

**Environmental
Geotechnical
Specialists**



COAL RISK ASSESSMENT

job number C172/19/E/216	date October 2019
site address Redevelopment of Town Hall Farm & Kexbrough Hall Farm Churchfield Lane, Kexbrough, Barnsley.	
written by C. Mason	checked by S. P. Rogers
issued by C. Mason	

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GEO TECHNICAL
ENVIRONMENTAL



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Report on a Coal Mining Risk Assessment

Location: Redevelopment of Town Hall Farm & Kexbrough Hall Farm
Churchfield Lane, Kexbrough, Barnsley.

For: Mr Robert Mellor and Ms Susan Mellor

Report No. C172/19/E/216

Report date: October 2019

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

Charlotte Mason BSc FGS
Geo-environmental Engineer

Steve Rogers CEng CGeol MICE MCIHT FGS ACIEH
Technical Director

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

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:

¹ Sources: British Geological Survey (NERC) Map Sheet 87 ; Barnsley 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: 51002179597001 dated 11th October 2019

⁴ Sources: British Geological Survey (NERC) Borehole Records [online resource from <http://www.bgs.ac.uk/>]

**Table 1: Geological Data for the Site**

Strata Type	Strata Name ⁵	Previous Name ⁶	Description ³
Artificial ground	Infilled ground	-	Deposit of infilled ground located within the eastern quadrant of the site. Infilled ground is an area where the pre-existing land surface has been excavated (worked ground) and subsequently partially or wholly backfilled (made ground). This deposit is anticipated to be associated with historic opencast workings.
Superficial Geology	None recorded	-	-
Solid Geology	High Moor Rock	-	Commonly fine-grained and false bedded sandstone, locally flaggy, with impersistent bands of sandy mudstone.

On the geological map, there are no dip indicators relevant to the site (i.e. within 500m of the site or within the same fault block). However, taking into consideration the outcrop patterns and the topography of the local area, it can be assumed that the solid geology dips at shallow angles towards the north-east.

There is one coal seam that is shown to outcrop within the local area. This seam is 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*}	Depth below ground level (bgl)
Top High Moor Coal (TH) and Low High Moor Coal (LH)	TH: 0m – 4.3m LH: 0m – 2.6m	150m SW	Within 10m of the site surface. There is potential that this seam could have been removed via opencast mining methods within the eastern section of the site.
Lidget Coal	0.3m – 1.5m	200m S	Around 15m – 20m bgl

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

The High Moor Coals comprise two thinly separated components, Top and Low, often separated by dirt/mudstone partings. The geological map makes reference to both seams being mapped as one unit within the surrounding area. It should be appreciated that the outcrop trajectory of the seam has been offset north east, due to opencast mining, which trends in accordance with the outcrop (see diagram within Appendix 1). As such, it would be rational to assume that the seams are within close stratigraphic proximity, such that it may have been economical to remove both seams during opencast operations.

Furthermore, it should be emphasised that the geological maps make reference to opencast workings within the eastern quadrant of the site, associated with the removal of the High Moor Coal. However, it should be appreciated that the geological map makes reference to a small break in

⁵ Sources: British Geological Survey (NERC) Map Sheets 87; Barnsley; 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]



opencast operations immediately south of the proposed development, before continuing, trending north-west. A review of the freely available historical maps for the local area has been undertaken; no obviously identifiable features were present which would give rise for a break in mining operations.

The Lidget Coal is shown to outcrop south of the High Moor Main Coal Seams, however, the outcrop is discontinuous in nature. As such, it is unclear whether this seam is likely to be present within the stratum profile beneath the site. Nonetheless, taking into consideration the outcrop patterns and topography of the local area, would be expected at a depth within 20m bgl.

