

Environmental
Geotechnical
Specialists



COAL MINING RISK ASSESSMENT REPORT

< ENVIRONMENTAL > < GEOTECHNICAL >

job number	date
site address	
written by	checked by
issued by	

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Report on a Coal Mining Risk Assessment

Location: 119 Huddersfield Road
Shelley, Huddersfield, West Yorkshire, HD8 8HF

For: WHp Architecture

Report No. C4679/24/E/7157

Report date: October 2024

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

Tobias Merry MSci (Hons), FGS
Geo-environmental Engineer

Imran Sakoor BEng FGS
Geo-environmental Engineer

1. Introduction

It is understood that 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. This report presents the findings of the study.

2. Geological Desk Study

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

- British Geological Survey (BGS) map sheet¹.
- British Geological Survey *Geology of Britain Viewer*².
- Coal Authority Consultants Coal Mining Report³.
- British Geological Survey *Borehole Records*⁴.

¹ Sources: British Geological Survey (NERC) Map Sheet 86; Glossop Solid and Drift Editions

² Sources: British Geological Survey (NERC) Geology of Britain Viewer [*online resource from www.bgs.ac.uk*]

³ Coal Authority Reference: 51003457144001 dated 17th October 2024.

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	Previous Name(s) ⁶	Description
Superficial Geology	None recorded	-	-
Solid Geology	Pennine Lower Coal Measures Formation – sandstone	Grey measures of Yorkshire and Nottingham	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.

The mapping indicates that the site is underlain by an unnamed sandstone unit of the Pennine Lower Coal Measures Formation.

On the geological map, there are three dip indicators relevant to the site (i.e. within 500m of the site or within the same fault block) which suggests the solid geology beneath the site is sub-horizontal, gently dipping 3-5° to the north-east.

There are two 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 ^{5*}	Outcrop Distance from Site ^{5*}	Anticipated Depth below Site
Whinmoor Coal	0.40m to 0.80m	19.3m SW	Within 10m of the site surface.
Shertcliffe Coal	0.4m – 0.6m	226m NE	Not anticipated to be present below the site

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

On the basis of the generalised vertical section on the geological map, the site is stratigraphically located below the outcrop of the Shertcliffe coal and above Whinmoor coal seam. Therefore, considering the above, as well as the proximity to the outcrop, the Whinmoor coal is anticipated to be present at shallow depth beneath the site.

The 1: 10,000 map indicates that the Whinmoor coal splits into two leaves, with a top leaf of 0.4m – 0.8m thick and a low leaf of 0.2m to 0.4m thickness. A thin unnamed sandstone is present between the two leaves of the Whinmoor coal.

The next seam within the sequence is the Cumberworth Thin coal, which is approximately 12m beneath the lower leaf of the Whinmoor coal, and ranges between 0m and 0.4m in thickness. This is succeeded by the Penistone Green coal which is around a further 55m below and is a maximum of 0.1m thick.

⁵ Sources: British Geological Survey (NERC) Map Sheets SE21SW; Emley Moor; Solid and Drift Edition, and Geology of Britain Viewer [online resource from www.bgs.ac.uk]

⁶ Sources: British Geological Survey (NERC) Lexicon of Named Rock Units [online resource from www.bgs.ac.uk]

In light of the above and taking into account the regional structural geology and the topography of the area, the Whinmoor Coal seam is anticipated to be present at depths of less than 15m below the surface of the site, with the Cumberworth Thin coal being anticipated around 30m below ground level.

