

G & M Consulting Ltd

- **Contaminated Land Appraisals**
- **Brownfield Remediation Solutions**
- **Site Investigation Services**
- **Earthworks Design and Control**
- **Flood Risk Assessments**

Cape Site Services Ltd
Unit 2
Rear of Castle Buildings
Carlton Road
Carlton
Barnsley
S71 3HX

28th April 2017

Ref C201/02/GS

Dear Simon,

Ref: Shallow Mining Investigation at 331 Higham Common Road, Higham, Barnsley, S75 1PG.

1. Introduction

On the instructions of Weldon Developments Limited, Cape Site Services Ltd have carried out an intrusive mining investigation on land at 331 Higham Common Road, Higham, near Barnsley, South Yorkshire. The work was carried out as a requirement of Condition No 13 of Barnsley MBC Planning Approval 2016/1109. The proposed development comprises two detached bungalows.

A coal mining risk assessment has not been carried out for the site. However the Coal Authority (CA) Interactive Map (<http://mapaps2.bgs.co.uk/coalauthority/home.html>), shows the site to lie within a 'development high risk area'

This investigation work was undertaken to provide information on the underlying ground conditions and assess the likelihood of historical shallow mine workings affecting the site. G&M Consulting Ltd (G&M) was present on site during part of the fieldwork, and this report presents the findings of the investigation.

The site is located on Higham Common Road in the village of Higham, approximately 3km west of Barnsley town centre, South Yorkshire and is centred at National Grid Reference SE 311 071. The site forms part of the former garden to 331 Higham Common Road.

The comments and opinions presented in this report are based on the findings of a review of available information and ground conditions encountered during the intrusive investigation work. There may be other conditions prevailing on the site which have not been disclosed by this investigation and which have not been taken into account by this report. Responsibility cannot be accepted for conditions not revealed by the investigation. Any diagram or opinion of the possible configuration of ground conditions between exploratory holes is conjectural and given for guidance only and confirmation of intermediate ground conditions should be considered if deemed necessary.

2. Geology

Based on a review of the geological map (Sheet No 87 – 1:50,000) the site is shown to be underlain by undifferentiated strata of the Pennine Middle Middle Coal Measures.

- **The Chestnuts**
- **Brackenhill Road, East Lound,**
- **Haxey, Doncaster. DN9 2LR**
- **Registered in England No. 5806528**
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The Top Haig Moor (THM) and Low Haig Moor (LHM) coal seams are shown to outcrop approximately 100m to the west of the site, in the side of the shallow valley towards the M1 motorway. The outcrops are shown paralleled and generally trending from north-west to south-east. The outcrops

Where dips are indicated on the geological map, these are locally shown between 4-7° towards the north east, such that these two seams dip beneath the site and are therefore likely to be present at shallow depth. Based on an assessment of topographical levels, for the site and the level of the crop of the seam, it is anticipated that the THM will be encountered at approximately 10 m below ground level (bgl). The stratigraphical sequence for the area indicates that the LHM coal is located approximately 6 m below the THM. The next seam in the sequence is the Lidget Coal, which is shown approximately 10 m below the LHM.

Based on the stratigraphic column presented on the Sheet 87 geological map the THM varies in thickness between 0 m and 4.3 m and the LHM seam between 0 m and 2.6 m. Where the two seams merge, referred to as the Haigh Moor seam, this seam is shown as between 0.6 m and 2.0 m, in thickness.

According to the geological memoir for the area, the THM coal has been worked locally at crop.

3. Mining Risk Assessment

The site has been subject to a CA mining report, a copy of which is presented in Attachment A of this report. A summary of the findings of this assessment is as follows;

- Records indicate that the site is in the zone of physical influence from workings in 1 seam of coal from 230m to 240m depth last worked in 1880.
- The site is in an area where the CA believe there is coal at or close to the surface. This coal may have been worked at some time in the past.
- The site is not in an area where the CA has plans to grant a licence to remove coal by underground methods.
- There are no recorded former mine entry (shaft) on or within 20m of the site.
- There are no known mining subsidence claims on or near the site.
- The site is unaffected by any past, present or future opencast coal mining
- There are no records of any mine gas emissions requiring action within the site boundary

