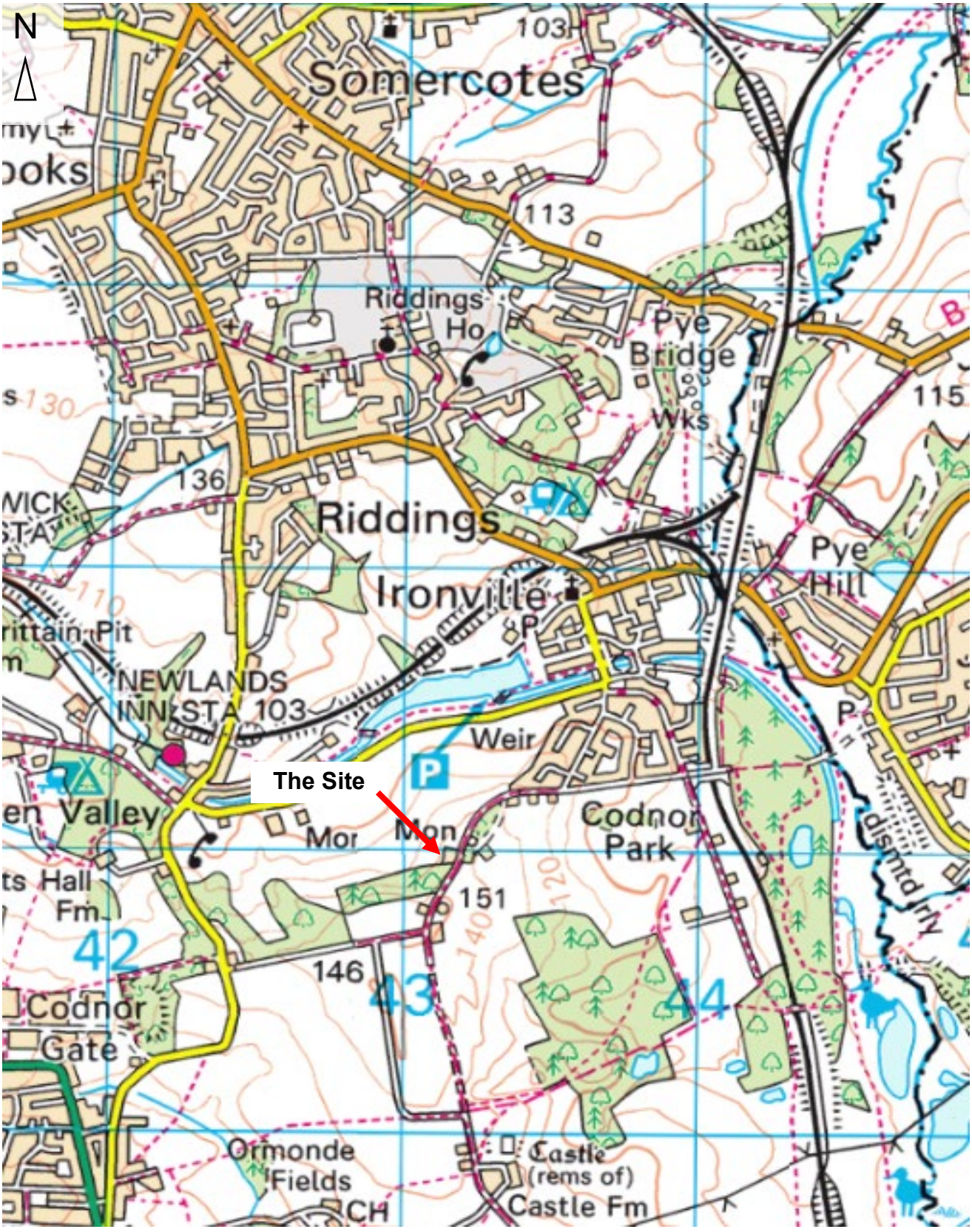
5.3.2. It is recommended that the intrusive investigation of the site is carried out under the supervision of a suitably experienced geotechnical engineer who would prepare the interpretative mining report for the site, including appropriate geotechnical assessments and recommendations.

5.3.3. Investigation of the mining legacy features at the site should not be undertaken until appropriate permission has been obtained from the Mining Remediation Authority.