2.2 Coal Authority Mines Report

As part of this study a Coal Authority Consultants Coal Mining Report has been obtained. The 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:		
Mining Feature	Yes/No	Comments
Underground Coal Mining	No	No past mining recorded.
Probable Unrecorded Shallow Workings	Yes	-
Spine Roadways at Shallow Depth	No	No spine roadway recorded at shallow depth.
Mine Entries	No	None recorded within 100m of the enquiry boundary.
Abandoned mine plans	Yes	Plans of abandoned mine workings below the site are suggested to be available by the Coal Authority.
Outcrops	Yes	Whinmoor Coal Seam – 19.3m SW – Bearing 300.
Geological Faults	No	No faults, fissures or breaklines recorded.
Opencast Mines	No	None recorded within 500 metres of the enquiry boundary.
Coal Authority Managed Tips	No	None recorded within 500 metres of the enquiry boundary.
Site Investigations	No	None recorded within 50 metres of the enquiry boundary
Remediated Sites	No	None recorded within 50 metres of the enquiry boundary.
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.
Mine Gas	No	None recorded within 500 metres of the enquiry boundary.
Mine Water Treatment Schemes	No	None recorded within 500 metres of the enquiry boundary.
Future underground mining	No	For further information please see section 3 of the Consultant's Coal Mining Report.
Coal mining licensing	No	
Court orders	No	
Section 46 notices	No	
Withdrawal of support notices	No	
Payments to owners of former copyhold land	No	

2.3 Geological Survey Borehole Records

The BGS (NERC) keeps borehole records from across Britain which are available for public viewing through their website⁷. 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. A notable borehole record is included within Appendix 3 however the most pertinent features are summarised below:

Borehole	Approx. Distance from Site	Depth of Borehole (m)	Notable Features
SE21SW49 ⁸	500m NW	154.0	Void – 7.25m (1.0m thick). 'Soft' – 8.1m (0.85m thick). Coal – 8.4m (0.3m thick).

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, SE21SW49 has encountered a 1.0m void at 7.25m depth, with a 0.3m thick coal seam at 8.4m below ground level. Based on the available geological data, it is anticipated that this seam may represent the Whinmoor Coal with workings being present within the top leaf and the lower leaf being proven as intact. No further seams were encountered below this coal to a depth of 154m below ground level.

In view of the above, the borehole suggests that the Whinmoor coal seam is present at shallow depth and is a workable thickness.

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.

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

⁸ Sources: BGS Borehole Scan SE21SW49 online resource from <https://api.bgs.ac.uk/sobi-scans/v1/borehole/scans/items/57135>

Table 5: Development Specific Risk Assessment

Item	Risk attributed to	Feature(s) Considered	Risk Rating
3.1	Shallow coal workings	Whinmoor Coal (W)	High
3.2	Coal workings at depth	The Coal Authority report indicates that the property is not within a surface area that could be affected by past underground mining.	Low
3.3	Mine gas	Shallow coal workings	Moderate

3.1 Risks Posed by Shallow Coal Workings

On the basis of all of the information provided above, it is anticipated that the Whinmoor coal could be present within 10m depth. Given that evidence of mining this seam is present within the nearby BGS borehole, the possibility of workings 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.

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
Whinmoor Coal (W)	0.40m – 0.80m (split as two leaves)	10m	8.80m

Based on the above information, it is considered that there will not be a sufficient thickness of competent overburden above the Whinmoor Coal seam in order to prevent the risk of instability posed by the presence of any illicit workings. Given that the seam is present as two separate leaves, it is possible that if workings are present, these could be of greater thickness than the sum of the individual leaf thicknesses. Therefore, a high risk rating has been placed on this seam, and further investigation is recommended to prove or disprove the presence of illicit mining activity.

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 could be affected by 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. 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. As such, a moderate risk rating has been assigned, and further assessment may be required.

Should evidence of workings 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.

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.