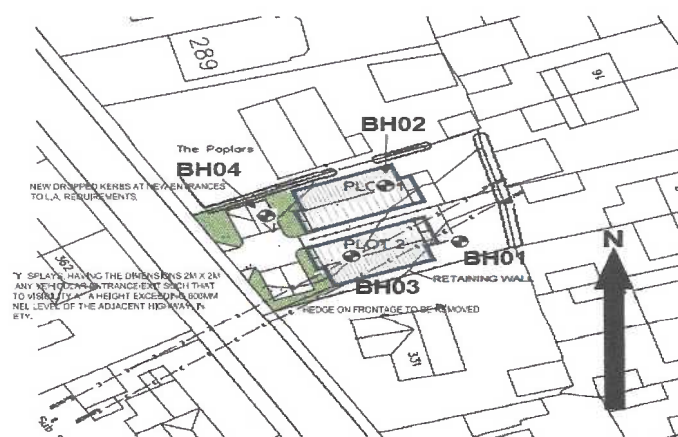
4. Fieldwork

The fieldwork, was carried out on the 10th and 11th March 2017. Four rotary open holes, referenced BH1 to BH4 were drilled to a maximum depth of 23 m below ground level (bgl), to allow logging of the soils and solid strata through examination of flush returns and rate of penetration of the drill bit.

The drilling works were undertaken by Cape using a Beretta T25 tracked rotary drilling rig and carried out under the Terms and Conditions of the Coal Authority Permission No 13951, a copy of which is presented in Attachment B of this report.

Drilling was undertaken using water flush. In accordance with the CA permission, the boreholes were monitored for gases during their advancement. The boreholes were backfilled on completion.

The locations of the exploratory holes are shown below.



5. Ground Conditions

Orange brown clay subsoils were encountered beneath a thin veneer of topsoil in boreholes BH1, BH2 and BH4 to a maximum depth of 2.6 m bgl. In BH3, the thin topsoil was underlain by 'fill/topsoil/clay' (driller's description) to a depth of 1.9 m bgl, which in turn was underlain by the orange brown subsoil to 2.6 m bgl.

The subsoils were immediately underlain in all of the boreholes by a bedrock sequence which comprised mudstones and sandstones to the base of the boreholes. Two coal seams were encountered in this sequence, as detailed below;

Borehole No	Depth to Top of Coal (m bgl)	Thickness (mm)	Depth to Top of Coal (m bgl)	Thickness (mm)
BH1	11.8	1200	19.4	1100
BH2	9.9	1300	17.4	1100
BH3	9.5	1300	17.3	1000
BH4	9.1	1400	16.3	1100

The exploratory hole records are presented in Attachment C of this report.

During the drilling, monitoring of methane, carbon monoxide, hydrogen sulphide and oxygen was undertaken at the borehole head. No significant concentrations of methane, carbon monoxide or hydrogen sulphide were recorded, as detailed on the attached logs. Oxygen concentrations of between 20.1% and 20.4% were recorded during the works.

6. Conclusions/Recommendations

In accordance with the requirements of Condition No 13 of Barnsley MBC Planning Approval 2016/1109, an intrusive mining investigation was carried out, which comprised the drilling of four rotary open hole boreholes on the site. It is understood that the proposed redevelopment of the site is for residential purposes, comprising two bungalow dwellings.

The drilling works were carried out in accordance with the CA permission 13951.

No evidence of soft or voided strata, was noted during the drilling. Slight loss of flush was recorded in all of the boreholes, at various depths, which coincided with the sandstone bedrock. It is considered likely that this loss is as a consequence of fracturing within the sandstone strata. Two seams of intact coal were recorded in each of the boreholes.

Based on the geological maps it is considered likely that the shallowest coal seam encountered is probably the Top Haigh Moor Coal and the deeper of the two seams is probably the Lower Haigh Moor Seam. These two seams are shown to crop to the west, and dip beneath, the site. Based on the evidence of the four boreholes drilled it does not appear that the site is adversely affected by shallow mine workings within the two seams of coal encountered at the locations drilled.

Whilst no mine entries are shown in the area, there is a possibility, although considered to be very low, of a shaft or adit, as the coal is relatively shallow beneath the site. It is therefore recommended that a watching brief is maintained during the development work, and that all natural surfaces exposed during construction of the foundations are examined by a suitably qualified person, for evidence of such entries.

We trust this report and the attachments meet with your approval and are sufficient for your present needs. Your client should submit this document to the local authority for their comment/approval prior to undertaking any development work.

