



COAL MINING RISK ASSESSMENT AND COAL RECOVERY REPORT

Proposed Residential Development (Pogmoor) Barnsley West

Reference

4848-JPG-Z3-XX-RP-G-1103-S1-P02

Date

August 2019

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JPG (Leeds) Ltd. Barnsley West. Coal Mining Risk Assessment - Proposed Residential Zone Adjacent to Pogmoor Dwg. 4848-JPG-SW-XX-DR-G-1310-S2-P02. Dated August 2019. Last revision dated February 2021 (Rev. P02).

Bond Bryan. Barnsley West Masterplan. Proposed Site Plan. Drawing No: BWM-BBA-ZZ-XX-DR-A-1004-S2-P05, dated May 2021 for Strata Sterling Barnsley West Limited.

Appendix B Coal Authority Mining Reports

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CONFIDENTIALITY STATEMENT

This report is addressed to and may be relied upon by the following:

Strata Sterling Barnsley West Limited
Quay Point
Lakeside
DONCASTER
DN4 5PL

This report has been prepared for the sole use and reliance of the above-named party. This report shall not be relied upon or transferred to any other parties without the express written authorisation of JPG (Leeds) Limited. No responsibility will be accepted where this report is used, either in its entirety or in part, by any other party.

DOCUMENT HISTORY

Version	Purpose/Description	Date
P01	Final – For issue to Client	August 2019
P02	Final – Updated to include the latest drawings	May 2021



1.0 APPLICATION

Strata Sterling Barnsley West Limited is to submit a planning application for the proposed residential development of land adjacent to Pogmoor, Barnsley (the 'site'), which forms part of the overall Barnsley West development area.

JPG (Leeds) Ltd has subsequently been commissioned to prepare a Coal Mining Risk Assessment and Coal Recovery Report for the proposed development site, in order to provide the Local Planning Authority with information on coal mining and an assessment of its impact on land stability.

1.1 Site Location and Description

The site comprises an irregularly shaped agricultural field with an area of approximately 5 hectares. It is located approximately 2km to the west of Barnsley town centre. The approximate centre of the site is located at NGR 432375, 406800. A site location plan is presented as Figure 1 in Appendix A.

The site is generally level. The highest point of the site is on the southern boundary with a level of approximately 143m, sloping downwards to a level of approximately 128m AOD on the northern boundary. To the west of the site, the landform falls away steeply forming a valley.

Residential housing is present to the north, east and south, associated with Colster Close, Wharfedale Road and Farm House Lane, respectively. A primary school is also located immediately to the north. Land to the west is currently undeveloped farmland.

An aerial photograph of the site is provided as Figure 2 in Appendix A.

1.2 Description and Layout of Proposed Development

The proposed development comprises residential housing with associated roads and infrastructure.

A drawing of the proposed development has been provided, which is referenced below, and a copy is contained in Appendix A.

- Bond Bryan. Barnsley West Masterplan. Proposed Site Plan. Drawing No: BWM-BBA-ZZ-XX-DR-A-1004-S2-P05, dated May 2021 for Strata Sterling Barnsley West Limited.

1.3 Scope of the Coal Mining Risk Assessment

The purpose of the 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 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 with regard to development on unstable land.



2.0 SOURCES OF INFORMATION USED TO INFORM THIS REPORT

Sources of information upon which this risk assessment of coal mining is based are detailed below.

- The Coal Authority. CON29M Non-Residential Mining Report. Barnsley West, South Yorkshire. Ref 51001983537001. Date of issue 28 November 2018. (The site boundary relates to the wider Barnsley West site. See Appendix B).
- The Coal Authority. Consultants Coal Mining Report. Barnsley West, South Yorkshire. Ref 51001983537002. Date of issue 28 November 2018. (The site boundary relates to the wider Barnsley West site. See Appendix B).
- The Coal Authority. Abandonment Plan: Farm House Lane Colliery. No 2 Mine, Barnsley Bed Pillars. 16 January 1928.
- The Coal Authority. Abandonment Plan: NE415 Farm House Lane – Private Opencast Site Worked by F. J. Swain Ltd., abandoned Nov. 1960.
- British Geological Survey (BGS), Sheet 87, Barnsley, 1:50,000 scale, Solid and Drift Edition, published 2008.
- BGS, Sheet SE30NW, Barnsley 1:10,000 scale, dated 2005.
- BGS, The Pennine Lower and Middle Coal Measures formations of the Barnsley district, Internal Report IR/06/135, dated 2006.
- Sections of Strata of the Coal Measures of Yorkshire (3rd edition, 1950).
- CIRIA Special Publication 32. Technical Guide 34. Construction Over Abandoned Mine Workings. Dated 1984.
- JPG. Geoenvironmental Desk Study Report. Barnsley West. Ref JBW/DS/4848.v3. Date of issue July 2019.
- JPG. Preliminary Geoenvironmental Ground Investigation. Barnsley West. Ref 4848-JPG-SW-XX-RP-G-0603-S2-P02. Date of issue July 2019.

The above referenced Preliminary Geoenvironmental Ground Investigation report by JPG includes details of intrusive ground investigation works comprising six rotary boreholes and three trial pits carried out on the site.