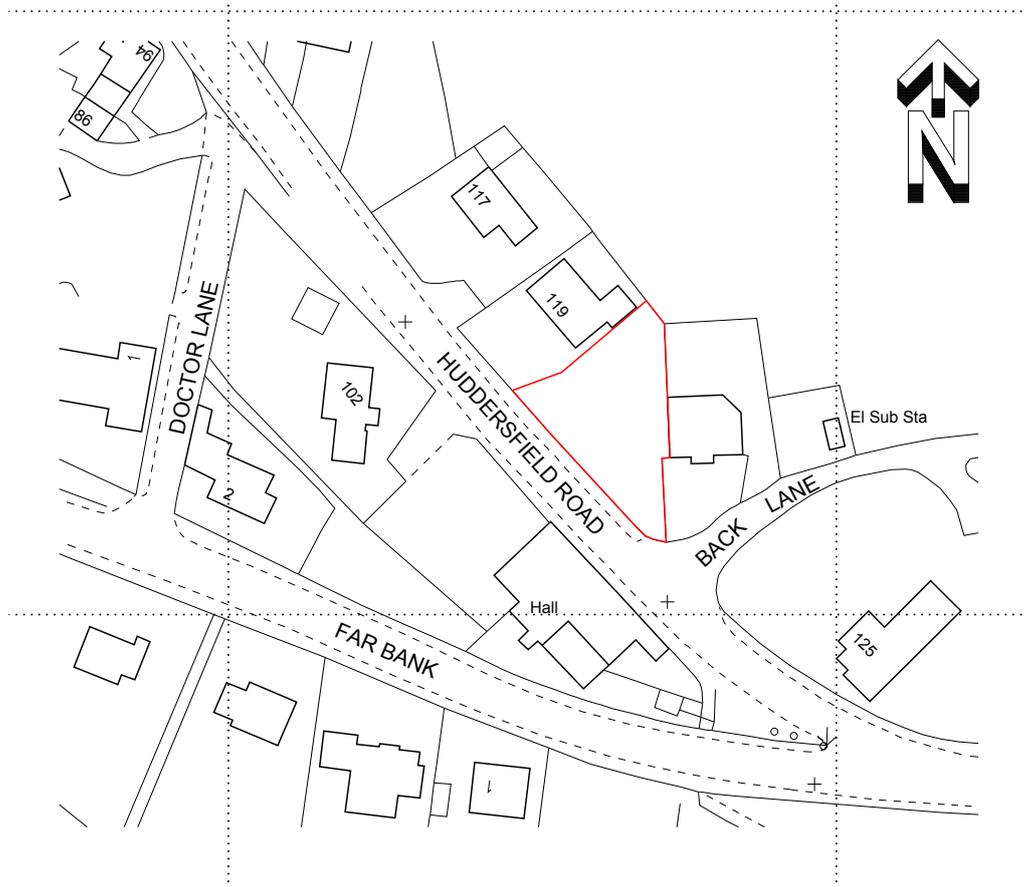
General practice is to undertake rotary openhole boreholes at three locations across the site to mitigate against the potential for drilling through intact columns associated with pillar and stall workings. Furthermore, it is normal to investigate the ground to 30m below ground level; any workings below this depth are unlikely to result in significant instability. However, in this case, the risk of instability is due to 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. It may therefore be possible, in the first instance, to undertake one borehole to 30m below the top of the rockhead, with the 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



CLIENT CLIENT		DRAWING TITLE LOCATION PLAN			
PROJECT 119 HUDDERSFIELD ROAD SHELLEY	JOB NO 3470	DRG NO 10	REV A	SCALE @ A4 1:1000	DATE 31 01 24