Yours sincerely



Graeme Swinbourne
For and on behalf of **G&M Consulting Ltd**
Attachments

G & M Consulting Ltd

ATTACHMENT A – CA MINING REPORT



The Coal
Authority

Working to manage the impacts of extraction

CON29M Non-Residential Mining Report

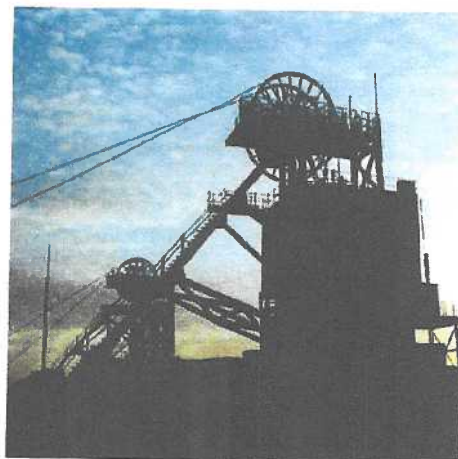
LAND AT
331
HIGHAM COMMON ROAD
HIGHAM
BARNSELY
SOUTH YORKSHIRE
S75 1PG

The Coal Authority
Planning and Development
Leeds, Wetherby

0113 224 916001
0113 224 916001

21 July 2016
21 July 2016
21 July 2016

0113 224 916001
AJH/AP/W1822/i/Weldon



CON29M Non-Residential Mining Report

This report is based on, and limited to, the records held by the Coal Authority and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Client name

HESELTINE BRAY & WELSH SOLICITORS

Enquiry address

LAND AT, 331, HIGHAM COMMON ROAD, HIGHAM,
BARNSELY, SOUTH YORKSHIRE, S75 1PG

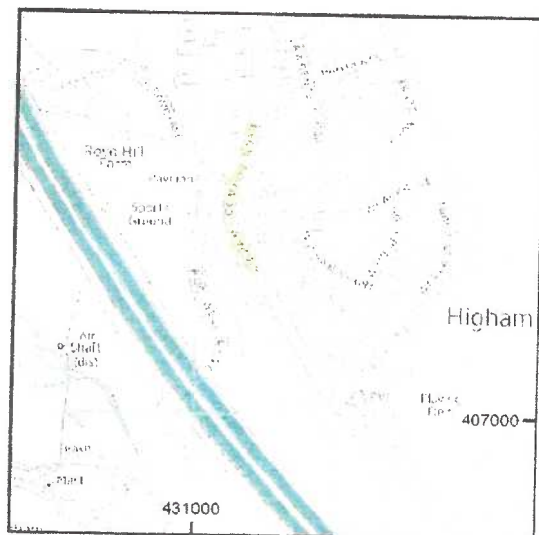
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NG18 4RG

www.gov.uk/coalauthority

- ☐ /company/the-coal-authority
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Approximate position of property



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Summary

Has the search report highlighted evidence or potential of

1	Past underground coal mining	Yes
2	Present underground coal mining	No
3	Future underground coal mining	Yes
4	Mine entries	Yes
5	Coal mining geology	No
6	Past opencast coal mining	No
7	Present opencast coal mining	No
8	Future opencast coal mining	No
9	Coal mining subsidence	No
10	Mine gas	No
11	Hazards related to coal mining	No
12	Withdrawal of support	No
13	Working facilities order	No
14	Payments to owners of former copyhold land	No
15	Information from the Cheshire Brine Subsidence Compensation Board	No

For detailed findings, please go to page 4.

Detailed findings

1. Past underground coal mining

The property is in a surface area that could be affected by underground mining in 1 seam of coal at 230m to 240m depth, and last worked in 1880.

Any movement in the ground due to coal mining activity should have stopped.

In addition the property is in an area where the Coal Authority believe there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered prior to any site works or future development activity. Your attention is drawn to the Comments on the Coal Authority information section of the report.

2. Present underground coal mining

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

3. Future underground coal mining

The property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods.

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

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

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

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

4. Mine entries

There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

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

5. Coal mining geology

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

6. Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7. Present opencast coal mining

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

8. Future opencast coal mining

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

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

9. Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres, 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.

10. Mine gas

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

11. Hazards related to coal mining

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

12. Withdrawal of support

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.

13. Working facilities order

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

14. Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

15. Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

Comments on the Coal Authority information

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

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

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

Additional remarks

Information provided by the Coal Authority in this report is compiled in response to the Law Society's Con29M Coal Mining and Brine Subsidence Claim enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL. Please note that Brine Subsidence Claim enquiries are only relevant for England and Wales. This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority and Cheshire Brine Board's Terms and Conditions applicable at the time the report was produced.