5.4. Summary

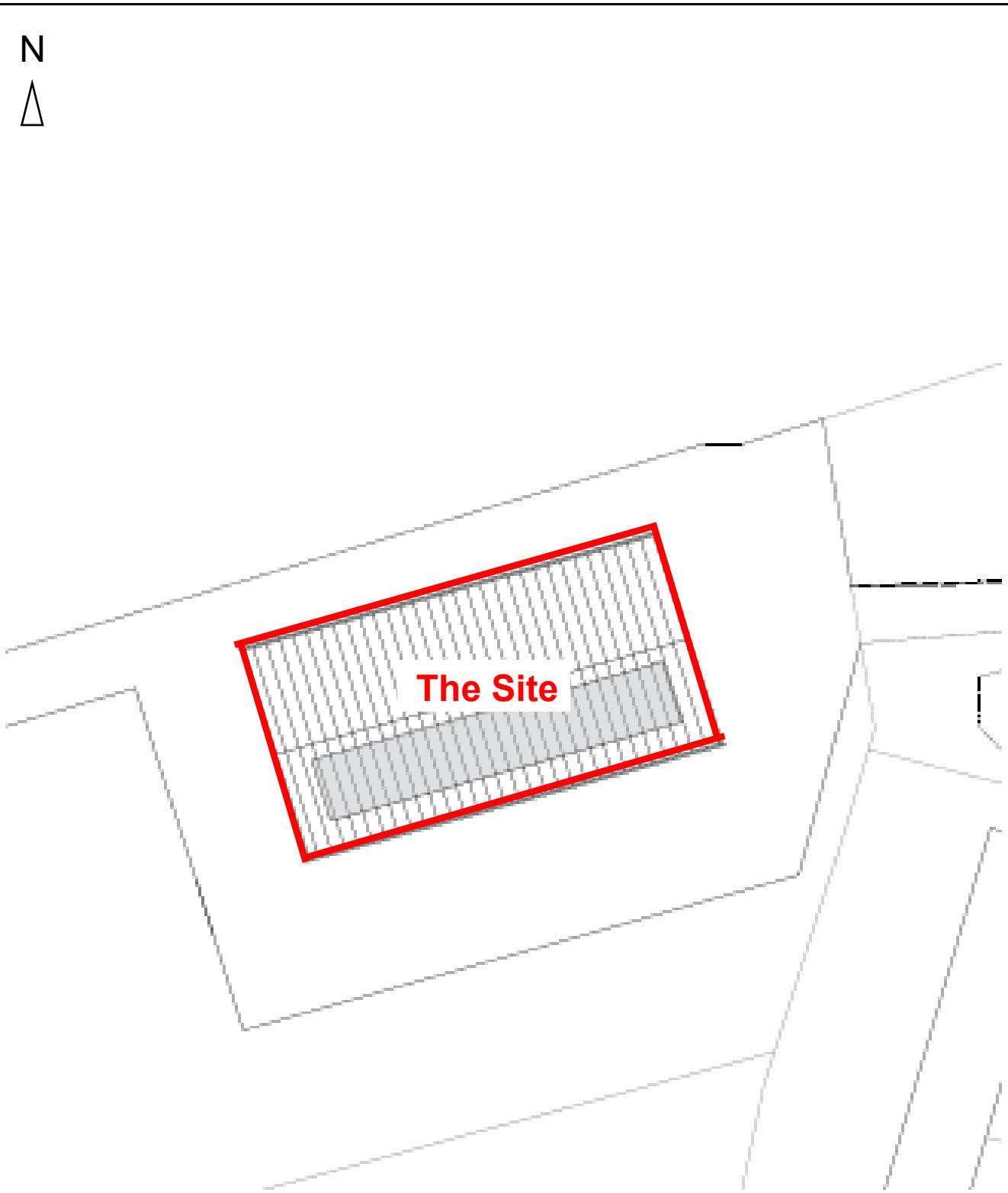
5.4.1. It is considered that the mining legacy features identified by the Coal Mining Risk Assessment will not preclude the proposed development at the site, providing appropriate engineering assessments and solutions are adopted.

DRAWINGS



Drawing Title **Site Location**	**J2199/01**	
	Scale at A4: NTS	
Project **Monument Lane, Ironville**	Drawn MJH	Approved MJH
Client **D Roffey**	Date 21/11/2024	Date 21/11/2024

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geotechnical & geo-environmental



Drawing Title: **Site Plan**	**J2199B/02**	
	Scale at A4: NTS	
Project: **Monument Lane, Ironville**	Drawn: MJH	Approved: MJH
Client: **D Roffey**	Date: 31/10/2025	Date: 31/10/2025

