Environmental
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RGS

COAL MINING

RISK ASSESSMENT REPORT

job number	C3473/23/E/5263.REV1
date	06/03/26
site address	Busk Farm, Northfield Lane Highburton Huddersfield HD8 0QT
written by	R. Palmer
checked by	I. Sakoor
issued by	R. Palmer

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Appendices

Report on a Coal Mining Risk Assessment

Location:	Busk Farm, Northfield Lane Highburton, Huddersfield, West Yorkshire, HD8 0QT
For:	Robert Andrews
Report No.	C3473/23/E/5263.REV1 Report date: March 2026

For and on behalf of **Rogers Geotechnical Services Ltd**

Rob Palmer MSc FGS ACIEH
Engineering Director

Imran Sakoor BEng FGS
Geo-environmental Engineer

1. Introduction

It is understood that a building is to be replaced at Busk Farm, Highburton. As part of the planning application at the site, a Coal Mining Risk Assessment has been requested by the planning authority. Consequently, a desktop study was commissioned in order to assess the risk to the development from coal mining. It should be appreciated that an initial assessment was issued by RGS in April 2023; report ref C4373/23/E/5263. The outline boundary has been amended, thus a request to revise that assessment has been submitted and is the subject of this report. This latest revision is being written on the basis of the boundary presented on Drawing (254321)1_Location Plan which is presented in Appendix 1, albeit the focus is primarily for the building to be constructed within the northern portion of the plan.

2. Geological Desk Study

The geological desk study has been undertaken using the following sources of information.

- British Geological Survey map sheet[1].
- British Geological Survey *Onshore Geoindex*[2].
- Coal Authority Consultants Coal Mining Report[3].
- British Geological Survey *Borehole Records*[4].

[1] Sources: British Geological Survey (NERC) Map Sheet 77; Huddersfield Solid and Drift Editions
[2] Sources: British Geological Survey (NERC) [*online resource from www.bgs.ac.uk*]
[3] Coal Authority Reference: 51003347141005 dated 30th March 2023.
[4] Sources: British Geological Survey (NERC) Borehole Records [*online resource from* http://www.bgs.ac.uk//]

2.1 British Geological Survey Maps and Viewer

The appropriate map sheet for the site and the geology viewer has been examined and the following table presents the indicated geology:

Table 1: Geological Data for the Site

Strata Type	Strata Name[5]	Location	Description[3]
Superficial Geology	None recorded	-	-
Solid Geology	Pennine Lower Coal Measures Formation	Northern Section	Interbedded grey mudstone, siltstone and pale grey sandstone, commonly with mudstones containing marine fossils in the lower part, and more numerous and thicker coal seams in the upper part.
	Kirkburton Sandstone	Southern Section	A medium-bedded, very fine- to medium-grained, ripple cross-laminated, micaceous, buff to pale brown sandstone, interbedded with greenish grey siltstone.

On the geological map, there are no dip indicators within 500m of the site or within the same fault block. However, there is one dip indicator at 1.1km to the west that indicates a dip of 5° east, another at 2.6km to the east that indicates a dip of 3° northeast and another at 3.2km to the northeast that indicates a dip of 2° east. Though these dip indicators cannot be used to give a definitive dip direction for use in seam depth calculations, they do indicate that the solid geology in the general area dips to the east at shallow angles, likely between 2° and 5°.

It should be appreciated that the site straddles a lithological boundary between the Kirburton Sandstone (southern section) and undifferentiated strata of the Pennine Lower Coal Measures Formation. This lithological boundary is marked by the presence of a coal seam.

There are two local coal seams that are shown to outcrop within the local area. These seams are summarised as follows:

Table 2: Summary of Coal Seams Within the Vicinity of the Site.

Seam Name	Seam thickness[6]	Outcrop distance from site[5]*	Anticipated depth below site
Black Bed Coal	Up to 0.45m	On site	At or near to surface. Possibly absent in the north.
Better Bed Coal	Up to 0.45m	185m N 315m W	30m to 35m

*All distances are given as approximations only. It should be noted that coal seam thicknesses vary over relatively short distances

In light of the above and taking into account the regional structural geology and the topography of the area, the Black Bed seam is anticipated to be present at depths of less than 30m below the surface of the site. The Better Bed Coal is anticipated to be at 30m or deeper.

