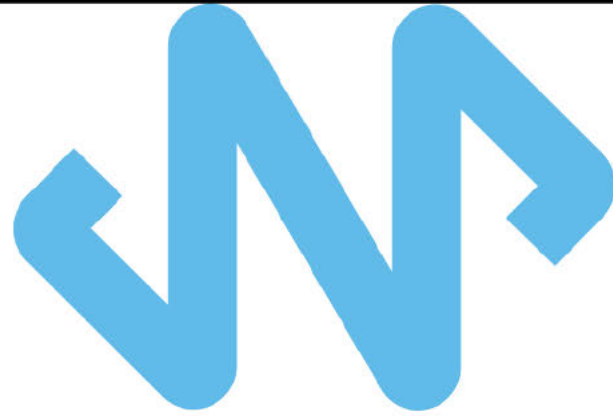




JNP GROUP

CONSULTING ENGINEERS

DOCUMENT CONTROL SHEET

Prepared by.....
Sam Pyott BSc (Hons) FGS
Geo-environmental Engineer

Approved by.....
Philip Taylor BSc (Hons) MA CGeol FGS
Associate

FOR AND ON BEHALF OF JNP GROUP
Date: September 2022

Document Issue Record

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1 INTRODUCTION

1.1 General

- 1.1.1 JNP Group was instructed by Robert Halstead Chartered Surveyors & Town Planners to undertake a Coal Mining Risk Assessment of:

Land at 894,
Huddersfield Road,
Mirfield,
WF14 9HS

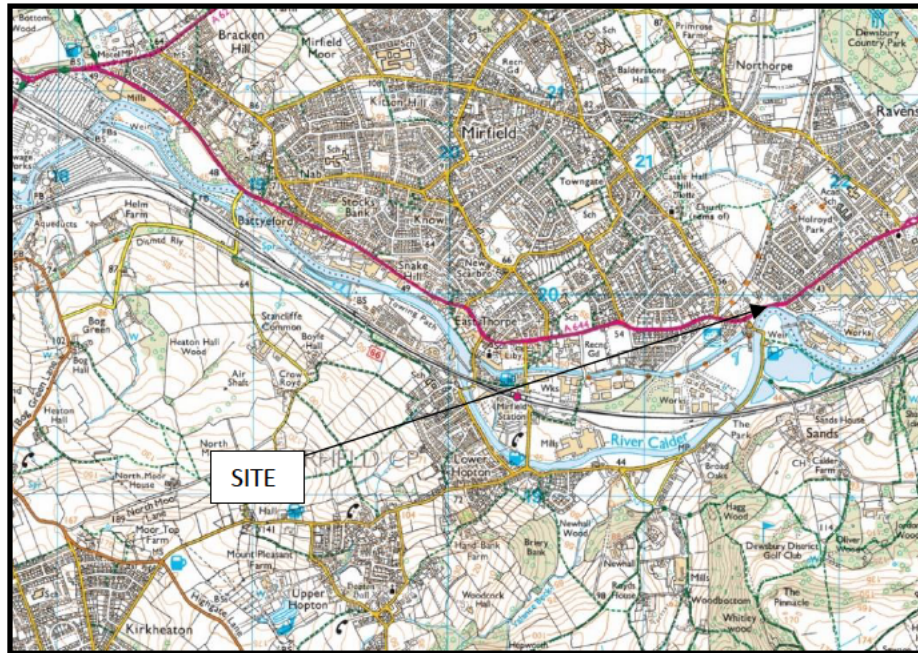
hereinafter referred to as 'the site'.

- 1.1.2 It is our understanding that the site is proposed to be redeveloped with 11No. residential properties. As part of the works undertaken on site historically it was noted that the site is situated in a development high risk mining area and that there is the potential for shallow historic workings to be present beneath the site. As such, a Coal Mining Risk Assessment is required to review all available site-specific information regarding the local geology, site history, and setting, in relation to historic coal mining, to identify and assess risks to the proposed project from historic coal mining, and recommend any further investigation and mitigation works that may be required.
- 1.1.3 Any comments given are based on the understanding that the proposed redevelopment will be as detailed above.
- 1.1.4 This report is confidential and has been prepared solely for the benefit of the client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from JNP Group; a charge may be levied against such approval. JNP Group accepts no responsibility or liability for the consequences of this document being used for any purpose or project other than for which it was commissioned, and this document to any third party with whom an agreement has not been executed.
- 1.1.5 This report has been prepared following information gathered up to 23rd September 2022. JNP Group warrants the accuracy of this report up to and including that date. Additional information, improved practices, or changes in legislation, may necessitate this report having to be reviewed in whole or in part after that date. If necessary, this report should be referred back to JNP Group for re-assessment and, if necessary, re-appraisal.