Appendix 2

Coal Authority Report



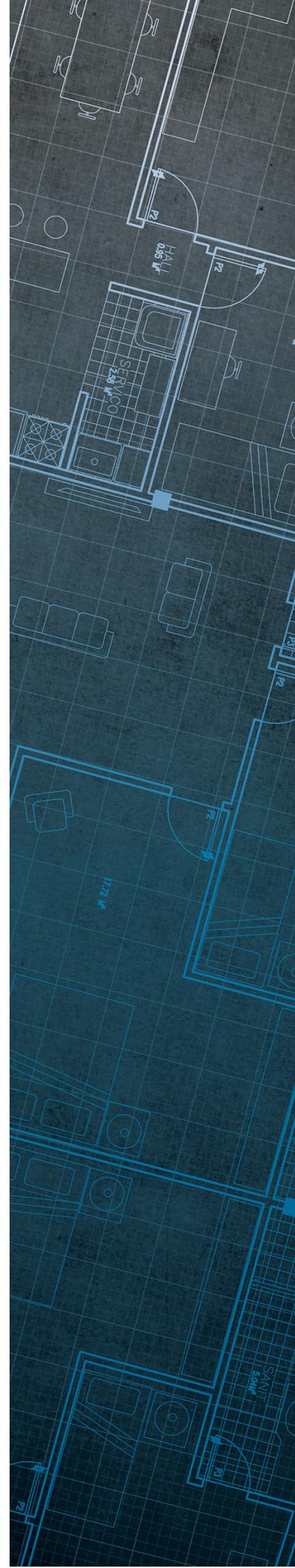
The Coal
Authority

Consultants Coal Mining Report

119 Huddersfield Road
Shelley
Huddersfield
Kirklees
HD8 8HF

Date of enquiry: 17 October 2024
Date enquiry received: 17 October 2024
Issue date: 17 October 2024

Our reference: 51003457144001
Your reference: C/4679/24/E/7157



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

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Shelley
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200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

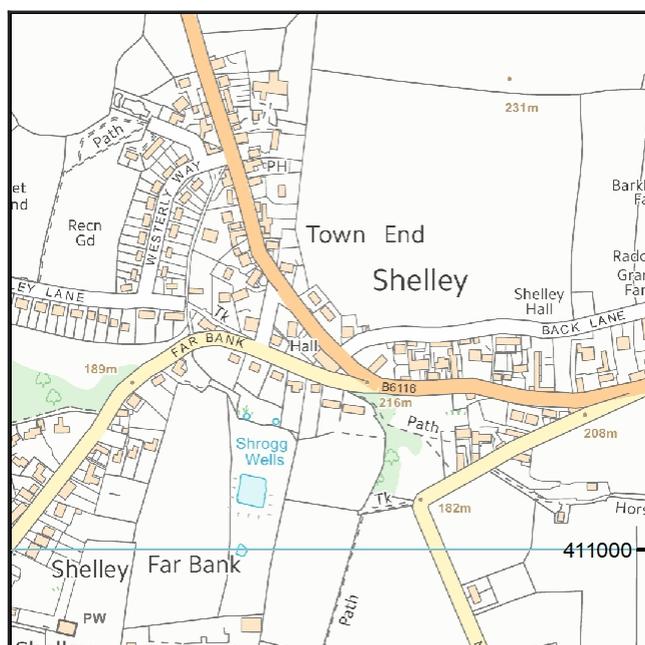
www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

No past mining recorded.

Probable unrecorded shallow workings

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:

GCR293	OM15229	POO
7199		

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
WHINMOOR	Coal	Yes	19.3	South-West	300