[5] Sources: British Geological Survey (NERC) Map Sheet 77; Huddersfield; Solid and Drift Edition, and Onshore Geoindex [*online resource from www.bgs.ac.uk*]
[6] Sources: British Geological Survey (NERC) Map Sheet SE11SE (1:10000) [*online resource from www.bgs.ac.uk*]

2.2 Coal Authority Mines Report

As part of the original study, a Coal Authority Consultants Coal Mining Report was obtained. A new report has not been obtained as the geological conditions are similar with the revised site boundary only a short distance to the north. It is to be noted that the Coal Authority report was created utilising the planning boundary, which had to include the existing access road. However, the building is actually being constructed in the most northern section of the site and this should be taken into consideration when assessing the Coal Authority data. The Consultant report is presented as Appendix 2 and for the purposes of discussion has been summarised below:

Table 3: Summary of the Consultant's Coal Mining Report

Has the report highlighted evidence or potential of:			
Ref	**Mining Feature**	**Yes/No**	**Comments**
1	Underground Coal Mining	Yes	Black Bed seam – 7m depth – Beneath site – 0.43m thickness – last worked 1926. Better Bed seam – 43m depth – Beneath site – 1.47m thickness – last worked 1926.
2	Probable Unrecorded Shallow Workings	Yes	-
3	Spine Roadways at Shallow Depth	No	No spine roadway recorded at shallow depth.
4	Mine Entries	Yes	Adit referenced 419413-011 located 6m north of the access road section of the site and 33m east of the construction onsite. Orientated southeast, towards the access road and away from the construction section of the site.
5	Abandoned mine plans	Yes	Abandoned mine plan numbered 13399 8338 intersects with the site. Plans of abandoned mine workings below the site are suggested to be available by the Coal Authority.
6	Outcrops	Yes	Black Bed coal indicated to outcrop onsite.
7	Geological Faults	No	No faults, fissures or breaklines recorded.
8	Opencast Mines	Yes	Much of the centre of the site is indicated to have been mined in an opencast pit. Given that the Black Bed seam has been worked underground at 7m depth, it is possible that these opencast workings may be related to quarrying into the Kirkburton Sandstone rather than opencast mining of the Black Bed seam. See Coal Authority Summary of Findings map for precise location.
9	Coal Authority Managed Tips	No	None recorded within 500 metres of the enquiry boundary.
10	Site Investigations	No	None recorded within 50 metres of the enquiry boundary
11	Remediated Sites	No	None recorded within 50 metres of the enquiry boundary.
12	Coal Mining Subsidence	No	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 31st 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.
13	Mine Gas	No	None recorded within 500 metres of the enquiry boundary.
14	Mine Water Treatment Schemes	No	None recorded within 500 metres of the enquiry boundary.
15	Future underground mining	No	For further information please see section 3 of the Consultant's Coal Mining Report (ref 51003347141005).
16	Coal mining licensing	No	
17	Court orders	No	
18	Section 46 notices	No	
19	Withdrawal of support notices	No	
20	Payments to owners of former copyhold land	No	

2.3 Geological Survey Borehole Records

The British Geological Survey (NERC) keeps borehole records from across Britain which are available for public viewing through their website[7]. As part of this study, the records in the area around the site have been reviewed in order to assist in establishing the geological conditions.

Based upon records provided by the British Geological Survey (NERC) the following table has been produced as a summary for the most applicable features of note in relation to this study, the logs of the boreholes are presented as Appendix 3:

Table 4: Notable Geological Features

Borehole	Approx. Distance from Site	Depth of borehole (m)	Notable features
SE11SE17	185m SW	14.94	Void – 6.25m (0.61m thickness) Fill – 6.86m (1.04m thickness)
SE11SE18	227m SW	12.19	Coal (Intact) – 7.62m (0.33m thickness).
SE11SE19	234m SW	15.69	Fill – 7.62m (0.91m thickness).
SE11SE20	247m SW	15.24	Fill – 7.32m (1.21m thickness).
SE11SE21	249m SW	15.24	Fill – 7.62m (0.33m thickness).

It should be appreciated that there was limited borehole data within the immediate vicinity of the site that was available for public viewing. Other borehole scans were available at a greater distance from the site (within other fault blocks), however, these were felt to be of limited value to the study as they are not anticipated to present comparable ground conditions to those below the surface of the site.

Nevertheless, the boreholes have indicated one notable coal seam present within 10.0m of the ground surface within the local area. Based on the available geological data, it is anticipated that this seam may represent the Black Bed Coal. This coal seam was proven intact in SE11SE18 but was worked in all other borehole locations, its minimum thickness of 0.33m is considered to be economic.