3.0 IDENTIFICATION AND ASSESSMENT OF SITE-SPECIFIC COAL MINING

Coal Mining Issue	Yes	No	Remarks
Underground coal mining	X		The CA Mining Reports, included in Appendix B, state that the site is affected by past recorded underground coal mining in seven coal seams from shallow to 350m depth, and last worked in 1983. The shallowest coal seam below the site is the Barnsley Coal, which outcrops to the west of the site and dips below the site at approximately 1 in 12 to the north east. Abandonment plans, referenced in Section 2.0, indicate that the seam was worked by underground methods prior to being opencast. <u>Abandonment Plan: Farm House Lane Colliery. No 2 Mine. Barnsley Bed Pillars. Dated 16 January 1928.</u> This plan details the quarrying of the Barnsley Coal from near its outcrop to the west of the site and extending easterly where the pillars of previous underground pillar and stall workings were robbed or removed. The previous (unrecorded) underground workings are shown to extend further to the east than the area opencast. In addition, mineworkings are shown to extend below Farm House Lane to the south of the site. <u>The Coal Authority. Abandonment Plan: NE415 Farm House Lane – Private Opencast Site Worked by F. J. Swain Ltd., abandoned Nov. 1960.</u> This plan indicates that the Barnsley Coal was further abstracted to the east of the previous opencast area, outlined above. Previous underground coal workings were estimated to be 80%. The opencast extended to the eastern margin of the site. Old (underground) workings are annotated to extend beyond the highwall in the east of the site. As the Barnsley Coal seam has been extracted from below the majority of the site, there remains only a residual risk from underground workings in this coal seam where present below the highwall of the opencast on the eastern margin of the site and also in the south. There is also a narrow strip between the outcrop to the west and the western extent of the opencast area, with adits then extending into the historical underground workings. With the exception of the Barnsley Coal, no other recorded underground coal workings are considered to pose a risk to the surface stability of the site, based on the recorded depths and thicknesses of the coal seams. The next shallowest coal seam below the Barnsley is an unnamed thin coal seam. Boreholes drilled as part of the 2019 JPG investigation confirmed the absence of workable coal below the base of the opencast. Mitigation measures, as outlined in Section 4, will be required with regard to the underground coal workings below the highwall in the east and the south of the site where insufficient competent rock cover is present.
Surface mining (opencast workings)	X		The site is located within the boundary of an opencast site from which coal has been removed by opencast methods. Abandonment plans, referenced in Section 2.0, confirm that the Barnsley Coal seam was opencast on two occasions: in the 1920s and 1960 (date of abandonment), as indicated on the abandonment plans, referenced above. The quarrying of shallow coal in the west was completed by January 1928. The opencasting of the remainder of the site was completed by November 1960. It is presumed that the opencast discard was not engineered back in. There is a risk to the proposed development due to future settlement of the underlying made ground including differential settlement where foundations span highwalls. An extensometer was installed in the east of the opencast as part of the 2019 JPG ground investigation, in order to facilitate future settlement monitoring. Mitigation measures are detailed in Section 4.



Coal Mining Issue	Yes	No	Remarks
Mine entries (shafts and adits)	X		There are eight recorded mine entries on the site or within 20m of the site boundary, according to the CA Mining Report. Six adits associated with previous underground workings in the Barnsley coal seam, are shown to the west and south west of the opencast, four of which (432406-011, 015, 016 and 017) are shown to extend to the east with one (432406-019) extending to the south east and one to the north east (432406-018). These adits associated with the Barnsley Coal seam in the east are likely to have been removed during opencast extraction of the Barnsley Coal. However, the adit referenced 432406-017 is shown to the west of the opencast area and therefore part of it might still be present. In addition, shaft ref. 432406-019 is indicated below the highwall on/near the south-western boundary. Consequently, a residual risk remains. One mineshaft (CA reference 432406-014) is shown in the east of the site within the backfilled opencast. It is likely that this shaft extended to the base of the Barnsley Coal prior to its being opencast. On this basis, it is likely to have been removed. The CA also state that this mineshaft 'has probably been removed to some extent by opencast mining'. However, further confidence that this mineshaft does not extend beyond the base of the Barnsley coal seam should be sought through further investigation. The mineshaft referenced 432406-013 is shown to be located to the north of the site. Confirmation that the adits and mineshafts outlined above have been removed as part of opencast coal extraction will be required prior to development on the site. Mitigation measures, as outlined in Section 4, will be required with regard to the recorded mine entries and also further potentially unrecorded mine entries.
Coal mining geology (fissures)		X	The CA Consultants Coal Mining Report' Summary of Findings Map indicates that there is one fault, trending roughly east to west, across the north of the site and another, also trending roughly east to west, shown approximately 75m to the south. Geological faults may exacerbate subsidence due to past underground coal workings and also may act as a preferential pathway for mines/coal gas. The Barnsley Coal seam, aligned approximately north to south, is shown to outcrop to the west of the site, between these two faults. Where the recorded fault crosses the north of the site, the Barnsley coal seam has already been removed. Based on the absence of underground coal workings in this location, it is not considered that mitigation measures specific to the structural geology will be required.
Record of past mine gas emissions or potential	X		None recorded within 500m of the site. (Coal Mining Report). Ground gas monitoring is required to confirm any ground gas protection requirements for new buildings constructed on the site. Potential sources of ground gas include: deep made ground associated with backfilled opencasts and coal/mines gas associated with underground coal workings. Potential pathways to end users and development workers include the fault in the north and any mineshafts that may extend to deeper workings/coal seams. Measures may be required to mitigate the potential risks posed from ground gas (see Section 4).
Recorded coal mining surface hazard		X	The site has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures. A damage notice or claim for alleged subsidence damage was made in November 2003 for 1 Wharfedale Road, located immediately to the south of the site. However, the claim was rejected.



4.0 MITIGATION STRATEGY PROPOSED

4.1 Underground Coal Workings

There remains a residual risk from underground workings in the Barnsley coal seam below the highwall in the east and south of the site and potentially in the west, where insufficient rock cover is present. The affected area is shown on JPG Drawing No. 4848-JPG-SW-XX-DR-G-1310, revision dated February 2021.

Where development, including highway construction, is to encroach onto the affected area, mitigation will be required.

Mitigation measures are likely to comprise the drilling and grouting on a 3m grid below the footprint of proposed buildings or highways. A Specification for the treatment works will be required and also a Permit to Treat the coal workings will be required from the Coal Authority.

Foundation and pavement (road construction) design will need to take into consideration the presence of underground workings.

4.2 Settlement of Opencast Backfill below the Development

A robust geotechnical solution is required for development over the backfilled opencast coal workings.

The thickness of made ground below this part of the site is estimated to be between approximately 5m in the west and 15m in the east. The properties of the backfilled materials within the opencasts will need to be further investigated as part of a comprehensive ground investigation. As part of the 2019 JPG ground investigation, an extensometer was installed in the east of the opencast. To-date the extensometer has been monitored on seven occasions. The purpose of the extensometer monitoring is to confirm that self-weight settlement has (mainly) ceased.

Settlement analysis will also be required to include total and differential settlement with respect to highwalls, in order to confirm that future settlements, including creep compression, are tolerable in relation to the proposed foundation solution.

It is likely that residential housing and other buildings will be constructed on either raft foundations or reinforced strips following a large scale earthworks operation.

Depending on the thickness and properties of the made ground in the opencast, the following treatment methods may be appropriate.

- Removal of the full or partial thickness of made ground and replacement with engineered fill.
- Deep dynamic compaction, combined with re-engineering of the opencast materials.
- Surcharging.



Any earthworks should be carried out in accordance with the Manual of Contract Documents for Highway Works, Volume 1 Specification for Highway Works, Series 600 Earthworks.

An assessment of the suitability of the colliery spoil materials and also natural 'cut' soils for re-use in earthworks was carried out as part of the 2019 JPG ground investigation. The laboratory testing confirmed that the materials could be re-engineered.