1.2 Site Location and Description

- 1.2.1 The site is located off Huddersfield Road, Mirfield, (see Figure 1 below). The centre of the site is located at National Grid Reference 421568, 419973.
- 1.2.2 Currently the site is undeveloped land adjacent to 894 Huddersfield Road, which is a residential property.

Figure 1: Site location



1.3 Scope of the Coal Mining Risk Assessment

1.3.1 The purpose of this Coal Mining Risk Assessment Report is to:

- Present a desk-based review of all available information on the coal mining issues which are relevant to the application site.
- Use that information to identify and assess the risks to the proposed development from coal mining legacy, including the cumulative impact of issues.
- Set out appropriate mitigation measures to address the coal mining legacy issues affecting the site, including any necessary remedial works and/or demonstrate how coal mining issues have influenced the proposed development.
- Demonstrate to the Local Planning Authority that the application site is, or can be made, safe and stable to meet the requirements of National Planning Policy regarding development on unstable land.

1.4 Sources of Information

1.4.1 The following sources of information have been obtained, upon which the risk assessment of coal mining issues has been based. Reports/extracts are appended where relevant.

- An up-to-date Consultants Coal Mining Report is included as Appendix A.
- Mining data obtained from the Coal Authority online interactive viewer (<http://mapapps2.bgs.ac.uk/coalauthority/home.html>).
- Geological information obtained from the British Geological Survey including GeoIndex (<https://www.bgs.ac.uk/map-viewers/geoindex-onshore/>) and 1:50,000 Map Sheet 77, Huddersfield, Solid and Superficial, published 2003 and 1:10,000 sheet SE21NW (Grange Moor)
- Phase I & II Environmental Assessment, Former Swan Inn, Huddersfield Road, Mirfield WS14 9HX, July 2020, - Ref: 20/1022.1.2.

2 SUMMARY OF FINDINGS

2.1 Geological Maps

- 2.1.1 Examination of the published 1:10,000 (SE21NW Grange Moor) and 1:50,000 BGS map (Sheet 77, Huddersfield) indicates that the northern and central areas of the site do not feature superficial deposits. The south eastern area of the site is indicated to feature superficial deposits of Alluvium. The Alluvium is described by the BGS as *"Alluvium is a general term for clay, silt, sand and gravel. It is the unconsolidated detrital material deposited by a river, stream or other body of running water as a sorted or semi-sorted sediment in the bed of the stream or on its floodplain or delta, or as a cone or fan at the base of a mountain slope"*
- 2.1.2 The bedrock geology is indicated to be strata of the Pennine Lower Coal Measures Formation, which is described by the BGS as *"dark grey, fissile mudstone of the Subcrenatum Marine Band with eponymous fossils, or at the base of the lowest coal of the coal-bearing sequence if this marker cannot be recognised. Typically, the formation rests conformably upon the Rossendale Formation (Millstone Grit Group)"*.
- 2.1.3 Further examination of the 1:10,000 mapping indicates that the site is underlain by the Falhouse Rock and Blocking Rider Coal, these being part of the Pennine Lower Coal Measures.
- 2.1.4 Extracts of the 1:10,000 Map SE21NW and 1:50,000 Map Sheet 77 Drift and Solid are included below as Figure 2.1 and Figure 2.2.