[7] Sources: British Geological Survey (NERC) Onshore Geoindex [*online resource from https://mapapps2.bgs.ac.uk/geoindex/home.html*]

3. Risk Assessment

The risk to the stability of the proposed residential development has been evaluated from the data obtained and with reference to the following ratings and definitions:

Low - The possibility of instability is unlikely therefore no further action is necessary.

Moderate - The possibility of instability is likely and further investigation or remedial action may be required.

High - The possibility of instability is highly likely and further investigation or remedial action will be necessary.

Table 5: Development Specific Risk Assessment

Item	Risk attributed to	Coal Seam(s) Considered	Risk Rating
3.1	Shallow coal workings	Black Bed Coal (BL)	Moderate
		Better Bed Coal (BRB)	Low
3.2	Coal workings at depth	The property is not within a surface area that is likely to affected by deeper past underground mining.	Low
3.3	Mine gas	Shallow coal workings	Moderate
3.4	Mine shafts	Adit referenced 419413-011 located 6m north of the access road section of the site and 33m east of the construction onsite. Angled southeast, towards the access road section of the site.	Low

3.1 Risks Posed by Shallow Coal Workings

On the basis of all of the information provided above, one coal seam is anticipated to be present within 30m of the surface at the site. The borehole and geological records suggest that this seam is of economical thickness and the possibility of the seam being worked below the site cannot be ruled out. Historic coal mining activity is evident in the nearby area, and therefore it is considered that if coal was known to be close to ground level it could have been removed illicitly via shallow mining methods with relative ease.

Indeed, the Coal Authority Consultants Coal Mining Report summary map indicates that unlicensed opencast coal mining has been conducted into the Black Bed Coal seam to the south of the site. Moreover, the Coal Authority holds records of underground mining within this seam. As such, it is possible that the illicit opencast workings may actually be related to quarrying into the Kirkburton Sandstone rather than opencast mining of the Black Bed Seam. In any event, working of the Black Bed coal seam beneath the site should be considered.

It may be noted that guidance available from both the NHBC and the CIRIA publication, SP32 - *construction over abandoned mine workings,* suggests that competent overburden thickness above a coal seam should be greater than 10 times the thickness of a seam plus seam thickness in order that the collapse of workings would pose a low risk to surface structures.

On this basis, assuming a maximum thickness of the coal seams, the table below suggests the thickness of competent overburden required above each seam to mitigate instability at the surface.

Table 6: Required Thickness of Competent Overburden

Seam Name	Seam Thickness	Anticipated Depth Below Site	Required Thickness of Competent Overburden
Black Bed Coal (BL)	Up to 0.45m	0m to 5m	5m
Better Bed Coal (BB)	Up to 0.45m	30m to 35m	5m

Based on the above information, it is considered that there will not be a sufficient thickness of competent overburden above the shallowest seam in order to prevent the risk of instability posed by the presence of any illicit workings. Therefore, a moderate risk rating has been placed on this seam, and further investigation is recommended to prove or disprove the presence of illicit mining activity. However, based on its anticipated depth below ground level, there will more than likely be a sufficient thickness of competent overburden above the Better Bed Coal such that the risk from the collapse of workings is low.

3.2 Risks Posed by Coal Workings at Depth

In regard to deeper mining which could affect the site, the property is not within a surface area that is likely to affected by deeper past underground mining.

3.3 Risks Posed by Mine Gas

This assessment has identified that there is potential for shallow mine workings to be present beneath the proposed development as well as areas of deep fill. Whilst the Consultants Coal Mining Report has not reported any incidents of mine gas within the vicinity of the development, shallow mining activity represents a credible source of ground gas. There is also a potential for the presence of deep made ground due to the past opencast mining onsite, and such material has a potential for gas generation. As such, a moderate risk rating has been assigned, and further assessment may be required.

Should evidence of workings or deep fill be proven via further intrusive works, it is strongly recommended that a detailed gas risk assessment is undertaken in accordance with relevant guidance. The risk assessment should take into consideration the current site conditions, and should be subject to reassessment after the formulation and/or completion of any remedial measures and proposed foundation solution. These documents should be prepared by a suitably experienced and qualified specialist.

3.4 Risks Posed by Mine Shafts

The Consultants Mining Report makes reference to one adit within close proximity to the site (ref: 419413-011); assumed to be located 6m north of the access road section of the site, angled southeast, towards the access road. Considering that the construction onsite will be carried out in the main northern section of the site, and that the adit is >50m away from this section and is not facing it, a low risk has been assigned to this adit.

No vertical mine shafts have been recorded or identified within close proximity of the site.