4.3 Mine Entries

Most of the adits in the west of the site are likely to have been removed during subsequent opencast extraction of the Barnsley coal seam. However, the adit in the south west (CA reference 432406-017) is shown to be further to the west of the opencast. An investigation into the presence of a remaining section of this former adit should be carried out; this investigation is likely to consist of trial trenches.

Confirmation that the mineshaft in the east (CA reference 432406-014) has been removed as part of the opencasting will also be required to confirm that the mineshaft does not extend below the base of the Barnsley coal seam. This investigation should be carried out using rotary probing techniques contained in Ciria 32. If located, it is likely that subsequent treatment of the mineshaft shall comprise reverse stage drill and grout methods from the base of the mineshaft to the base of the opencast.

Should development be proposed in the location of the adit on the south-western boundary (CA reference 432406-019), an investigation will be required to confirm its location and the adit will require treatment along with the associated underground workings in this part of the site.

There is also the potential for unrecorded mineshafts and adits. Vigilance will be required during the earthworks operation and if a suspected mine entry is encountered, advice should be sought from a suitably qualified person.

4.4 Ground Gas

There may be a requirement for ground gas protection measures to be incorporated into new buildings in order to prevent any pollutant linkages to end users from potentially hazardous gases.

Potential sources of ground gas include deep made ground associated with the backfilled opencast and coal/mines gas associated with the deep underground coal workings.

Monitoring wells were installed as part of the 2019 JPG ground investigation and preliminary ground gas monitoring indicates Characteristic Situation 2 protection requirements for new buildings constructed on the site.



Gas protection measures may include a gas resistant membrane and sub-floor void to prevent the ingress of gas into buildings.



5.0 COAL RECOVERY

The majority of shallow coal has already been removed from below the site as part of underground and subsequent opencast extraction. There is the potential for residual coal to be present on the western margin near the outcrop. However, this is likely to be of poor quality, if indeed present. There will also be residual coal below the highwall of the opencast in the east and south of the site, where it has not been extracted by underground methods. However, this coal will be limited in volume and if extracted may affect the stability of adjacent land.

Therefore, it is considered that there is little opportunity to recover further coal prior to development of the site and any coal encountered during the earthworks operation should be treated as 'incidental' and dealt with accordingly.



6.0 CONCLUSION

Following the implementation of appropriate site investigation and subsequent mitigation measures, outlined in Section 4 above, the site can be considered suitable for development with respect to past coal mining activities.

In addition, it is considered that there is little opportunity to recover any coal prior to development on the site.



Appendix A Figures and Drawings

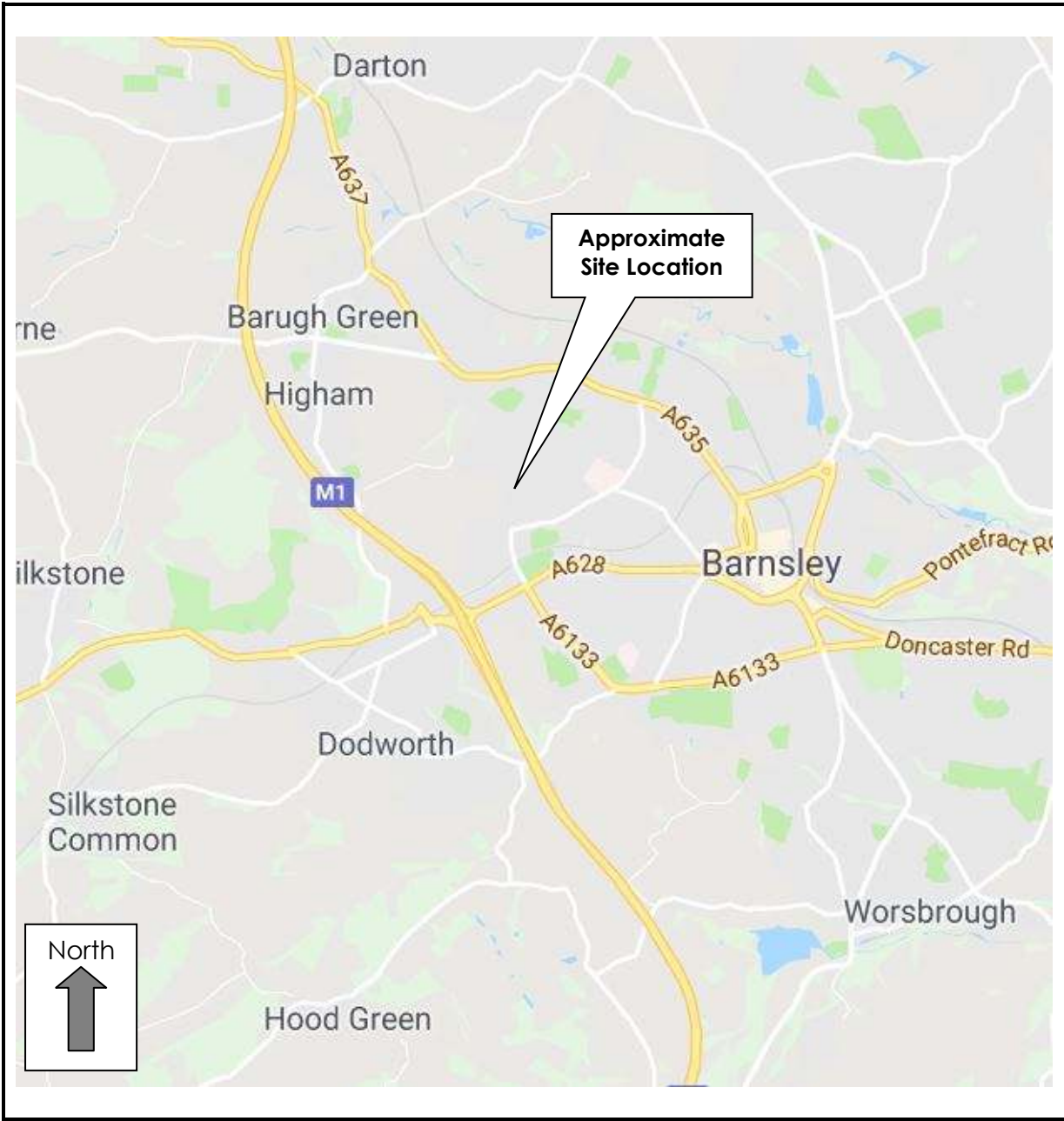


Figure 1 – Site Location Plan

Figure 1 – Site Location Plan	
Site	Barnsley West
Client	Strata Sterling Barnsley West Ltd
Job Number	4848
Scale	NTS