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:			
Ref	Mining Feature	Yes/No	Comments
1	Underground Coal Mining	Yes	The Fenton Coal Seam is recorded to have been worked beneath the site at depths ranging between 149m and 155m, has an extraction thickness ranging between 1.83m and 2.2m and was last worked in 1927.
2	Probable Unrecorded Shallow Workings	Yes	No further details given.
3	Spine Roadways at Shallow Depth	No	No spine roadway recorded at shallow depth.
4	Mine Entries	No	None recorded within 100m of the enquiry boundary.
5	Abandoned mine plans	Yes	Plans of abandoned mine workings below the site are suggested to be available by the Coal Authority.
6	Outcrops	No	No outcrops recorded.
7	Geological Faults	No	No faults, fissures or breaklines recorded.
8	Opencast Mines	Yes	Unlicensed opencast mines are recorded to intersect the eastern quadrant of the site. Further opencast sites are present south west of the development site.
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	None recorded.
16	Coal mining licensing	No	None recorded within 200 metres of the enquiry boundary.
17	Court orders	No	None recorded.
18	Section 46 notices	No	No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.
19	Withdrawal of support notices	No	The property is in an area where notices to withdraw support were given in 1974 and 1986. 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.
20	Payments to owners of former copyhold land	No	The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

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 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.

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
SE30NW401	300m E	19m	Top High Moor Coal recorded at 8.6m bgl measures 0.5m in thickness. Underlain by mudstone and black shale. Low High Moor Coal recorded at 17m bgl measures 0.6m in thickness.
SE30NW402	280m E	15m	Top High Moor Coal recorded at 8.6m bgl measures 0.5m in thickness.
SE30NW403	290m E	19m	Top High Moor Coal recorded at 8.3m bgl measures 0.5m in thickness. Underlain by mudstone and black shale. Low High Moor Coal recorded at 17m bgl measures 0.7m in thickness
SE30NW404	290m E	15m	Top High Moor Coal recorded at 8.9m bgl measures 0.5m in thickness. Underlain by mudstone and black shale.
SE30NW405	290m E	19m	Top High Moor Coal recorded at 8.5m bgl measures 0.5m in thickness. Underlain by mudstone and black shale. Low High Moor Coal recorded at 17m bgl measures 0.7m in thickness
SE30NW406	290m E	19m	Top High Moor Coal recorded at 8m bgl measures 0.5m in thickness. Underlain by mudstone and black shale. Low High Moor Coal recorded at 17m bgl measures 0.7m in thickness.
SE30NW407	290m E	19m	Top High Moor Coal recorded at 8m bgl measures 0.5m in thickness. Underlain by mudstone and black shale. Low High Moor Coal recorded at 17.8m bgl measures 0.6m in thickness.
SE30NW408	280m E	15m	Top High Moor Coal recorded at 8.5m bgl measures 0.5m in thickness. Underlain by mudstone and black shale.
SE30NW409	290m E	19m	Top High Moor Coal recorded at 8.8m bgl measures 0.5m in thickness. Underlain by mudstone and black shale. Low High Moor Coal recorded at 18m bgl measures 0.6m in thickness.
SE30NW410	290m E	19m	Top High Moor Coal recorded at 8.5m bgl measures 0.5m in thickness. Underlain by mudstone and black shale. Low High Moor Coal recorded at 17.5m bgl measures 0.6m in thickness.
SE20NE62	260m NW	23m	Top High Moor Coal recorded at 13.5 bgl measures 0.77m in thickness. Underlain by mudstone and black shale. Low High Moor Coal recorded at 21m bgl measures 0.6m in thickness.



SE20NE57

400m NW

21m

Low High Moor Coal recorded at 20m bgl measures 0.6m in 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 that the Top and Low High Moor Coal are present within the stratum profile in the local area. The Top High Moor Coal appears to range in thickness between 0.5m and 0.77m, and is separated from the lower leaf by mudstone and shales, ranging in thickness between 8m and 10m. The Low High Moor Coal appears to range in thickness between 0.6m and 0.7m. The boreholes make no reference to brecciated, broken or worked ground associated with these seams. No reference is made to the deeper Lidget Coal Seam within the profile.

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 of Instability	Coal Seam(s) Considered	Risk Rating
1	Shallow coal seams	Top High Moor Coal (TH)	Moderate
		Low High Moor Coal (TH)	Moderate
		Lidget Coal	Low to Moderate
2	Coal workings at depth	The Fenton Coal Seam is recorded to have been worked beneath the site at depths ranging between 149m and 155m, has an extraction thickness ranging between 1.83m and 2.2m and was last worked in 1927.	Low

On the basis of all of the information provided above, two coal seams are anticipated to be present within 30m of the surface at the site. Whilst these seams may be of limited thickness, the possibility of these seams 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.