4. Conclusions

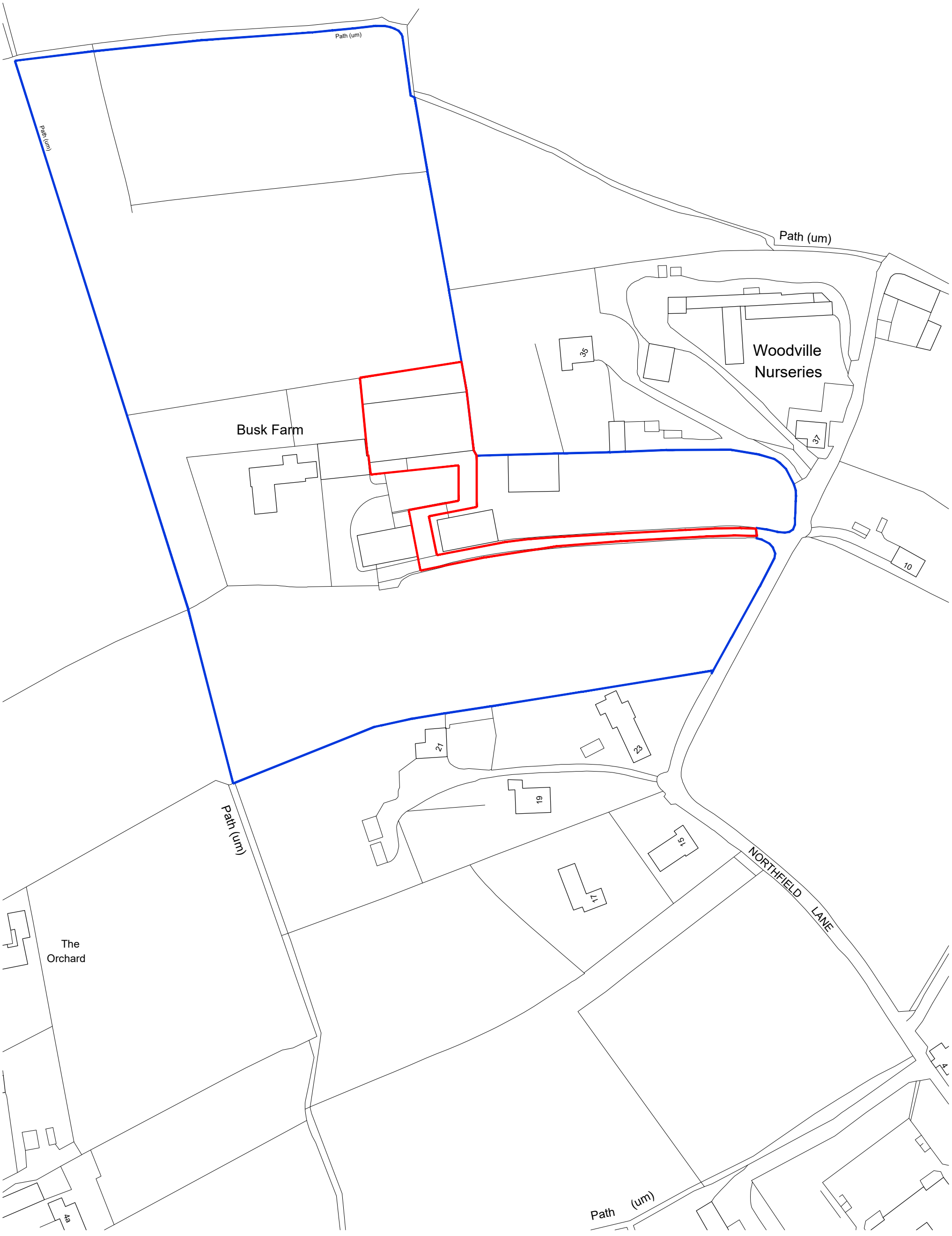
In light of the potential risks of instability at the site from the working of shallow coal, it cannot be recommended that development takes place without further investigation to conclusively determine the presence of such workings. This work should include physical drilling methods to explore the ground conditions.

General practice is to undertake rotary openhole boreholes at three locations across the site to mitigate against the potential for drilling through intact columns associated with pillar and stall workings, although given the size of the development, it may be possible to complete two boreholes if sufficient information is obtained. Furthermore, it is normal to investigate the ground to 30m below ground level; any workings below this depth are unlikely to result in significant instability. However, in this case, the risk of instability is due to very shallow workings, therefore, drilling to these depths may not be necessary and the objective should be to ensure that the shallow seams are un-worked or have sufficient competent cover i.e. target the Black Bed Coal. Indeed, it isn't considered necessary to target the Better Bed Coal. It may therefore be possible, in the first instance, to undertake one borehole to say 20m below the top of the rockhead, with any remaining boreholes proving the depth and continuity of the coal seam(s). In any event, it is considered that approval should be sought with the Local Authority as to the efficacy of this approach.