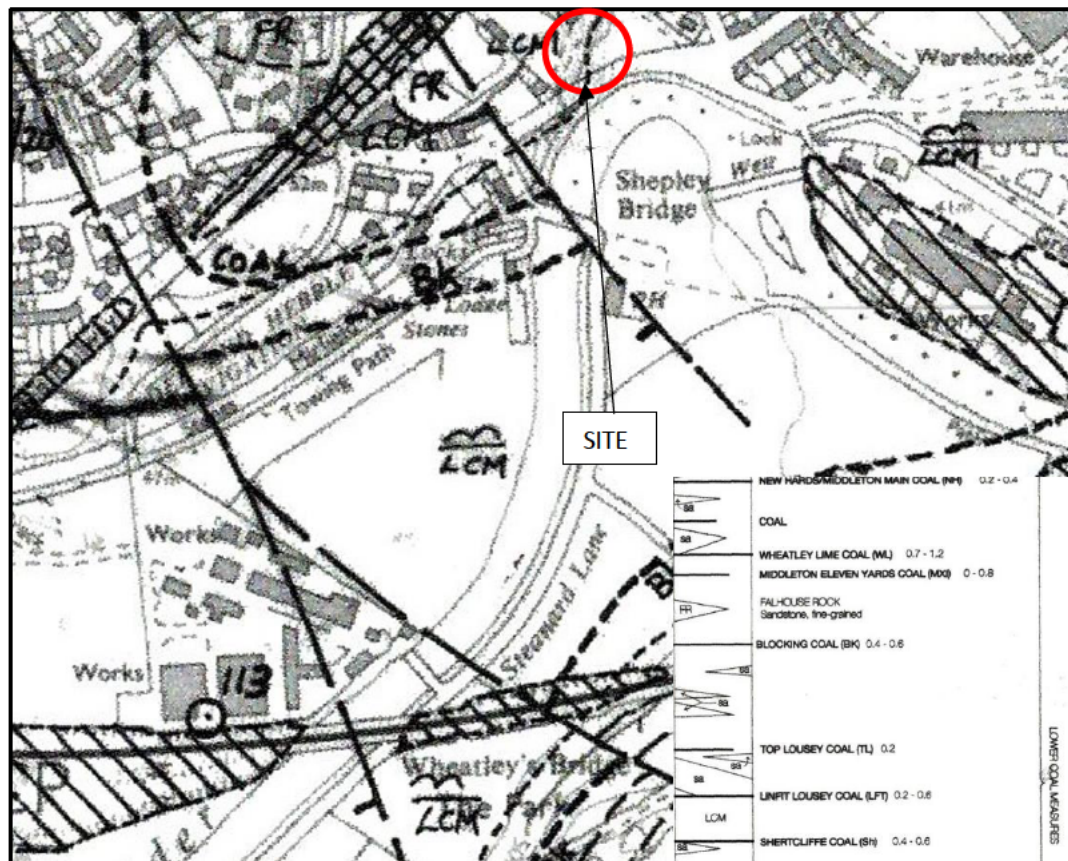


Figure 2-1– Extract of the 1:10,000 Map Sheet SE21NW Drift and Solid

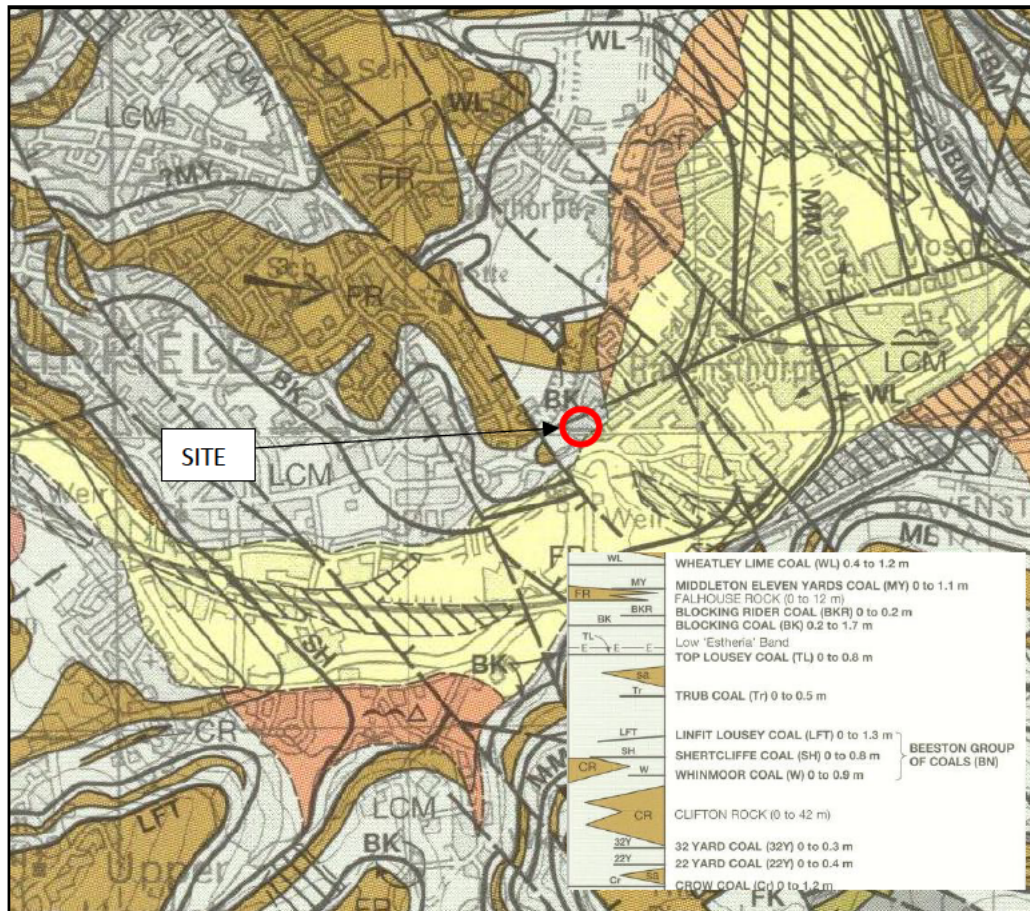


Figure 2-2 Extract of the 1:50,000 Map Sheet 77 Drift and Solid

- 2.1.5 There are no fault lines recorded at the site. A fault is noted located circa 30m to the north and 200m to the west of the site. These are noted to be described as a fault at rockhead with both downthrow sides moving away from the site.
- 2.1.6 A 4° dip direction to the north-east is given for the sedimentary strata beneath the site. However, it is noted that the age of the deposits increases to the south. This indicating that the deposits may dip to the north.
- 2.1.7 There are no mapped outcropping coal seams within 250m of the site. The Blocking Coal Seam is noted to outcrop circa 400m to the north of the site.

2.2 Borehole Records

- 2.2.1 JNP Group has consulted online borehole records held by the BGS. The nearest publicly available borehole to the site is located 320m to the west of the site (Ref: SE21NW401). A further borehole (Ref: SE21NW400) is located 370m to the west of the site. These are the closest publicly available boreholes to the site. It is noted that a fault is present between the borehole and site and as such the borehole sits on a different fault block and as such the geology on site may vary slightly.

Table 2-1 – SE21NW401 Borehole Record Summary (320m W of Site)

Strata Description	Thickness (m)	Depth to Base (m bgl)
Topsoil	0.30	0.30
Weathered brown sandstone	2.63	2.93
Grey, mudstone	0.57	3.20
Black, carbonaceous shale	0.23	3.43
Grey shaly mudstone passing into grey mudstone	1.60	5.03
Black carbonaceous shale with coal streak	0.13	5.16