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APPENDICES

Appendix A

Coal Authority Mining Report

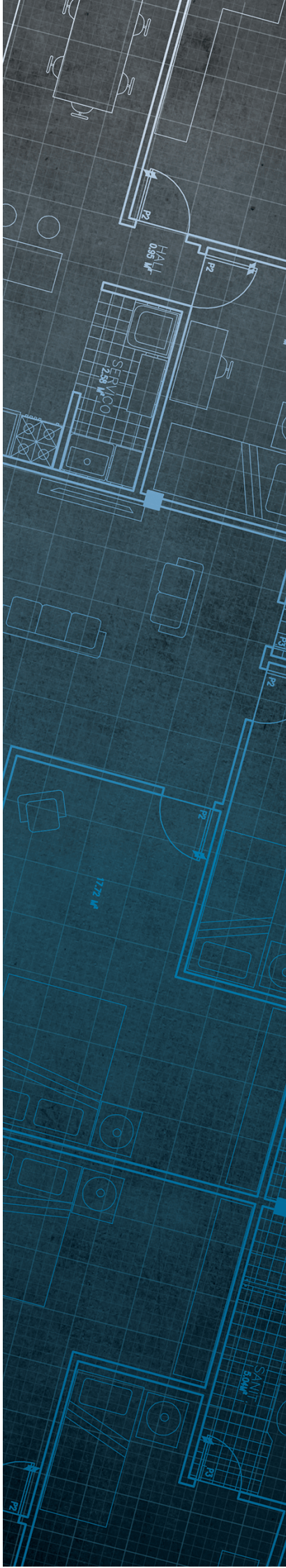
The Coal Authority

Consultants

Coal Mining Report

Land At Monument Lane,
Monument Lane
Codnor Park
Ironville
Derbyshire

Date of enquiry:	**9 September 2025**
Date enquiry received:	**9 September 2025**
Issue date:	**9 September 2025**
Our reference:	**51003523760001**
Your reference:	**385229114_1**



Consultants

Coal Mining Report

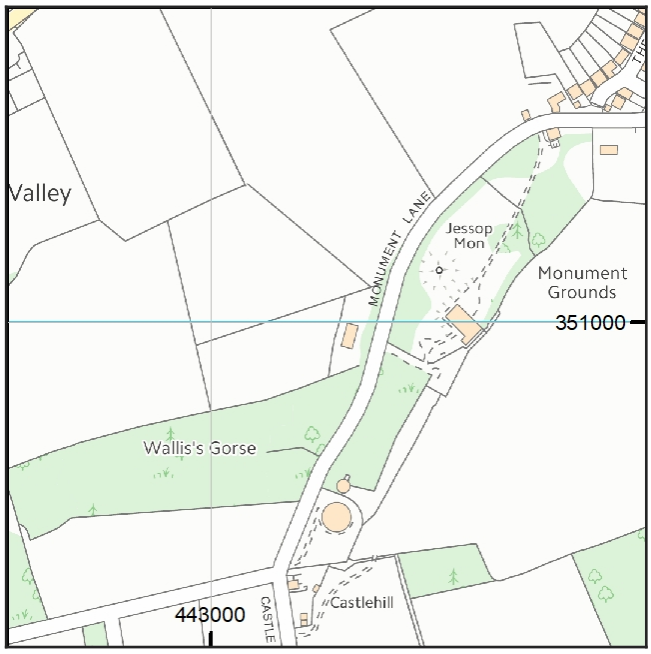
This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

NLIS Hub

Enquiry address

Land At Monument Lane, Monument Lane
Codnor Park
Ironville
Derbyshire



Approximate position of property

Map data

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Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
CODNOR PARK	STRIPE I/S	Ironstone	7Z8A	11	Beneath Property	11.3	East	100	1900
unnamed	THREE QUARTER	Coal	7RDD	12	Beneath Property	2.1	North-East	70	1870
unnamed	THREE QUARTER	Coal	7RDC	21	Beneath Property	7.1	South-East	70	1870
CODNOR PARK	STRIPE I/S	Ironstone	7Z8F	24	Beneath Property	11.2	East	100	1900
unnamed	LOW MAIN/THORNCLIFFE	Coal	7REY	32	Beneath Property	9.3	East	110	1870
unnamed	LOW MAIN/THORNCLIFFE	Coal	7RF3	32	Beneath Property	8.9	East	110	1870

Probable unrecorded shallow workings

Yes.

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

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

EM1187OC	EM53	18185
EM1193OC	1289	16763
EM1074	EM196OC	

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

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Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
BLACKSHALE	Coal	Yes	48.8	West	202
YARD	Coal	Yes	1.9	South	9
YARD	Coal	Yes	Within	N/A	188

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

Please refer to the “Summary of findings” map (on separate sheet) for details of any opencast areas within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

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Section 2 – Investigative or remedial activity

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

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

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

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

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

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

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

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

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Section 3 – Licensing and future mining activity

Future underground mining
None recorded.