In light of the above, it should be further emphasised that this study has highlighted the presence of opencast mine workings within the most eastern quadrant of the development site. Within this area, the Top and Low High Moor seams are not anticipated to be present, as it is assumed that they will



have been removed by unlicensed mining operations. It is likely that a foundation solution may need to cater to span significant thicknesses of poor quality fill; an intrusive site investigation will be required to validate this assumption. Furthermore, it is recommended that careful inspections take place during the development. Should any evidence for day-holes, bell pits or open-cast workings become apparent that give rise to stability concerns, works should be halted and the advice of geotechnical specialists sought.

Nonetheless, the Top and Low High Main Coal are anticipated at relatively shallow depths beneath the remainder of the site. 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.
Top High Moor Coal (TH)	0m – 4.3m	Within 10m bgl	47.3m
Low High Moor Coal (TH)	0m – 2.6m	Within 10m bgl	28.6m
Lidget Coal	0.3m – 1.5m	Within 20m bgl	16.5m

Based on the above information, it is considered that there may not be a sufficient thickness of competent overburden above these seams in order to prevent the risk of instability posed by the presence of any illicit workings. However, it should be appreciated that the Lidget Coal is anticipated to be discontinuous in nature, and therefore may not be present within the stratum profile beneath the site. Nonetheless, a moderate risk rating has been placed on these seams, and further investigation is recommended to prove or disprove the presence of illicit mining activity.

In regard to deeper mining which could affect the site, the development is within a surface area that could be affected by past deep underground mining. However, when taking into consideration the depths of these workings, and the time passed since mining operations ceased, it is considered that there is a low potential for surface subsidence associated with movement within these mine workings to occur.

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. At the time of writing this report, the final layout of the development had not been finalised. Future ground investigation should provide sufficient data in order to construct an appropriate and reliable ground model.

General practice is to undertake rotary openhole boreholes at a minimum of three locations across the site to mitigate against the potential for drilling through intact columns associated with pillar and stall workings. Given the size of the development and anticipated geology, it is suggested that



additional boreholes would be necessary (assume six); final development plans should be reviewed prior to undertaking the ground investigation.

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 seams. 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



Image 01



Image 02



Image 03



Image 04



Image 05



Image 06



Image 07



Image 08



Image 09



Image 10



Image 11



Image 12



Image 13



Site plan - with google earth underneath
Scale 1:500



Image 14

Image No - Position, View into/looking at

Image 01 - Corner of large south barn, looking at Kexbrough hall farm

Image 02 - Large south barn, looking towards principle site entrance

Image 03 - South field, looking into southern opening in large south barn

Image 04 - Inside large south barn, looking out south opening

Image 05 - Corner of large east barn, looking at middle barn

Image 06 - Corner of middle barn, looking towards principle site entrance

Image 07 - Same position as image 06, looking at large east barn

Image 08 - Corner of large east barn, looking back at middle barn

Image 09 - Same position as image 08, looking into small courtyard

Image 10 - Opposite view of image 09

Image 11 - South garden, looking up at west farm house

Image 12 - Same position as image 11

Image 13 - Site entrance, looking east towards entrance of Town farm

Image 14 - Same position as image 13, looking west

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P01	Drawing originated	12.04.19	BM	NG
rev.	description	date	drawn	approved



project **Redevelopment of Town Farm & Kexbrough Hall Farm**
at
Kexbrough Farms, Churchfield Lane, Kexbrough, Barnsley, S75 5DU
for
Robert & Susan Mellor

title **Photograph survey of Kexbrough Farm 02**
number **19001D-04-P01**
scale **1:500**
size **A1**