Grey mudstone becoming dark grey	6.63	11.79
Coal and carbonaceous shale	4.70	12.9
Light grey shaly mudstone	0.56	13.46

- 2.2.2 A ground investigation was also conducted 1.7m to the western boundary of the site. The location of this is noted on the Coal Authority Summary of Findings Drawing Appended. 2No. rotary open holes were undertaken as part of the ground investigation denoted (R001 and R02). The rotary hole location of R001 was undertaken in the western area of the site whilst the location of R02 was undertaken in the east. The summary of the coal seams encountered is present in Table 2.2 below.

Table 2-2 Summary of Coal Seams R01 and R02 (Circa 80m and 10m Respectively From SW Site Boundary)

R001		R02	
Depth (mbgl)	Thickness (m)	Depth (mbgl)	Thickness (m)
8.5 – 8.6	0.10	0.60 – 1.4	0.80
15.6 – 16.3	0.70	21.2 – 21.3	0.10
		28.3 – 28.9	0.60

- 2.2.3 It was stated that the shallow soils encountered in the rotary boreholes was noted to be sandstone in R001 in the western area of the site and mudstone with shallow coal in R02 in the eastern area of the site. R02 encountered coal at a shallow depth from 0.60m bgl, this is suggested to be the Blocking Bed Coal. Shallow coal deposits were also encountered in TP5, this suggesting that a coal seam outcrops within the adjacent site.
- 2.2.4 No evidence of previous workings was noted during the drilling of the boreholes. However, a loss of flush was recorded below the depths of 6.0m and 7.0m bgl in R001 and R02. It is suggested that this loss of flush may be linked to fractured ground associated with the fault.
- 2.2.5 A review of the BGS mapping indicates that R02 is located on the same fault block as the site.