It is of note that Rogers Geotechnical Services would be happy to assist in any further intrusive investigation that may be required.

Appendix 1

Site Plan



Drawings based on Ordnance Survey (Streetwise License No 100047474)

0 10 20 30 40 50 60m

Scale 1:1250

Architecture and Design,
The Studio, Coal Pit Lane, Brighouse
HD6 4HW T: 01484 717115
info@jg-d.co.uk www.jg-d.co.uk

Project	Proposed replacement building at Busk Farm, Northfield Lane, Kirkburton
Client	Mr R Andrews, Busk Farm, Northfield Lane, Kirkburton HD8 0QT
Dwg Title	(25432)1_Location Plan
Scale	1: 1250 @ A3
Date	October 2023

Appendix 2

Coal Authority Report

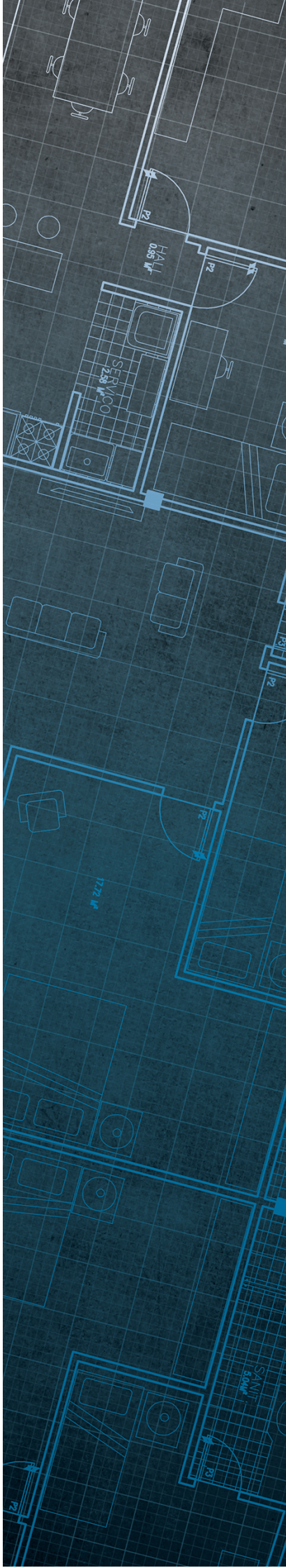
The Coal Authority

Consultants

Coal Mining Report

Northfield Lane
Highburton
Huddersfield
Kirklees
HD8 0QT

Date of enquiry:	**30 March 2023**
Date enquiry received:	**30 March 2023**
Issue date:	**30 March 2023**
Our reference:	**51003347141005**
Your reference:	**C/3473/23/E/5263**



Consultants

Coal Mining Report

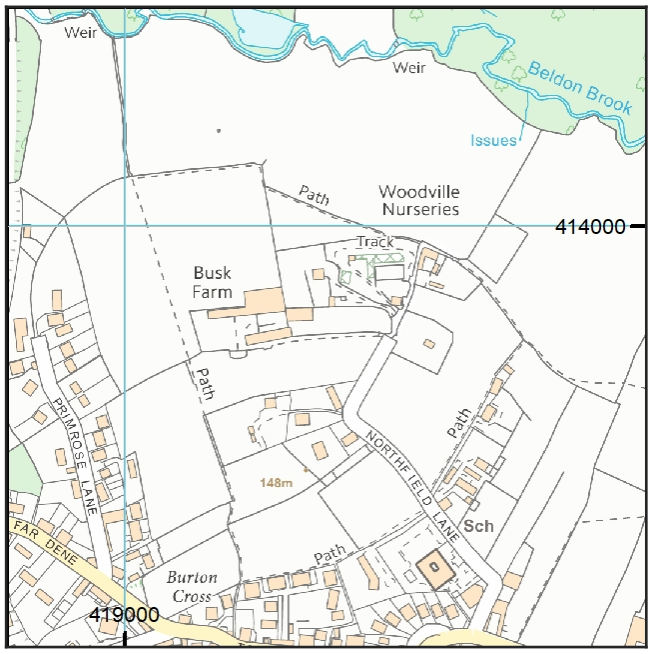
This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

