Chartered Consulting Engineers

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BY E-MAIL

Mr S Warsop
1/2 Greenland Cottages
High Hoyland Lane
Barnsley
S75 4AZ

Our Ref: WSP/01/OGjc

19th October 2017

Dear Steven

High Hoyland, Barnsley
Coal Mining Stability Risk Assessment

In accordance with our commission, we are pleased to provide an assessment of the stability of the site with regard to coal mining. The site is located to the north of High Hoyland Lane in the village of High Hoyland. The approximate site boundary is shown on the geological sketch and proposed development plans attached. It is proposed to construct a residential dwelling with private garden on this site. The proposed dwelling will be cut into an existing embankment.

Geology

The 1:10,560 scale geological map (Sheet SE20NE, Cawthorne), and the latest British Geological Survey (BGS) electronic data at 1:50,000 scale, which is public sector information licensed under the Open Government Licence v2.0, have been used to assess the geology of the local area. The maps show the solid strata below the site to comprise of Pennine Lower Coal Measures Formation, which comprises undifferentiated sedimentary strata (mudstone, siltstone and minor sandstone), with no drift cover. According to the geological map, the general dip of strata in an adjacent fault block is 5 degrees to the south east. Historical OS plans from 1851 show a sandstone quarry immediately north of the development site which is marked as artificial ground on the BGS geological map. The general area slopes down to the south. The site levels vary significantly across the footprint of the proposed dwelling from 189m AOD to 181.8m AOD in the south.

A fault is indicated approximately 100m to the southeast of the site, trending north east - south west, with the downthrow to the south east. It is unlikely that the proposed location for the development will be affected by this fault.

A coal seam, Flockton Thick Coal, is conjectured to outcrop approximately 50m to the south east of the site (at approx.173m AOD), but curves around to the west finishing up with a north east-south west trend, outcropping approximately 290m north of the site (at approx. 220m AOD). Assessing surrounding geological maps shows that the coal outcrops are exposed around a topographic high, producing a rim like exposure. Calculated dip for the Flockton Thick Coal is expected to be approximately 8m to the southeast. Recorded thickness of the Flockton Thick Coal are between

1 - 1.4m thick. Based off the estimated dip, the location and trend of the outcrop, site topography and the surrounding strata, it is estimated that the coal seam will underlay the site at depths between 2m to 9m.

The Generalised Vertical Section on the geological map indicates that the next shallowest significant seam below the Flockton Thick Coal is the Flockton Thin Coal (0-0.7m thick), which is approximately 20m below the base of the Flockton Thick Coal. At such a depth, the Flockton Thin Coal is not of concern for ground stability at this site.

Flockton Thin Coal is conjectured to outcrop at approximately 300m to the south west of the site, trending north to south.

Coal Mining Stability and Coal Recovery

A Coal Mining Report (attached) was obtained from The Coal Authority. The Report is attached, and states that the property is in a surface area that could be affected by underground mining in two seams of coal at 60m to 190m depth, and last worked in 2012. 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 believes there is coal at or close to the surface. This assertion is supported by the outcrops drawn on the geology maps. This coal may have been worked at some time in the past. The potential presence of at or close to the surface should be considered prior to any site works or future development activity. This comment is concluded to refer to the Flockton Thick Coal, which is likely to be with in 2m to 9m of the surface beneath the site.

The property is not in an area likely to be affected by present underground mining. The property is not in an area likely to be affected from any planned future underground coal mining. The report refers to reserves of coal which exist in the local area which could be worked at some time in the future.

There are no known coal mine entries, within, or within 20m of, the boundary of the property. However, there may be mine entries/additional mine entries in the local area which the Coal Authority has no knowledge of. Historical OS plans from 1893 and 1906 show three mine shafts at 250m NW, 360m W and 400m SW of the site within the same fault block.

The site is not affected by any known past, present, or future proposed, opencast coal mining. There are no known subsidence claims on or near the site.

Assessment of Coal Mining Instability - Conclusions

Engineering standards state a general rule that for development stability and to mitigate the effect of the coal or coal workings, there needs to be at least 10 times the seam thickness of rock cover (overburden) above any seam. On this basis, working within the 1.4m thick Flockton Thick Coal seam, a minimum overburden requirement is 14m. Given the coal seam is estimated to be present at a depth of around 2m to 9m on this site, there is a risk of ground instability on the site. If there were any unrecorded workings on site, they would most likely take the form of pillar and stall cuts or bell pits.
It is, therefore, recommended that a rotary drilling investigation should be carried out to confirm the depth and thickness of the seam beneath the site, and to confirm the presence of any potential workings present. Such borehole investigations are usually carried out following the grant of

planning permission, but before commencement of development. The planning permission will usually include a condition relating to the investigation and possible future treatment of mine workings.

The presence of underground workings is not a significant obstacle to development, and there are economical engineering solutions available, should they be required. ARP provides advice on and designs such treatment solutions on a regular basis. Furthermore based on the anticipated depth of the shallowest coal seam, coal is likely to be encountered within foundation excavations on the site and it may be viable to remove any coal from the site by excavation prior to development. Disposal or on sale of such coal will need to be within Government regulations.