2.3 Consultants Coal Mining Report

- 2.3.1 A Consultants Coal Mining Report was obtained for the site which is included in Appendix A.
- 2.3.2 The report indicates that there are probable unrecorded shallow workings beneath the site. This means that coal of workable thickness is present at shallow depth and as such is likely to have been worked historically.
- 2.3.3 The report identifies three past underground mining activities have occurred with 2No having a direction of working beneath the site. The depth to the shallowest working was noted to be 132m bgl. All the seams worked were noted to be in the Black Bed Seam, with the last noted worked date being 1924.
- 2.3.4 No spine roadways at shallow depth are indicated.
- 2.3.5 No mine entries are recorded within 100m of the enquiry boundary.
- 2.3.6 No outcrops were recorded.
- 2.3.7 The Coal Mining Report and attached map indicate that there was a worked opencast mine located circa 320m to the north of the site. A review of the geological maps indicate that this worked seam was the Blocking Rider Coal.
- 2.3.8 There are no recorded tips within 500m of the enquiry boundary.
- 2.3.9 There are no remediated sites within 50m of the enquiry boundary.
- 2.3.10 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.
- 2.3.11 There is no current Stop Notice delaying the start of remedial works or repairs to the property.
- 2.3.12 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.

3 IDENTIFICATION AND ASSESSMENT OF SITE-SPECIFIC COAL MINING RISKS

- 3.1.1 The site is in a Development High Risk Area, and the Consultants Coal Mining Report indicates that there are probable unrecorded shallow workings beneath the site.
- 3.1.2 It has been identified that three past underground mining activities have occurred with 2No having a direction of working beneath the site. The depth to the shallowest working was noted to be 132m bgl. All the seams worked were noted to be in the Black Bed Seam, with the last noted worked date being 1924. Given the depth to these known worked seams, these seams are not anticipated to pose a risk to the site.
- 3.1.3 In addition, a review of Rotary Borehole R02, located circa 10m from the SW Site Boundary of the site indicates that a coal outcrop was encountered at a minimum depth of 0.60m bgl and was recorded to be 0.8m thick, with no competent rock cover. A Deeper seam was also encountered at this location from 28.3m bgl to 28.9m bgl, being 0.60m thick.
- 3.1.4 The deeper seam is present at such a depth that rock cover above the seam is in excess of 10 times the seam thickness and as such any workings within this seam would not affect the surface. As such this seam can be discounted as a potential risk.
- 3.1.5 The shallow seam identified in R02 which is assumed to be the Blocking Bed Coal is noted to outcrop circa 10m to the west of the site. Given the general dip of the strata in this area is to the north east at circa 4 degrees it is anticipated that the Blocking Bed Coal would be present beneath the site at circa 1m depth at the western site boundary, increasing to circa 8m on the eastern site boundary.
- 3.1.6 Based on the above, it is considered that shallow historic coal mining could present practical difficulties at the site and warrants further site-specific investigation.

4 THE COAL AUTHORITY PERMISSION

- 4.1.1 Should intrusive works be required, prior written permission from the Coal Authority is required for any intrusive activities which will disturb or enter any coal seams, coal mine workings or coal mine entries (shafts and adits).

5 CONCLUSIONS AND RECOMMENDATIONS

- 5.1.1 Review of available desk-based information has identified that the site is in a Development High Risk Area, and the Consultants Coal Mining Report indicates that there are probable unrecorded shallow workings beneath the site; in addition, the records of R02 from a ground investigation undertaken on an adjacent site located circa 10m south-west of the site boundary encountered shallow coal from 0.60m bgl.
- 5.1.2 Based on the findings of this report we would recommend that a rotary borehole investigation is undertaken in order to determine if historic workings have taken place in the Blocking Coal beneath the site. At this stage we would recommend that a minimum of 4No. boreholes are drilled on site to an average depth of 10m. Given the shallow anticipated depth of the coal on the western boundary a trial pit / window sample investigation may be appropriate in this area.
- 5.1.3 On completion of the intrusive works an updated report should be produced incorporating the results of these works.