ROGERS GEOTECHNICAL SERVICES LTD

Enquiry address

Northfield Lane
Highburton
Huddersfield
Kirklees
HD8 0QT



Approximate position of property

How to contact us

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Mansfield
Nottinghamshire
NG18 4RG

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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	6G9R	7	Beneath Property	0.4	East	43	1926
unnamed	BETTER BED	Coal	6G9W	43	Beneath Property	0.4	South-East	147	1926

Probable unrecorded shallow workings

Yes.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Adit	419413-011	419234 413896		Coal	

Abandoned mine plan catalogue numbers

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

13399	8338	

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
BLACK BED	Coal	Yes	Within	N/A	62
BLACK BED	Coal	Yes	Within	N/A	90

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
None recorded within 50 metres of the enquiry boundary.

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

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

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

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

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

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

Section 3 – Licensing and future mining activity

Future underground mining
None recorded.

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

Court orders
None recorded.

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

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

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

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

Section 4 – Further information

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.

Section 5 – Data definitions

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

Past underground coal mining

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

Probable unrecorded shallow workings

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

Spine roadways at shallow depth

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

Mine entries

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

Abandoned mine plan catalogue numbers

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

Outcrops

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

Geological faults, fissures and breaklines

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

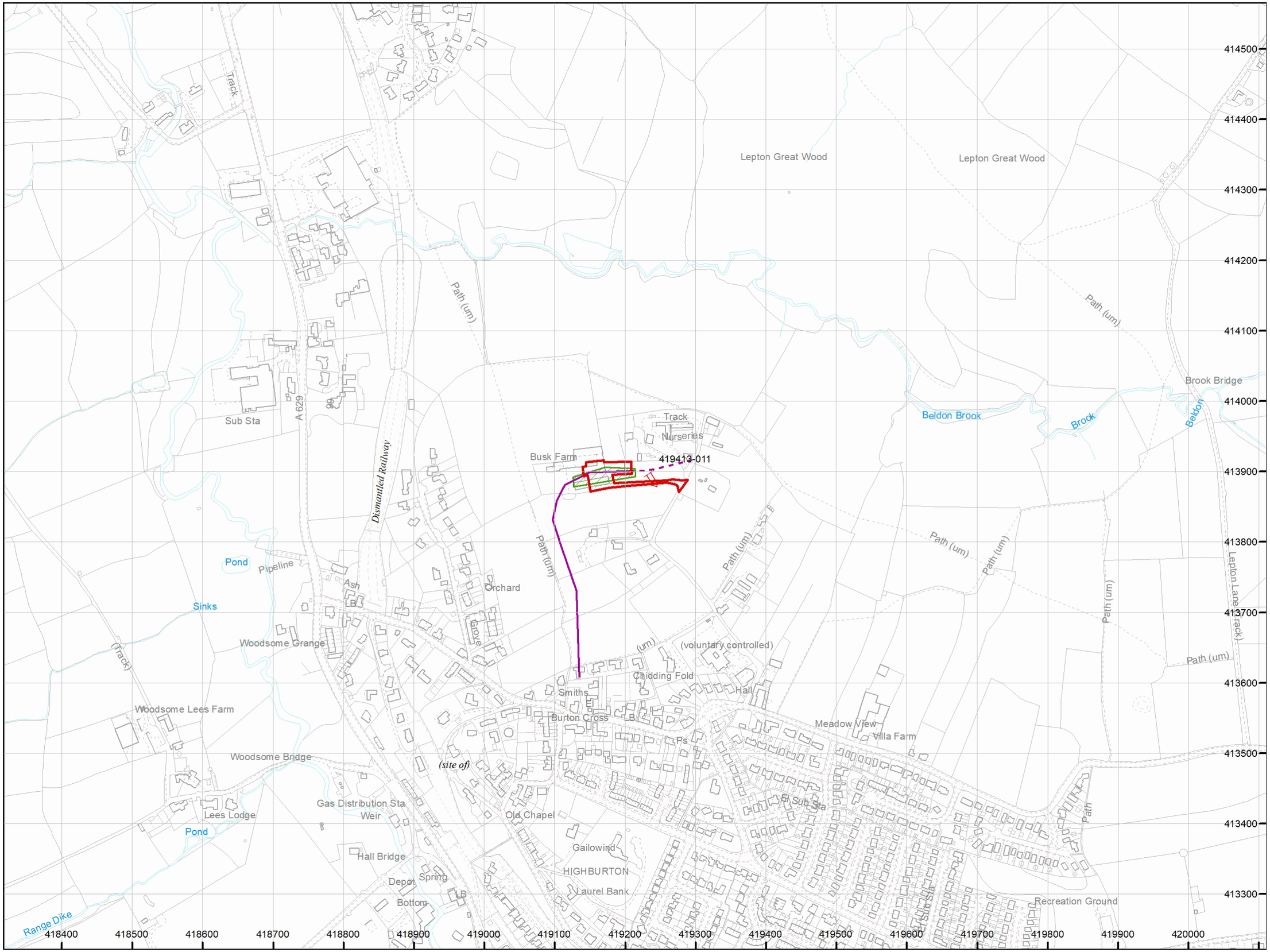
The Coal Authority

Summary of findings

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
- Disused adit
- Outcrop (Proven)
- Outcrop (Conjectured)
- Unlicensed opencast site



How to contact us