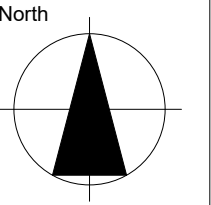


Figure 2 – Aerial Photograph

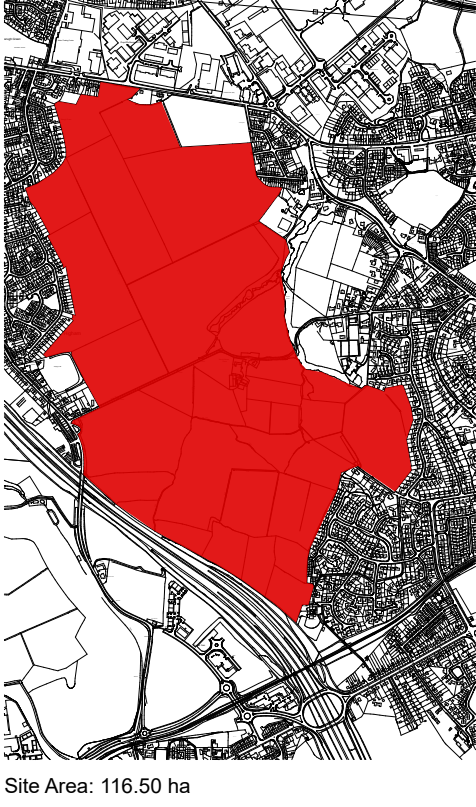
Site	Barnsley West
Client	Strata Sterling Barnsley West Ltd
Job Number	4848
Scale	NTS



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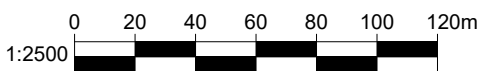


Key Plan



Key

- Local Plan Boundary
- Private Garden
- Public Landscape
- Highway - Roads & Side Walk
- Homezone
- Formal Play
- Informal Play
- Existing Pedestrian Access
- Proposed Pedestrian Access
- 1 Commercial
- 2 School
- 3 Employment Zone



Note:
The drawing is based upon survey information provided by others, no guarantee of its accuracy can be given

P05 Consultation issue.	AS	TR	12/05/21
P04 Consultation issue.	YF	TR	11/05/21
P03 Revised layout to suit proposed levels	AG	TR	11/09/19
P02 Consultation issue	AG	TR	12/08/19
P01 First issue	AM	TR	02/08/19

rev	description	drawn	checked	date
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B

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Strata Sterling Barnsley West Ltd

Barnsley West Masterplan

Proposed Site Plan

Originator project ref 19028	Purpose of Issue CONSULTATION
Scale(s) 1:2500	Status S2 SUITABLE FOR INFORMATION
Paper size A1	Revision P05 PRELIMINARY

project	originator	volume	level	type	role	number	status	revision
BWM	BBA	ZZ	XX	DR	A	1004	S2	P05



Appendix B Coal Authority Mining Reports



The Coal
Authority

Resolving the **impacts** of mining

CON29M Non-Residential Mining Report

BARNSELY WEST
SOUTH YORKSHIRE

Date of enquiry: 28 November 2018
Date enquiry received: 28 November 2018
Issue date: 28 November 2018

Our reference: 51001983537001
Your reference: 4848/JBW



CON29M Non-Residential Mining Report

This report is based on, and limited to, the records held by the Coal Authority, at the time we answer the search.

Client name

JPG (LEEDS) LIMITED

Enquiry address

BARNSELY WEST, SOUTH YORKSHIRE

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 /coalauthority



Approximate position of property



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Summary

Has the search report highlighted evidence or potential of		
1	Past underground coal mining	Yes
2	Present underground coal mining	No
3	Future underground coal mining	Yes
4	Mine entries	Yes
5	Coal mining geology	No
6	Past opencast coal mining	Yes
7	Present opencast coal mining	No
8	Future opencast coal mining	No
9	Coal mining subsidence	Yes
10	Mine gas	No
11	Hazards related to coal mining	No
12	Withdrawal of support	Yes
13	Working facilities order	No
14	Payments to owners of former copyhold land	No

Further recommended reports
Mine entry interpretive report
Mine entry plan and data sheets
Coal mining subsidence claims 50m buffer report
Coal mining subsidence claims history

For detailed findings, please go to page 4.

Detailed findings

1. Past underground coal mining

The property is in a surface area that could be affected by underground mining in 7 seams of coal at shallow to 350m depth, and last worked in 1983.

2. Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3. Future underground coal mining

The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant a licence to remove or work coal by underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

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

4. Mine entries

Within, or within 20 metres of, the boundary of the property there are 14 mine entries, the approximate positions of which are shown on the enquiry boundary plot.

Our records disclose the following information:

432406-014. has probably been removed to some extent by opencast mining

432406-013. No treatment details.

431406-003. has probably been removed to some extent by opencast mining

431406-005. has probably been removed to some extent by opencast mining

432407-008. No treatment details.

432406-017. No treatment details.

432406-015. No treatment details.

432406-018. No treatment details.

431406-004. has probably been removed to some extent by opencast mining

431406-002. has probably been removed to some extent by opencast mining

431406-006. has probably been removed to some extent by opencast mining

432406-019. No treatment details.

432406-011. No treatment details.

432406-016. No treatment details.

There may however be mine entries/additional mine entries in the local area which the Coal Authority has no knowledge of.

For an additional fee, the Coal Authority can provide a Mine Entry Interpretive Report. The report will provide a separate assessment for the mine entry/entries referred to in this report. It gives an opinion on the likelihood of mining subsidence damage caused from ground movement as a consequence of the mine entry/entries. It also gives details of the remedies available for subsidence damage where the mine entry was sunk in connection with coal mining.

Please note that it may not be possible to produce a report if the main building to the property cannot be identified from Coal Authority plans (ie for development sites and new build).

For further advice on how to order this additional information please visit www.groundstability.com.

5. Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6. Past opencast coal mining

The property is within the boundary of an opencast site from which coal has been removed by opencast methods.

7. Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8. Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9. Coal mining subsidence

A damage notice or claim for alleged subsidence damage was made in November 2003 for 1 WHARFEDALE ROAD, BARNSELEY, SOUTH YORKSHIRE, S75 2LJ. However, the claim was rejected.

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

There are a further 2 claim(s) within 50 metres of the property boundary that do not match the property address. These are shown on the enquiry boundary plot.

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.

If further subsidence damage claims information is required, please visit www.groundstability.com.

10. Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11. Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures.

12. Withdrawal of support

The property is in an area where notices to withdraw support were given in 1956, 1976, 1977 and 1987.

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.

13. Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14. 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.

Comments on the Coal Authority information

The Coal Authority own the copyright in this report and the information used is protected by our database right.

The boundary plot shows the approximate location of the disused mine entry/entries referred to in this report. For reasons of clarity, mine entry symbols may not be drawn to the same scale as the plan.

Property owners have the benefit of statutory protection (under the Coal Mining Subsidence Act 1991*). This contains provision for the making good, to the reasonable satisfaction of the owner, of physical damage from disused coal mine workings including disused coal mine entries. A leaflet setting out the rights and obligations of either the Coal Authority or other responsible persons under the 1991 Act can be obtained by visiting www.groundstability.com.

If you wish to discuss the relevance of any of the information contained in this report, you should seek the advice of a qualified mining engineer or surveyor. If you or your advisor wish to examine the source plans from which the information has been taken, these are available to view, free of charge, at our Head Office in Mansfield. To book an appointment please ring 01623 637225. Should you or your advisor wish to carry out a physical investigation that may enter, disturb or interfere with any disused mine entry, prior permission of the owner must be sought. For coal mine entries, the owner will normally be the Coal Authority.

The Coal Authority, regardless of responsibility and in conjunction with other public bodies, provide an emergency call out facility in coalfield areas to assess the public safety implications of mining features (including disused mine entries). Our emergency telephone number is 01623 646333.

*Note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

In view of the mining circumstances a prudent developer would seek appropriate technical advice before any works are undertaken.

Therefore 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 good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. Developers should be aware that the investigation of coal seams/former mines of coal may have the potential to generate and/or displace underground gases and these risks both under and adjacent to the development should be fully considered in developing any proposals. The need for effective measures to prevent gases entering into public properties either during investigation or after development also needs to be assessed and properly addressed. This is necessary due to the public safety implications of any development in these circumstances.

Additional remarks

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 [/coalauthority](#)