APPENDIX A: COAL AUTHORITY REPORT



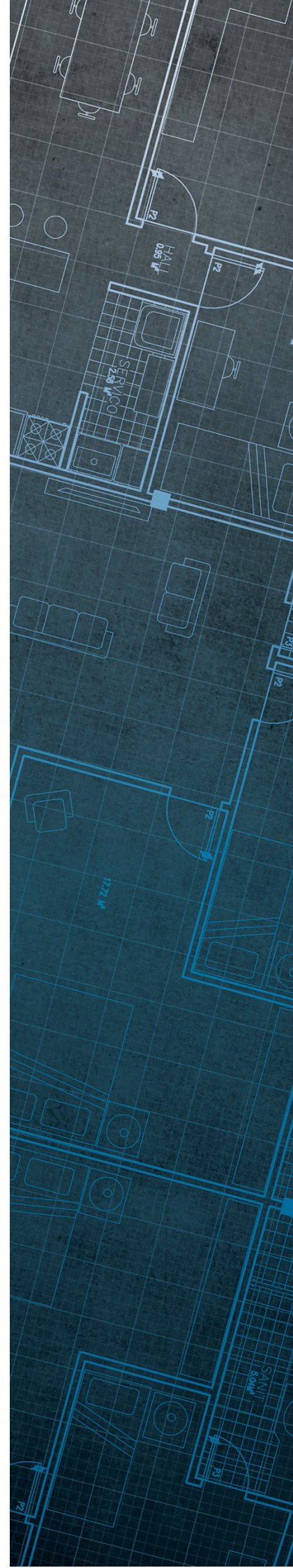
The Coal
Authority

Consultants Coal Mining Report

894, Huddersfield Road,
Ravensthorpe, Dewsbury, Wf14 9hs
West Yorkshire

Date of enquiry:	22 September 2022
Date enquiry received:	22 September 2022
Issue date:	22 September 2022

Our reference:	51003313408001
Your reference:	GS-9073670



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

GROUNDSURE LIMITED

Enquiry address

894, Huddersfield Road, Ravensthorpe, Dewsbury,
Wf14 9hs
West Yorkshire

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

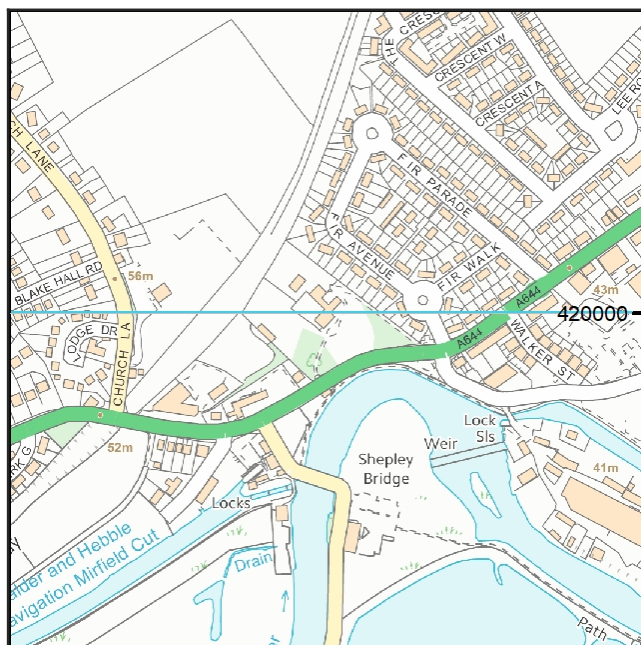
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Approximate position of property



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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
unnamed	BLACK BED	Coal	6HBL	132	North-East	4.8	North-East	76	1897
unnamed	BLACK BED	Coal	6HBE	153	Beneath Property	1.8	North-East	76	1922
unnamed	BLACK BED	Coal	6HBN	160	Beneath Property	2.7	East	76	1924

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:

10527	GCR57	LF50
GCR54	FGB812	FGB819
FGB814		

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

Outcrops

No outcrops recorded.

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.