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

Court orders
None recorded.

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

Withdrawal of support notices
The property is in an area where a notice to withdraw support was given in 1946.

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

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

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Section 4 – Further information

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

Future development

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

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

Development advice

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

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

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Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **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.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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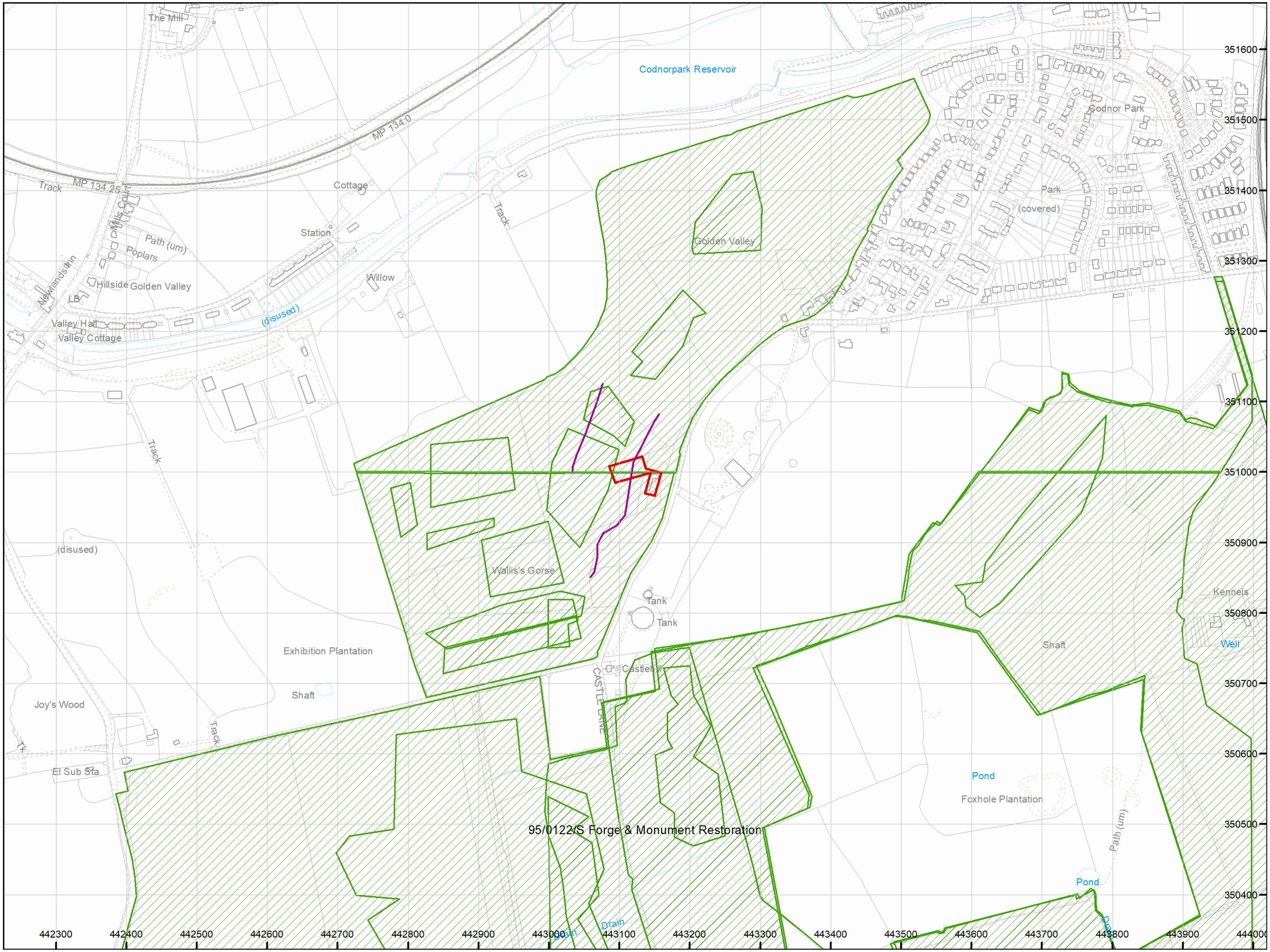
Summary of findings

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

Key

- Approximate position of the enquiry boundary shown
- Outcrop (Proven)
- Opencast mine licence area
- Unlicensed opencast site



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