Enquiry boundary

Key

Approximate position of enquiry boundary shown

Disused adit

Disused mineshaft

Coal claims

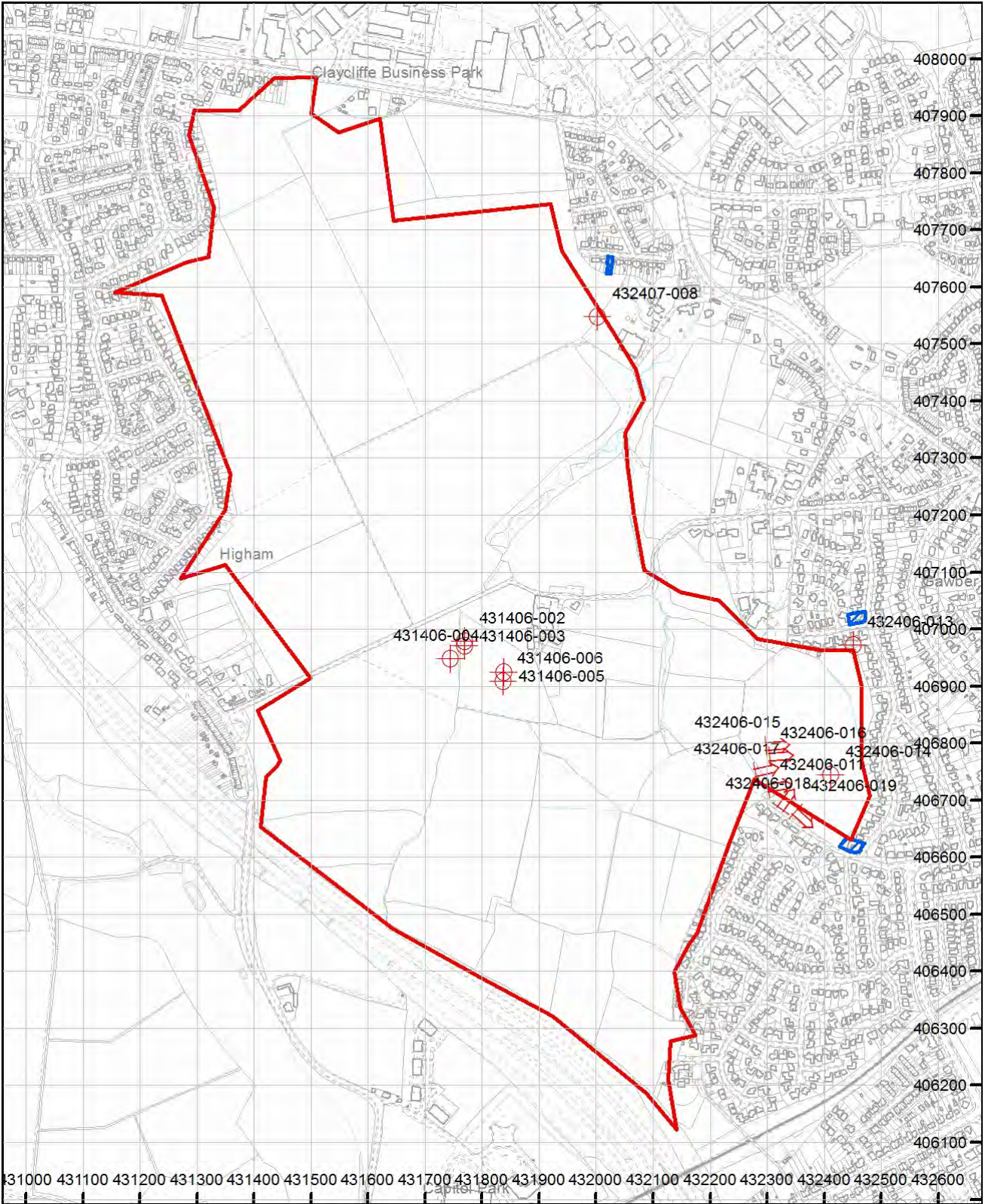
How to contact us

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

200 Lichfield Lane
Mansfield
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NG18 4RG

www.groundstability.com

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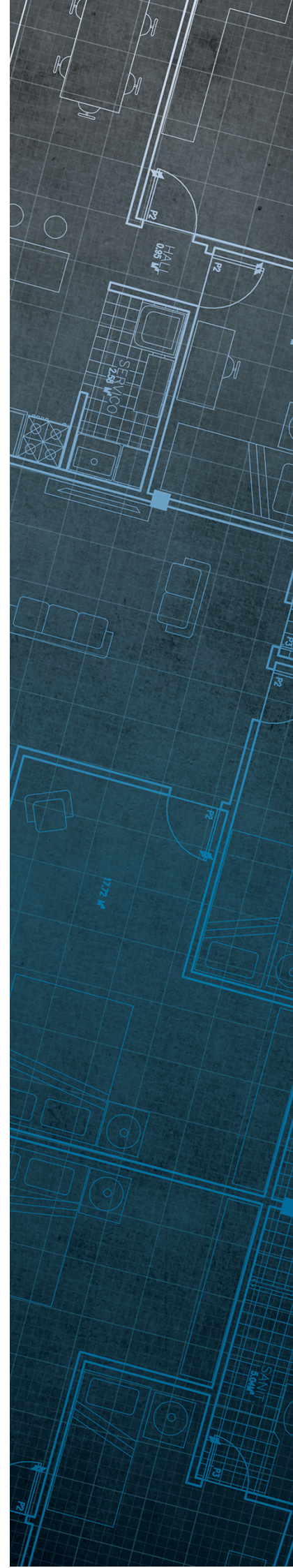
The Coal
Authority

Consultants Coal Mining Report

Barnsley West
South Yorkshire

Date of enquiry:	28 November 2018
Date enquiry received:	28 November 2018
Issue date:	28 November 2018

Our reference:	51001983537002
Your reference:	4848/JBW



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

JPG (LEEDS) LIMITED

Enquiry address

Barnsley West
South Yorkshire

How to contact us

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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
POGMOOR	BARNLEY	Coal	6Z77	6	Beneath Property	4.7	North-East	297	1926
FARMHOUSE LANE	BARNLEY	Coal	6Z78	11	Beneath Property	2.6	North-East	295	1910
FARMHOUSE LANE	BARNLEY	Coal	6Z79	16	Beneath Property	2.5	North-East	297	1900
DODWORTH	FLOCKTON THICK	Coal	6NKR	86	Beneath Property	3.8	North-East	68	1958
DODWORTH	FLOCKTON THICK	Coal	6NJR	96	Beneath Property	3.8	North-East	71	1959
DODWORTH	FLOCKTON THICK	Coal	64CW	103	Beneath Property	3.9	North-East	61	1916
DODWORTH	FLOCKTON THICK	Coal	6Z7P	108	Beneath Property	4.5	North-East	70	1915
DODWORTH	FLOCKTON THICK	Coal	6Z6U	110	Beneath Property	4.1	North-East	76	1950
DODWORTH	FLOCKTON THICK	Coal	64CV	127	Beneath Property	5.2	North-East	66	1950
DODWORTH	FLOCKTON THICK	Coal	6Z7Q	127	Beneath Property	3.6	North-East	69	1950
DODWORTH	TOP FENTON	Coal	6NCR	128	Beneath Property	2.7	North-East	79	1943
DODWORTH	TOP FENTON	Coal	6NDR	133	Beneath Property	3.3	East	81	1958
DODWORTH	FLOCKTON THICK	Coal	6NLR	133	Beneath Property	2.8	North-East	70	1952
DODWORTH	TOP FENTON	Coal	64CR	144	Beneath Property	3.9	North-East	74	1910
DODWORTH	FENTON	Coal	6NNT	146	North	3.4	North-East	91	1958
DODWORTH	FLOCKTON THICK	Coal	6Z7R	147	Beneath Property	3.2	North-East	70	1954
DODWORTH	TOP FENTON	Coal	6NER	147	North-East	3.1	North	86	1958
DODWORTH	TOP FENTON	Coal	6Z7S	149	Beneath Property	4.6	North-East	91	1935
DODWORTH	TOP FENTON	Coal	6Z6S	153	Beneath Property	4.7	North-East	81	1935
unnamed	TOP FENTON	Coal	64CQ	159	Beneath Property	3.4	North-East	74	1930
DODWORTH	TOP FENTON	Coal	6Z7U	163	Beneath Property	2.7	South	86	1936
DODWORTH	TOP FENTON	Coal	64CP	170	Beneath Property	5.3	North-West	74	1936

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
DODWORTH	PARKGATE	Coal	64CV	171	Beneath Property	2.2	North-East	137	1950
DODWORTH	PARKGATE	Coal	6Z7X	173	Beneath Property	4.7	North-East	137	1921
DODWORTH	PARKGATE	Coal	6IEF	175	South	3.8	North-East	137	1915
STANHOPE SILKSTONE	SILKSTONE	Coal	6NDS	213	Beneath Property	4.4	North-East	107	1928
DODWORTH	TOP FENTON	Coal	626T	221	North-East	3.8	North-East	185	1930
DODWORTH	SILKSTONE	Coal	6NHS	226	Beneath Property	3.9	North-East	105	1977
STANHOPE SILKSTONE	SILKSTONE	Coal	6NCV	240	North	3.9	North-East	107	1928
HIGHAM	SILKSTONE	Coal	6NES	243	West	3.6	North-East	147	1880
DODWORTH	SILKSTONE	Coal	6Z70	244	Beneath Property	4.3	North-East	105	1971
DODWORTH HIGHAM	SILKSTONE	Coal	64D3	245	Beneath Property	4.1	North-East	147	1891
unnamed	SILKSTONE	Coal	6NFS	246	Beneath Property	4.7	North-East	107	1928
ROB ROYD	SILKSTONE	Coal	6Z80	248	South-West	4.1	North-East	176	1933
unnamed	SILKSTONE	Coal	6I53	251	South-West	3.7	North-East	147	1883
DODWORTH	SILKSTONE	Coal	6Z7Z	255	Beneath Property	2.6	East	105	1944
DODWORTH	SILKSTONE	Coal	6Z7Y	256	Beneath Property	3.8	North-East	147	1893
ROB ROYD	SILKSTONE	Coal	6IEJ	257	South	4.2	North-East	167	1935
unnamed	SILKSTONE	Coal	64D2	260	Beneath Property	3.4	North-East	147	1927
DODWORTH	SILKSTONE	Coal	6NGS	269	North-East	4.0	North-East	105	1979
DODWORTH	SILKSTONE	Coal	6NDW	274	North-East	3.0	North-East	100	1978
WOOLLEY/REDBR OOK	WHINMOOR	Coal	64D9	287	Beneath Property	4.1	North-East	107	1965
DODWORTH	SILKSTONE	Coal	4VL6	289	Beneath Property	3.7	North-East	105	1972
WOOLLEY/REDBR OOK	WHINMOOR	Coal	Z23A	294	Beneath Property	4.4	North-East	102	1983
WOOLLEY/REDBR OOK	WHINMOOR	Coal	6Z72	295	Beneath Property	4.8	North-East	107	1979
WOOLLEY/REDBR OOK	WHINMOOR	Coal	Z23A	297	Beneath Property	5.2	North-East	108	1983
WOOLLEY	WHINMOOR	Coal	6NLS	298	Beneath Property	4.3	North-East	107	1979
WOOLLEY	WHINMOOR	Coal	6Z7H	301	Beneath Property	3.8	North-East	109	1969