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Appendix 3

BGS Borehole Records

HOLST & CO. LTD.

SITE INVESTIGATION DEPT

PARKSIDE LANE

LEEDS LSII5SX.

SE 11 SE 17
1932 1369

Contract No. F2556 **Borehole No.** 1

Location High Burton:- 5 - 10 School **Ground Level**

Client WEST RIDING COUNTY ARCHITECT **Date** 5.6.73

BOREHOLE LOG

STRATA	Legend	Depth below Ground Level	Thickness of Strata	Type of Sample	c lb/in²	ϕ deg	m.c %	γ lb/cu. ft.	N
TOPSOIL		0'6"	0'6"	1'6"					
Brown sandy CLAY		3'0"	2'6"	□	14.2	0	21.3	124	
Highly weathered highly to moderately fractured light brown to grey laminated silty SANDSTONE		18'6"	15'6"						
Moderately weathered pale grey brown silty MUDSTONE		20'6"	2'0"						
CAVITY (Old workings)		22'6"	2'0"						
Loose poor recovery disturbed MUDSTONE and coal.		26'0"	3'6"						
Pale grey MUDSTONE SEATEARTH		27'0"	1'0"						
Slightly weathered slightly fractured pale grey SILTSTONE		29'0"	2'0"						
Slightly weathered highly fractured pale grey laminated silty MUDSTONE		49'0"	20'0"						

Water Struck at None Encountered **Maximum Observed Water Level**

Undisturbed Sample ::
Disturbed Sample o
Water Sample Δ
Penetration Test I

c = Cohesion
ϕ = Angle of Internal Friction
m.c = Moisture Content
γ = Bulk Density
N = Standard Penetration Value

Water levels are subject to seasonal or tidal variation and should not be taken as constant

HOLST & CO. LTD.

SITE INVESTIGATION DEPT

PARKSIDE LANE

LEEDS LS11 5SX.

SE 11 SE 18
1929 1366

Contract No. F2556 **Borehole No.** 2

Location High Burton - 5 - 10 School **Ground Level**

Client WEST RIDING COUNTY ARCHITECT **Date** 4.6.73

BOREHOLE LOG

STRATA	Legend	Depth below Ground Level	Thickness of Strata	Type of Sample	c lb/in²	ø deg	m.c %	y lb/cu. ft.	N
TOPSOIL		0'9"	0'9"	1'6"					
Brown sandy CLAY		4'0"	3'3"		21.0	0	20.9	130	
Moderately weathered light brown/grey fine silty laminated SANDSTONE		13'0"	9'0"						
Moderately weathered pale grey sandy micaceous SILTSTONE		19'0"	6'0"						
Slightly weathered highly factured pale grey laminated silty MUDSTONE		25'0"	6'0"						
COAL		26'10"	1'10"						
Pale grey silty MUDSTONE SEATEARTH		27'0"	0'2"						
Pale grey SILTSTONE		29'0"	2'0"						
Slightly weathered grey moderately to highly fractured silty MUDSTONE		40'0"	11'0"						

Water Struck at None Encountered **Maximum Observed Water Level**

Undisturbed Sample ::
Disturbed Sample o
Water Sample ▲
Penetration Test I

c = Cohesion
ø = Angle of Internal Friction
m.c = Moisture Content
y = Bulk Density
N = Standard Penetration Value

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HOLST & CO. LTD.

SITE INVESTIGATION DEPT

PARKSIDE LANE

LEEDS LS11 5SX.