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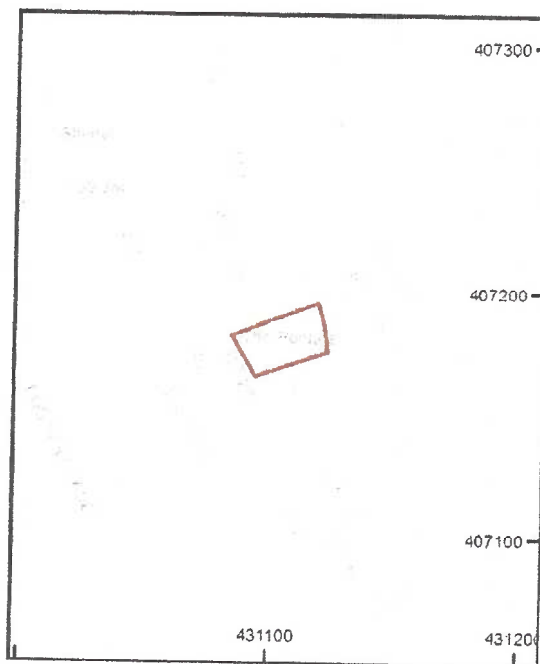
Alternative formats

If you would like this report in an alternative format, please contact our communications team.

Enquiry boundary

Key

Approximate position of enquiry boundary shown



How to contact us

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G & M Consulting Ltd

ATTACHMENT B – COAL AUTHORITY PERMIT



The Coal
Authority

Permit to Enter or Disturb Coal Authority Mining Interests

Permit Reference Number 13951

Name and Address of Permit Holder:

*Weldon Developments
The Arbour
Beech Grove
Barnsley*

Site Location:

*Land adj to
331 Higham Common Road
Barnsley*

This certificate hereby grants the above named Permit Holder a Permit to carry out:-

Investigation by four rotary boreholes to 30m depth or as necessary to ascertain the condition of strata and the potential risk posed to development from former shallow coal mining all within the Authority's mining interests at the identified site location for the period of 12 months from the granted date shown below. The granting of this Permit does not constitute advice given by the Authority in relation to the proposed operations. It is the Applicant's responsibility to obtain appropriate health, safety, environmental, technical and legal advice.

Signed: Leigh Sharpe Granted Date: 30/03/2017

For and on behalf of The Coal Authority

Nominated Representative: Leigh Sharpe, Permitting Manager;

The Coal Authority, Permitting Office, 200 Lichfield Lane, Mansfield, Notts, NG18 4RG

Tel: 01623 637339; E-Mail: permissions@coal.gov.uk

G & M Consulting Ltd

ATTACHMENT C – DRILLING RECORDS

Client: Weldon Developments	Site: Land adj to 331 Higham Common Rd	Cape Site Services Ltd Unit 2, Rear of castle buildings, Carlton Road, Barnsley, South Yorkshire, S71 3HX	
Date: 10/4/17-11/4/17	METHOD Rotary Water Flush		

Measurements In Meters

BH no	FROM	TO	THICKNESS	Description
1	0.0	0.3	0.3	Topsoil
	0.3	2.5	2.2	Clay orange/brown with grey flex
	2.5	4.0	1.5	Mudstone silty grey/brown weathered
	4.0	5.2	1.2	Sandstone grey
	5.2	11.8	6.6	Mudstone silty grey
	11.8	13.0	1.2	Coal
	13.0	14.7	1.7	Mudstone grey
	14.7	19.4	4.7	Sandstone silty grey
	19.4	20.5	1.1	Coal
	20.5	23.0	2.5	Mudstone silty grey
				Cased to 1.5m No gases present Water loss quit a bit at 14.7m
2	0.0	0.3	0.3	Topsoil mixed with ash red brick
	0.3	2.0	1.7	Clay orange/brown with grey flex
	2.0	2.7	0.7	Mudstone grey weathered
	2.7	3.2	0.5	Sandstone orange/brown weathered
	3.2	4.8	1.6	Sandstone grey
	4.8	9.9	5.1	Mudstone grey
	9.9	11.2	1.3	Coal
	11.2	12.9	1.7	Mudstone grey
	12.9	15.8	2.9	Sandstone grey
	15.8	17.4	1.6	Sandstone with some mudstone grey
	17.4	18.5	1.1	Coal
	18.5	21.0	2.5	Mudstone grey
				Cased to 1.4m No gases present small water loss at 12.9m
3	0.0	0.2	0.2	Topsoil
	0.2	1.9	1.7	Fill topsoil clay brown with lumps of grey mudstone
	1.9	2.6	0.7	Clay orange/brown very soft
	2.6	4.5	1.9	Mudstone grey/brown
	4.5	9.5	5.0	Mudstone grey
	9.5	10.8	1.3	Coal
	10.8	12.9	2.1	Mudstone grey
	12.9	14.8	1.9	Sandstone silty grey
	14.8	17.3	2.5	Mudstone silty grey
	17.3	18.3	1.0	Coal
	18.3	21.0	2.7	Mudstone silty grey
				Cased to 2.7m No gases present Small water loss 12.9m

Driller Ian Wiles	Driller's Assistant Neil Gore & Simon Fish
Driller's Signature 	Page1..... of2.....