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
WOOLLEY	WHINMOOR	Coal	6NEV	321	North-East	4.8	North-East	115	1978
WOOLLEY	WHINMOOR	Coal	Z89	326	North-East	5.2	North-East	107	1980
WOOLLEY/REDBROOK	WHINMOOR	Coal	6Z75	343	North-East	4.7	North-East	110	1977
WOOLLEY/REDBROOK	WHINMOOR	Coal	6Z7I	349	North-East	3.3	North-East	105	1976

Probable unrecorded shallow workings

Yes.

Spine roadways at shallow depth

Distance to spine roadway (m)	Direction to spine roadway
Within	N/A

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	431406-002	431771 406978	has probably been removed to some extent by opencast mining	Coal	
Shaft	431406-003	431771 406971	has probably been removed to some extent by opencast mining	Coal	
Shaft	431406-004	431746 406949	has probably been removed to some extent by opencast mining	Coal	
Shaft	431406-005	431840 406925	has probably been removed to some extent by opencast mining	Coal	
Shaft	431406-006	431838 406909	has probably been removed to some extent by opencast mining	Coal	
Shaft	432406-002	432364 406628		Coal	
Adit	432406-011	432302 406721		Coal	
Shaft	432406-012	432423 406995		Coal	
Shaft	432406-013	432452 406972		Coal	
Shaft	432406-014	432413 406745	has probably been removed to some extent by opencast mining	Coal	
Adit	432406-015	432298 406795		Coal	
Adit	432406-016	432305 406777		Coal	
Adit	432406-017	432280 406747		Coal	
Adit	432406-018	432324 406686		Coal	
Adit	432406-019	432349 406680		Coal	
Shaft	432406-020	432507 406628	was not encountered during drilling works undertaken by Abatech prior to development in 2007. We have no record of what steps, if any, have been taken to treat this shaft	Coal	
Shaft	432406-021	432509 406615		Coal	
Shaft	432406-031	432519 406627		Coal	
Shaft	432407-008	432004 407548		Coal	
Shaft	432407-019	432435 407008		Coal	

Abandoned mine plan catalogue numbers

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

12461	NE3	FGB6
7196	7198	NE565
NE1050	SY36	7698

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

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

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
BARNSEY	Coal	Yes	Within	N/A	12
BARNSEY	Coal	Yes	Within	N/A	340
DUNSIL	Coal	Yes	Within	N/A	0
DUNSIL	Coal	Yes	Within	N/A	342
SWALLOW WOOD	Coal	Yes	Within	N/A	164
SWALLOW WOOD	Coal	Yes	17.8	South-West	317
TOP HAIGH MOOR	Coal	Yes	49.2	South-West	318
TOP HAIGH MOOR	Coal	Yes	Within	N/A	319

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

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

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

A damage notice or claim for alleged subsidence damage was made in November 2003 for 1 WHARFEDALE ROAD, BARNSELEY, SOUTH YORKSHIRE, S75 2LJ. However, the claim was rejected.

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

There are a further 2 claim(s) within 50 metres of the property boundary that do not match the property address. These are shown on the enquiry boundary plot.

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.

If further subsidence damage claims information is required, please visit www.groundstability.com.

See Section 4 for further information.

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 in an area where notices to withdraw support were given in 1956, 1976, 1977 and 1987.

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.

Coal mining subsidence

The site is within an area of previous interest. It is close to where the Coal Authority or licensed mine operator has investigated and where necessary remediated issues relating to coal mining subsidence.

The site requires further investigation and may influence your risk assessment. We recommend that you order the appropriate **Coal Authority Subsidence Claims Report**, which will include more information about the hazard.

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.