SE 11 SE 19
1933 1365

Contract No. F2556.. **Borehole No.** 3

Location High Burton :- 5 - 10 School **Ground Level**

Client WEST RIDING COUNTY ARCHITECT **Date** 4.6.73

BOREHOLE LOG

STRATA	Legend	Depth below Ground Level	Thickness of Strata	Type of Sample	c lb/in²	ϕ deg	m.c %	γ lb/cu. ft.	N
TOPSOIL		0'9"	0'9"	1'3"					
Brown sandy CLAY		3'0"	2'3"	□	10.6	0	21.2	133	
Highly weathered light brown grey highly fractured laminated sandy SILTSTONE		9'0"	6'0"						
Moderately weathered pale grey fine laminated SANDSTONE		17'0"	8'0"						
Moderately weathered pale grey highly fractured laminated silty MUDSTONE		25'0"	8'0"						
Soft loose disturbed MUDSTONE with coal fragments(old workings)		28'0"	3'0"						
Pale grey laminated SILTSTONE		30'0"	2'0"						
slightly weathered pale grey highly fractured laminated silty MUDSTONE.		51'6"	21'6"						

Water Struck at Seepage from workings. **Maximum Observed Water Level**

Undisturbed Sample ::
Disturbed Sample o
Water Sample ▲
Penetration Test I

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ϕ = Angle of Internal Friction
m.c = Moisture Content
γ = Bulk Density
N = Standard Penetration Value

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HOLST & CO. LTD.

SITE INVESTIGATION DEPT

PARKSIDE LANE

LEEDS LS11 5SX.

SE 11 SE 20

1937 1365

Contract No. F2556 **Borehole No.** 4

Location High Burton: 5-10 School **Ground Level**

Client WEST RIDING COUNTY ARCHITECT **Date** 5.6.73

BOREHOLE LOG

STRATA	Legend	Depth below Ground Level	Thickness of Strata	Type of Sample	c lb/in²	ϕ deg	m.c %	γ lb/cu. ft.	N
TOPSOIL		0'6"	0'6"	1'3"	7.4	0	26.5	115	
Brown sandy CLAY		3'0"	2'6"						
Highly weathered highly fractured sandy micaceous SILTSTONE		7'0"	4'0"						
Highly weathered pale grey fine laminated SANDSTONE with a dark grey shaley mudstone band from 13' - 14'6"		18'0"	11'0"						
Moderately weathered highly fractured grey silty MUDSTONE		24'0"	5'0"						
Soft loose disturbed MUDSTONE with traces of coal (old workings)		28'0"	4'0"						
Pale grey SILTSTONE		30'0"	2'0"						
Slightly weathered grey highly fractured laminated silty MUDSTONE		50'0"	20'0"						

Water Struck at None Encountered **Maximum Observed Water Level**

Undisturbed Sample ::
Disturbed Sample o
Water Sample Δ
Penetration Test I

c = Cohesion
ϕ = Angle of Internal Friction
m.c = Moisture Content
γ = Bulk Density
N = Standard Penetration Value

Water levels are subject to seasonal or tidal variation and should not be taken as constant

HOLST & CO. LTD.

SITE INVESTIGATION DEPT

PARKSIDE LANE

LEEDS LS11 5SX.

SE 11 SE 21
1931 1363

Contract No. F2556 **Borehole No.** 5

Location High Purton: 5-10 School **Ground Level**

Client WEST RIDING COUNTY ARCHITECT **Date** 6.6.73

BOREHOLE LOG

STRATA	Legend	Depth below Ground Level	Thickness of Strata	Type of Sample	c lb/in²	ϕ deg	m.c %	γ lb/cu. ft.	N
TOPSOIL		0'6"	0'6"	1'6" □	7.5	0	28.6	120	
Stiff brown sandy silty CLAY		5'0"	4'6"						
Completely weathered light brown sandy SILTSTONE		8'6"	3'6"						
Moderately weathered grey moderately fractured laminated silty SANDSTONE		15'6"	7'0"						
Slightly weathered pale grey moderately fractured laminated silty MUDSTONE		25'0"	9'6"						
COAL		26'10"	1'10"						
Pale grey MUDSTONE SEATEARTH		27'0"	0'2"						
Pale grey SILTSTONE		29'0"	2'0"						
Slightly weathered grey highly fractured, laminated silty MUDSTONE with occasional fossil plant remains		50'0"	21'0"						

Water Struck at None Encountered **Maximum Observed Water Level**

Undisturbed Sample ::
Disturbed Sample o
Water Sample ▲
Penetration Test I

c = Cohesion
ϕ = Angle of Internal Friction
m.c = Moisture Content
γ = Bulk Density
N = Standard Penetration Value

Water levels are subject to seasonal or tidal variation and should not be taken as constant