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

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

Future development

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

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

Section 5 – Data definitions

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

Past underground coal mining

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

Probable unrecorded shallow workings

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

Spine roadways at shallow depth

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

Mine entries

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

Abandoned mine plan catalogue numbers

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

Outcrops

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

Geological faults, fissures and breaklines

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

Opencast mines

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

Coal Authority managed tips

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

Site investigations

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

Remediated sites

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

Coal mining subsidence

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

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

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

Mine gas

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

Mine water treatment schemes

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

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

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

Future underground mining

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

Coal mining licensing

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

Court orders

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

Section 46 notices

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

Withdrawal of support notices

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

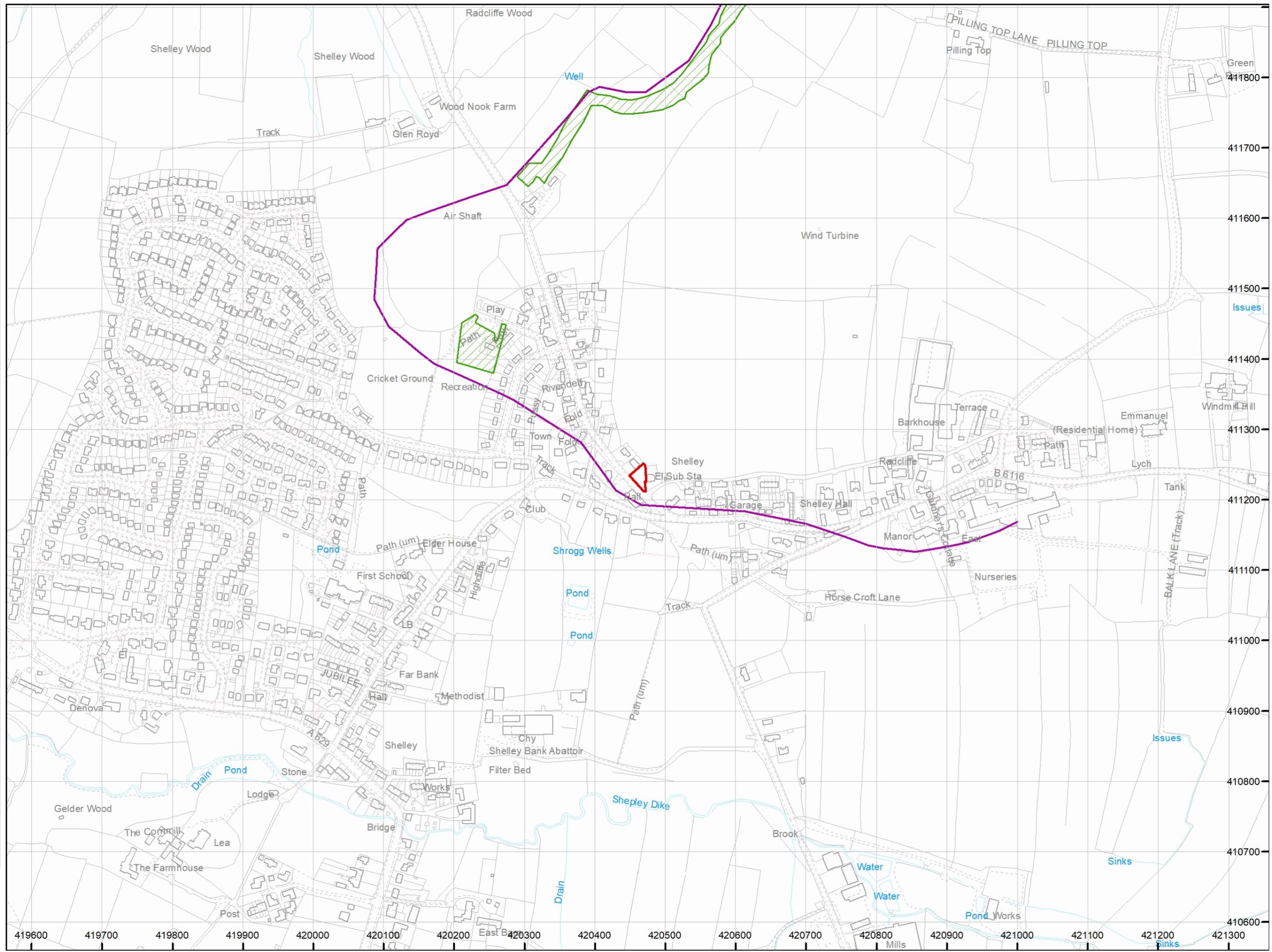
Payment to owners of former copyhold land

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

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

Key

- Approximate position of the enquiry boundary shown 
- Outcrop (Proven) 
- Unlicensed opencast site 



How to contact us
0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com



Appendix 3

BGS Borehole Records



Central
NS
Yorkshire
NRA

MR JERNLEY 419144

For Institute use only Licence No. 86 GLOSSOP.
N

RECORD OF WELL

SE 21/40

At BARK HOUSE FARM
SHELLEY
Town or Village HUDDERSFIELD
County ... YORKS ...