If any suspect features, that may represent coal workings, are uncovered during site clearance or excavations on the site, should be inspected by a Geotechnical Engineer.

We trust the above information is sufficient for your purposes, but if you have any queries, please do not hesitate to contact us, at your convenience.

Yours sincerely
for ARP GEOTECHNICAL LTD

O Gwilym

Encs

Project HIGH HOYLAND, BARNSLEY	Title COAL MINING RISK REPORT	ARP GEOTECHNICAL LTD CHARTERED CONSULTING ENGINEERS	Date OCT 17	Scale AS SHOWN
Client Mr S WORSOP			Drawn @ A4	Job No. WSP/01
			Revision	

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The Coal Authority

Resolving the impacts of mining

CON29M Non-Residential Mining Report

7, GREENLAND
HIGH HOYLAND
BARNSLEY
SOUTH YORKSHIRE

Date of enquiry:	11 September 2017
Date enquiry received:	11 September 2017
Issue date:	11 September 2017
Our reference:	51001616331001
Your reference:	138795854_1 |

CON29M Non-Residential Mining Report

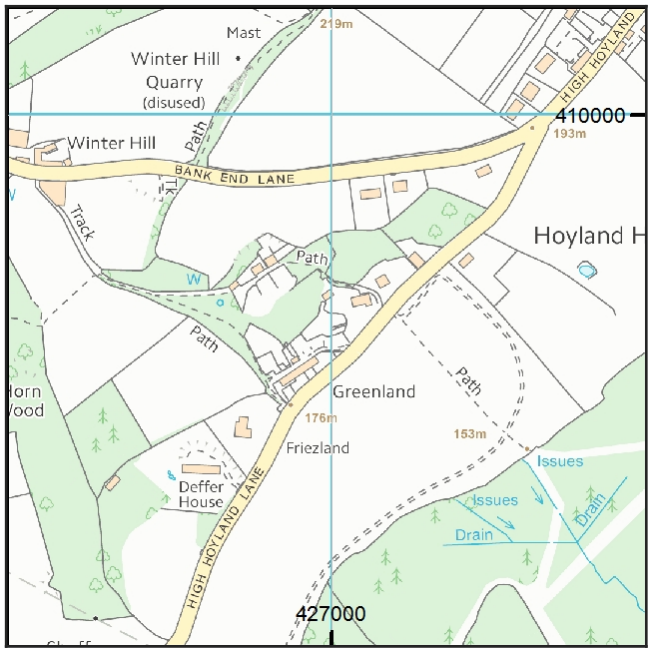
This report is based on, and limited to, the records held by the Coal Authority and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Client name

LANDMARK INFORMATION GROUP LIMITED

Enquiry address

7, GREENLAND, HIGH HOYLAND, BARNSLEY, SOUTH YORKSHIRE



Approximate position of property

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NG18 4RG

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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 2 seams of coal at 60m to 190m depth, and last worked in 2012.

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 in an area where a licence to remove or work coal, using underground methods was granted in July 1995.

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 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.

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.

Disclaimer

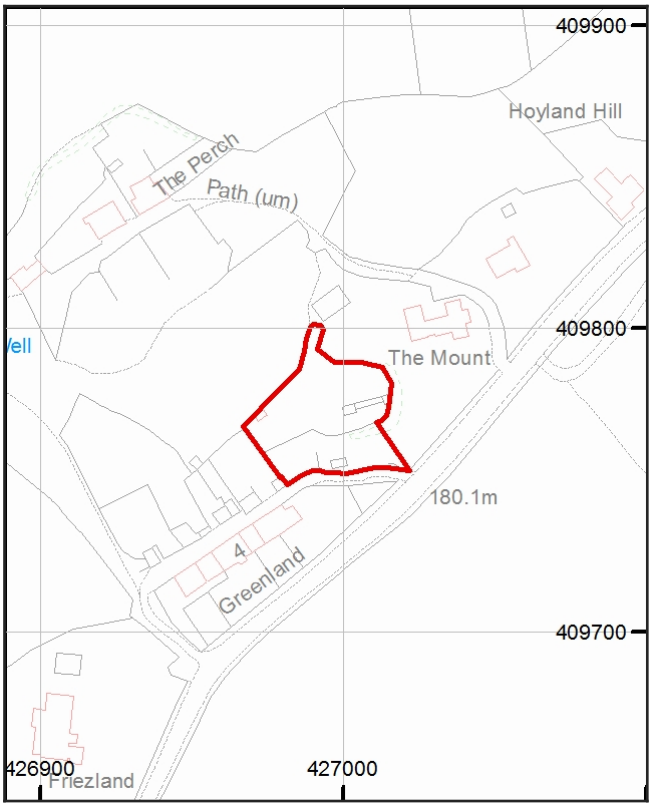
Alternative formats

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

Enquiry boundary

Key

Approximate position of enquiry boundary shown



Map data

How to contact us

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