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Image 01



Image 02



Image 03



Image 04



Image 05



Image 06



Image 07



Image 08



Image 09



Image 10



Image 11



Image 12



Image 13



Image 14



Image 15



Site plan
Scale 1:500



Image No - Position, View into/looking at

Image 01 - Middle of small courtyard, looking at south barn

Image 02 - Same position as image 01, looking at west house

Image 03 - Same position as image 01, looking at second entrance

Image 04 - Same position as image 01, looking at north barn

Image 05 - Same position as image 01, looking at north barn and entrance

Image 06 - Same position as image 01, looking at middle barn

Image 07 - Same position as image 01, looking into small lean to

Image 08 - Inside Grade II listed barn, Internal trusses

Image 09 - South courtyard, looking north at south barn

Image 10 - Inside of south lean to, looking over south field

Image 11 - Inside Grade II listed barn, Internal trusses

Image 12 - Same position as image 09, looking over south field/ south east

Image 13 - Same position as image 09, looking over south field/ south east

Image 14 - Same position as image 09, looking back upto west farm house

Image 15 - Same position as image 09, looking back at south barn

Image 16 - Same position as image 09, looking east at large south barn



Image 15



Image 16

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project
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Kexbrough Hall Farm
at
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Kexbrough, Barnsley, S75 5DU
for
Robert & Susan Mellor

title
Photograph survey of Kexbrough Farm
number
19001D-03-P01
scale
1:500
size
A1

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Image No - Position, View into/looking at

Image 01 - Middle of courtyard looking at the rear of No 165

Image 02 - Same position as image 01, looking back at site entrance

Image 03 - Same position as image 01, view into courtyard & barns

Image 04 - Same position as image 01, looking at south agricultural barn

Image 05 - View from west field looking at south barn

Image 06 - Same position as image 05, view over south field

Image 07 - Within courtyard, looking at north barn

Image 08 - Within courtyard, looking at middle barn

Image 09 - Corner of eastern barn, overlooking south field

Image 10 - Same position as image 09, view over south field

Image 11 - Within smaller courtyard, looking at north east barn

Image 12 - Same position as image 11, looking at east barn

Image 13 - Inside of north barn

Image 14 - At site entrance, looking at front of No 165

Image 15 - Same position as image 14, looking west from entrance

Image 16 - Same position as image 14, looking east from entrance

Image 17 - Same position as image 14, looking back at north barn

Image 18 - Same position as image 14, looking back into site from entrance

Image 19 - T Junction of Churchfield Close, looking at site entrance

Image 20 - Same position as image 19, looking east

Site plan - with google earth underneath
Scale 1:500



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for
Robert & Susan Mellor

title **Photograph survey of Town Farm**
number **19001D-02-P01**
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size **A1**

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House nr	approx. area (m ²)	garage (m ²)	build
1	197 m ²	18 m ²	new
2	145 m ²	no garage	new
3	145 m ²	no garage	new
4	183 m ²	18 m ²	new
5	215 m ²	18 m ²	new
6	250 m ²	18 m ²	new
7	196 m ²	18 m ²	new
8	186 m ²	18 m ²	new
9	308 m ²	36 m ²	new
10	348 m ²	36 m ²	new
11	219 m ²	18 m ²	new
12	231 m ²	36 m ²	new
1	132 m ²	no garage	conversion
2	120 m ²	no garage	conversion
3	120 m ²	no garage	conversion
4	200 m ²	no garage	conversion
5	200 m ²	no garage	conversion
6	126 m ²	no garage	conversion
7	150 m ²	no garage	new
8	150 m ²	no garage	new
9	154 m ²	36 m ²	new
10	154 m ²	no garage	new
11	220 m ²	no garage	new
12	220 m ²	no garage	new
a	180 m ²	no garage	conversion
b	155 m ²	no garage	conversion
c	138 m ²	no garage	conversion

- 3 plot number
- ↓ directions of main outflow
- associated parking spaces/garage

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P02	Drawing updated and scheme developed following meeting with WM Sykes	03.05.19	NG	NG
P01	Drawing original	17.04.19	BM	NG
rev.	description	date	drawn	approved



project **Redevelopment of Town Farm & Kexbrough Hall Farm**
at **Kexbrough Farms, Churchfield Lane, Kexbrough, Barnsley, S75 5DU**
for **Robert & Susan Mellor**

title **site layout - as proposed**
number **19001D-01-P02**
scale **1:500**
size **A1**