86 SE21SW/49

EXACT SITE
OF WELL

Six-inch National Grid sheet and reference ... NSR ... SE 2088/48

For ... R. S. J. M. E. DEARNLEY

State whether owner, tenant, builder, contractor, consultant, etc.:

Address (if different from above) ... AS ABOVE

*DELETE
AS

Level of ground surface above sea level (O.D.) ft (..... m)

If well top is not at ground level state how far above* below: ft (..... m)

NECESSARY

SHAFT ft (..... m); diameter ft (..... m);

HEADINGS (please attach details—dimensions and directions)

BORE ft (154.00 m); diameter: at top ... 6 ... in (..... mm);

at bottom ... 5 3/4 ... in (..... mm)

Full details of permanent lining tubes (position, length, inner and outer diameters, plain slotted etc.):

9.30 OF PLAIN STEEL PILING (ROUTE) IN

TEST
CONDITIONS

Water struck at depths of ft (37.00 m) below well top

Rest level of water ft (10.29 m) above* below well top. Suction at ft (..... m)

Yield on ... 24 ... hours* test pumping at ... 4.64 ... galls per h.c. (..... l/s) with

depression to ft (120.38 m) below well top. Recovery to rest level in ... 6 ... mins* hours

Capacity of pump ... 640 ... g.p.h. (..... l/s)

Date of measurements ... 28-9-94

NORMAL
CONDITIONS

DESCRIPTION OF PERMANENT PUMPING EQUIPMENT:

Make and/or type ... LOWARA SUB ... Motive power ... ELECTRIC

Capacity ... 650 ... galls (..... m³) per hour. Suction at ft (14.0 m)

below well top. Amount pumped galls (..... m³) per day. Estimated

consumption galls (..... m³) per week

Well made by MALMAC CONSTRUCTION LTD. Date of sinking ... 9-9-94

ADDITIONAL NOTES ANALYSIS (please attach copy if available)

LOG OF
STRATA
OVERLEAF

NODC
ACCESSION
NUMBER
21170

RECEIVED N.G.D.C.
DATE: 28-6-95
SIG: S. Roche

Received from Helmac Construction
Date
Observation well
Recorder
ER log
Site marked on
1" map
6" map—Grid Sheet
(use symbol)
Copy to
Date

INSTITUTE OF GEOLOGICAL SCIENCES
HYDROGEOLOGY UNIT
EXHIBITION ROAD
LONDON SW7 2DE



Central
WS.
Yorkshire
NRA.

MR JERNLEY 919196

RECORD OF WELL

For Institute use only Licence No. N.....

SE21/40

40-1

At BARK HOUSE FARM
SHELLEY
Town or Village HUDDERSFIELD
County W. YORKS.

86 SE21SW49

EXACT SITE
OF WELL

Six-inch National Grid sheet and reference MSB SE 2088/48
For R. S. J. M. E. DEARNLEY

State whether owner, tenant, builder, contractor, consultant, etc.:
Address (if different from above) AS ABOVE

*DELETE
AS
NECESSARY

Level of ground surface above sea level (O.D.) ft (..... m)
If well top is not at ground level state how far above* below: ft (..... m)

SHAFT ft (..... m); diameter ft (..... m);

HEADINGS (please attach details—dimensions and directions)

BORE ft (154.00 m); diameter: at top 6 in (..... mm);
at bottom 5 3/4 in (..... mm)

Full details of permanent lining tubes (position, length, inner and outer diameters, plain slotted etc.):
9.30 OF PLAIN STEEL CASING GROUTED IN