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

Distance to site investigation (m)	Direction
1.7	South-West

See Section 4 for further information.

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

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

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.

Site investigations

The site is within an area of previous interest. It is close to where the Coal Authority has received information relating to past site investigations.

The site requires further investigation and may influence how you approach your risk assessment.

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.

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.

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.

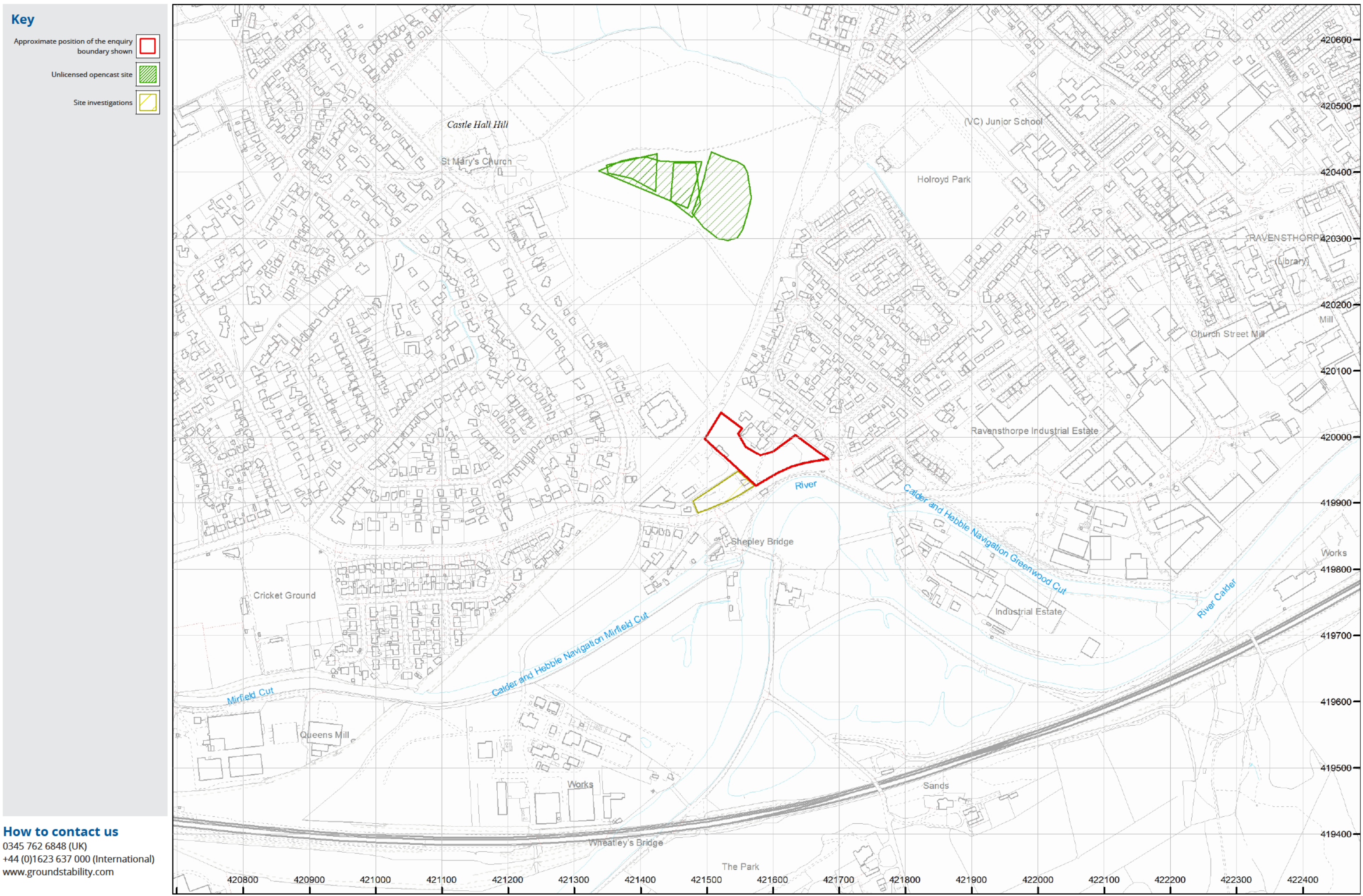
Withdrawal of support notices

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.





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