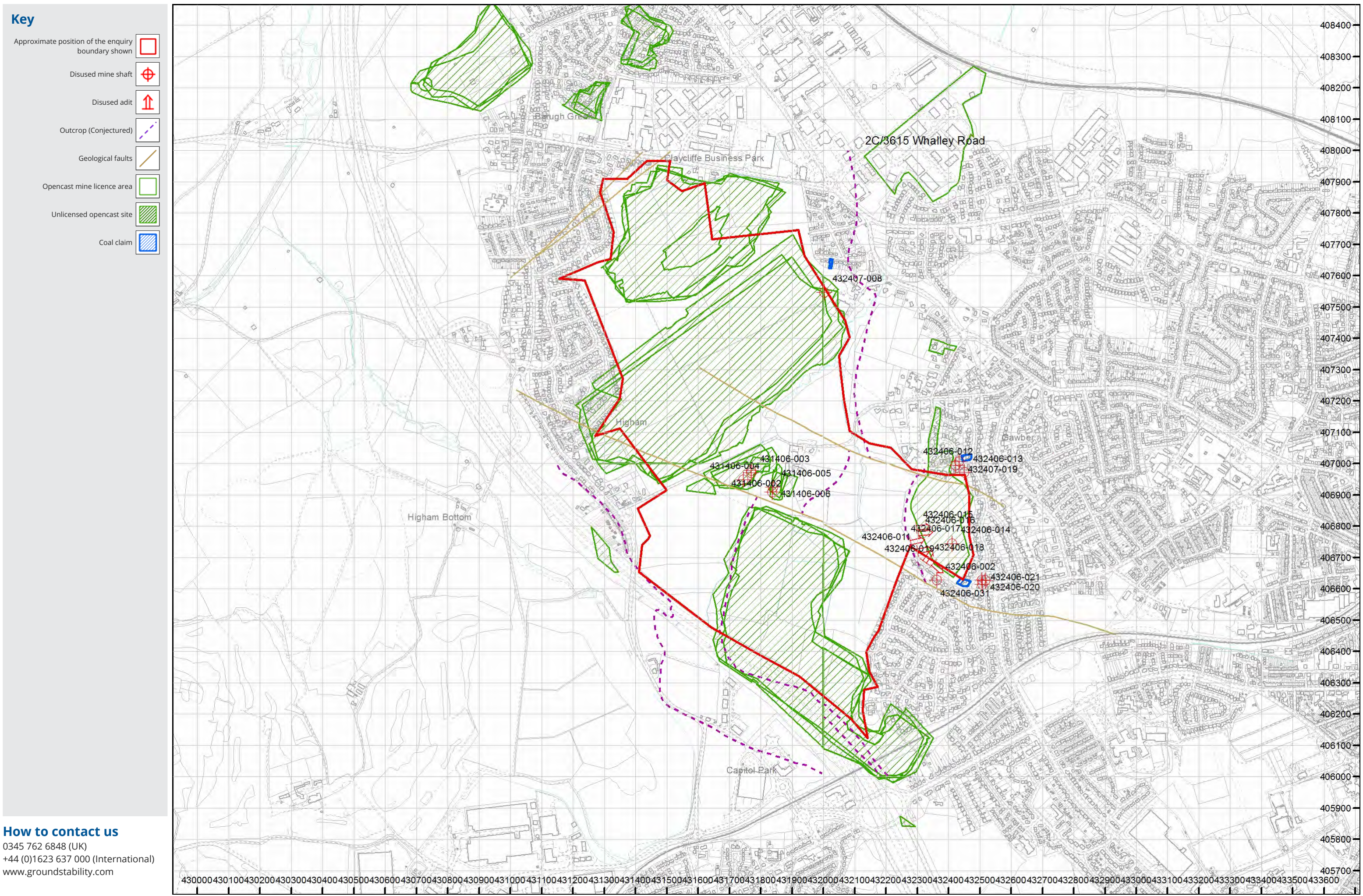
Withdrawal of support notices

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.





Appendix C Coal Authority Abandonment Plans

Barnsley Bed Pillars

A hand-drawn map of BARNLEY, showing the River Wharfe, the railway line, and the town layout. The map includes labels for 'Barnley', 'Wharfe', 'Railway', and 'Barnley'. A red hatched area is marked 'Barnley'.

Longitude: $1^{\circ} 30' 42''$
Latitude: $55^{\circ} 33' 22''$

Prises	Clay	Bind
5		
4	Softs Clay	
5	Hards Clay	

— Scale: 1 Chain to 1 Inch —

This plan is a true copy of the working plan of the mine as completed up to the 16th January 1958, and I certify, after thorough examination and enquiry, that to the best of my knowledge and belief it is an accurate plan of the mine.

Robert B Beille

Surveyors Certificate N° 72 (1919)

Fennell Green & Bailey
WAKEFIELD.



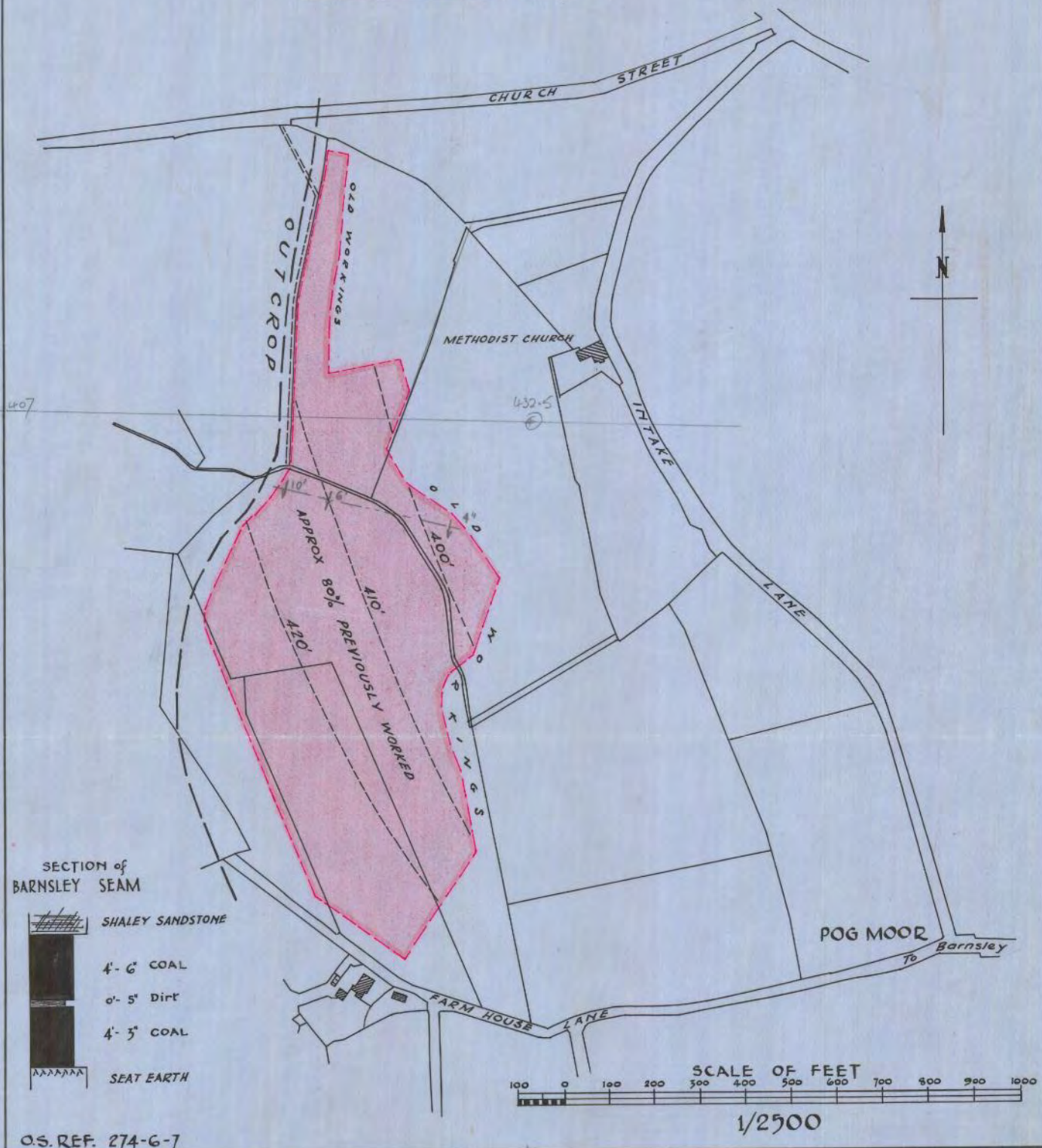
The Coal Authority

Steve Meredith 2 - The Coal Authority, 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG, UK

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FARM HOUSE LANE ~ PRIVATE OPENCAST SITE
WORKED by F.J. SWAIN LTD.,
ABANDONED Nov., 1960.

N.E.415.



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