TEST
CONDITIONS

Water struck at depths of ft (137.00 m) below well top

Rest level of water ft (10.29 m) above* below well top. Suction at ft (..... m)

Yield on 24 hours* test pumping at 4.64 galls per h.c. (..... l/s) with
depression to ft (120.38 m) below well top. Recovery to rest level in 6 minutes* hours

Capacity of pump 640 g.p.h. (..... l/s)

Date of measurements 28-9-94

NORMAL
CONDITIONS

DESCRIPTION OF PERMANENT PUMPING EQUIPMENT:

Make and/or type LOWARA SUB Motive power ELECTRIC

Capacity 650 galls (..... m³) per hour. Suction at ft (140 m)

below well top. Amount pumped galls (..... m³) per day. Estimated
consumption galls (..... m³) per week

Well made by MALMAC CONSTRUCTION LTD. Date of sinking 9-9-94

ADDITIONAL NOTES ANALYSIS (please attach copy if available)

LOG OF
STRATA
OVERLEAF

Received from Malmac Construction

Date

Observation well

Recorder

ER log

Site marked on

1" map

6" map—Grid Sheet

(use symbol)

Copy to

Date

INSTITUTE OF GEOLOGICAL SCIENCES
HYDROGEOLOGY UNIT
EXHIBITION ROAD
LONDON SW7 2DE



SE21/40
40-3

MCL

Malmac Construction Ltd

Unit 18C, Nortonthorpe Mills, Scissett, Huddersfield, West Yorkshire HD8 9LA
Tel: 0484 865537

Specialists in bore hole refurbishment, pumping, pressurisation and filtration systems.

TEST PUMPING RECORD

SHEET NO: 1 DATE: 28-9-94
 CLIENT: R.S.A.M.E. DEARLY BORE/WELL NAME BARK HOUSE FARM
 BORE/WELL Ø TOP/BOTTOM 6 INCH TOTAL DEPTH
 STANDING W/L 101.29m TYPE OF WEIR FLOW METER
 TYPE OF PUMP ELECT. SUB. LENGTH MAX Ø
 RISING MAIN LENGTH 14.0m I.D. SIZE FOOT VALVE YES/NO
 PLANT PUMP NO: ALTERNATORkva MAIN SUPPLY YES
Your REF. B771 DATUM 0.30m. A.S.L.

DATE	TIME	Q GPH	WATER LEVEL	METER READINGS	REMARKS
28-9-94	10.00	-	101.27m	02564.30	
	.01		103.81		
	.02		105.05		
	.03		106.11		
	.04		106.97		
	.05		107.78		
	.06		108.54		
	.07		109.20		
	.08		109.81		
	.09		110.40		
	.10		110.96		
	.15		113.13		
	.20		114.61		
	.25		115.63		
	.30		116.26		
	.35		116.70		
	.40		117.07		



RECOVERY

Site Name BARK HOUSE FARM

SE21/40
40-5
Sheet No. 3

Date	Time	t ₀ (min)	Q gph	Q tcmd	Pumped borehole		Obs. 1		Obs. 2		C
					Depth	S	Depth	S	Depth	S	
29-9-94	10.00				120.38						
	.01				117.90						
	.02				115.29						
	.03				112.94						
	.04				110.78						
	.05				108.83						
	.06				107.09						
	.07				105.63						
	.08				104.33						
	.09				103.24						
	.10				102.51						
	.15				101.82						
	.20				101.80						
	.25				101.83						
	.30				101.84						
	.35				101.81						
	.40				101.82						
	.45				101.76						
	11.00				101.73						
	.15				101.70						
	.30				101.67						
	.45				101.60						
	12.00				101.55						
	13.00				101.50						
	14.00				101.42						
	15.00				101.35						
	16.00				101.28						
	17.00				101.26						
	18.00				101.26						
	19.00				101.28						

All depths are in metres.

10,000 gph = 1.093 tcm

REMARKS

YWA/DRP.