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Appendix 2

Coal Authority Report

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 

Unlicensed opencast site 



How to contact us

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



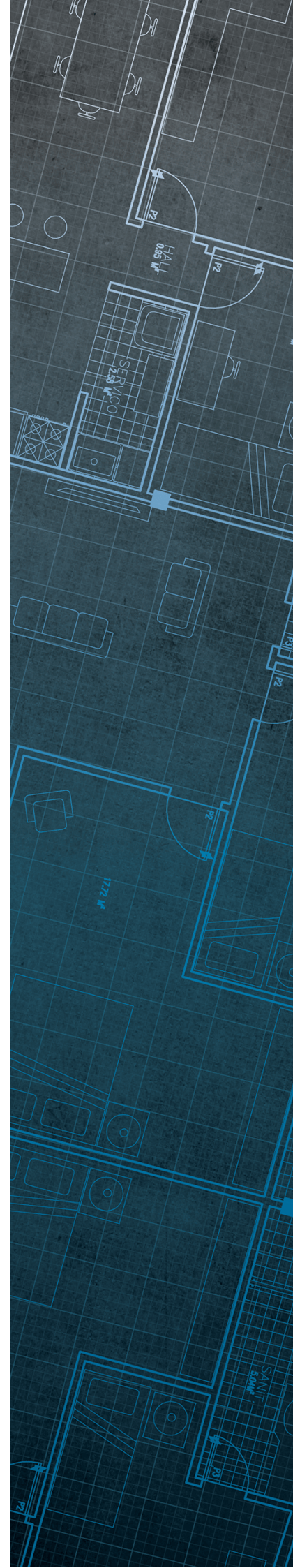
The Coal
Authority

Consultants Coal Mining Report

Kexborough Farms
Churchfield Lane
Kexbrough
Barnsley
S75 5DU

Date of enquiry:	11 October 2019
Date enquiry received:	11 October 2019
Issue date:	11 October 2019

Our reference:	51002179597001
Your reference:	C172/19/E/261



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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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

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
DARTON MAIN	FENTON	Coal	69FD	149	Beneath Property	3.2	North-East	220	1829
DARTON MAIN	FENTON	Coal	6OB3	155	Beneath Property	3.6	North-East	183	1927

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:

NE461	NE23	7750
12487		

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

Outcrops

No outcrops recorded.

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

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

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

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

Site investigations

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 in an area where notices to withdraw support were given in 1974 and 1986.

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.

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.

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Appendix 3

BGS Borehole Records

Robert O. Dyer, Jr.
 Attorney at Law

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Robert O. Dyer, Jr.

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Michael Di Angelo Associates

Project No. 0000000000

Revision No. 00

Project Name: [Blank]

Date: 00/00/00

By: [Blank]

Project No. 0000000000

Revision No. 00

Project Name: [Blank]

Date: 00/00/00

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Revision No. 00

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Revision No. 00

Project Name: [Blank]

Date: 00/00/00

Robert D. Ayres, Secretary
 Secretary, National Board of
 Fire Underwriters

Signature of
 Secretary
 Date: 1911 July 10

Number
 10

Name: J. H. Ayres

Age: 40 years

Address: 1000 Broadway

City: New York

State: New York

Occupation: Secretary

Education: High School

Married: Yes

Children: 2

Religion: Protestant

Political Party: Republican

Other: None

Notes: None

Remarks: None

Signature: Robert D. Ayres

Date: 1911 July 10

Place: New York

State: New York

Country: United States

Other: None

Remarks: None

Signature: Robert D. Ayres

Date: 1911 July 10

Place: New York

State: New York

Country: United States

Other: None

Remarks: None

Signature: Robert D. Ayres

Date: 1911 July 10

Michael D. Aron, Administrator

Secretary: Margaret E. Aron

4100 24th St

San Francisco, CA 94114

Telephone

Number

415 777-1000

1

Office: 1st Floor

Room: 100

Calendar: 1990

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Michael D. Aron, Administrator

July 1990

Robert D. Smith, Secretary
 Secretary, American Legion

OFFICE OF
 SECRETARY

AMERICAN
 LEGION

1900-1901

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Robert D. Smith, Secretary

1900-1901

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LONDON LANE

General Sales, Commission

London, 100, Abchurch Lane

Export, 100, Abchurch Lane, London E.C. 4

General Sales, 100, Abchurch Lane

London, 100, Abchurch Lane

Export, 100, Abchurch Lane

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 Export, 100, Abchurch Lane, London E.C. 4

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1907		1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905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