

Hadfield Developments
Oak Lodge
Redbrook Road
Barnsley
S75 2RS

KRP/AJK/ECM/41572-001

By E-mail Only

25th July 2017

For the attention of Mr W Hadfield

Dear Wayne,

Land at Tower Street, Barnsley
Coal Mining Risk Assessment

We write to provide a risk assessment against the possibility of shallow coal mining affecting the above site. The risk assessment is based on a review and our interpretation of geological maps, memoirs and Ordnance Survey maps, as well as a Coal Authority mining report specific to this site. We have not visited the site.

The Site

The site is located to the south of Tower Street, approximately 1 km south of the centre of Barnsley Town Centre, in South Yorkshire. The site is centred on grid reference 434343, 405269 and has an area of around 0.37 hectares. The site slopes upwards from north to south, with the level in the north being around 157 m AOD, rising to around 164 m AOD in the south.

Currently the site is undeveloped, and comprises an area of grassed scrub land. A number of mature trees are present along the southern boundary. It is proposed to develop the site with residential properties, although we have not seen any confirmed layout at the time of writing.

Historical maps show the site to comprise a field/paddock during the mid to late 1800s. Tower Street was developed north of the site by 1893, extending southwards by 1906 and again by 1931. A number of small outbuildings are indicated on the site by this time, and by 1960, the site is labelled as allotments. No further changes in the site layout are indicated by the maps.

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Geological Review

The geological map for the area, SE 30 NW (1:10,000 scale), shows the site to be underlain by strata of the Middle Coal Measures. The Abdy Rock sandstone is indicated in the north west of the site, with undifferentiated mudstone or shale below the remainder of the site. The strata are indicated to dip towards the south east at an angle of around 8°.

A fault is conjectured to run from north east to south west across the site, with the downthrown side shown to be to the north west. Further faults are indicated in the area to the north, although these should not affect the site.

The Abdy Coal seam is shown to outcrop around 10 m north west of the site, and therefore this is expected to be the shallowest seam of coal beneath the site. The seam can be expected at a depth of around 1.5 m below the north western corner of the site, deepening to around 10 m bgl in the central area. The seam is offset by the conjectured fault, however, and it not expected to be encountered beneath the south eastern half of the site, although the seam outcrops again immediately south east of the site. The Abdy Coal is recorded by the geological map to be between 1.22 m to 1.42 m thick in this area. The seam is described in the geological memoirs for Barnsley as being an “exceedingly pure coal” which has been worked from a number of small collieries in this part of Barnsley. The seam may therefore have been worked in the past, although this particular location may have been of lower interest due to the confined extent of the coal due to the local faulting.

The next seam of coal expected below the site is the Top Beamshaw Coal. This seam is expected to be between 1.2 and 1.84 m thick, and lies around 12 m below the Abdy seam, according to the generalised stratagraphical sequence, and therefore may be between around 11 m and 22 m below the site on both sides of the fault. The Low Beamshaw Coal is also expected to be present a further 6 or 7 m below this, which is recorded as being 0.5 to 0.6 m thick. The geological memoir states that both Beamshaw Coals include much shale, and are of little value in the area around Barnsley Town Centre, meaning that they are unlikely to be worked. Elsewhere, the Low Beamshaw Coal was occasionally worked, more so in the area to the east around Carlton and Royston.

Coal Authority Mining Report

A Coal Authority mining report has been obtained for the site. A copy of this is appended to this letter.

The report states that the property is within a surface area that could be affected by past underground mining in 5 seams of coal at 130 m to 480 m depth and last worked in 1975. The report states that any ground movement associated with these workings should have stopped by now. The report also states that the site is in an area in which the Coal Authority believe there to be coal at shallow depth, which may have undergone unrecorded working in the past. This is likely to refer to the Abdy Coal, but also to the Upper and Lower Beamshaw coals.

There are no recorded mine entries on the site or within 20 m of the boundary. However, The Coal Authority's records may be incomplete and there could exist in the local area mine entries of which the Coal Authority has no knowledge.

The site is not within an area where current workings are being undertaken, or where underground workings are currently proposed to begin in the future. However, coal reserves do exist in this area which could be worked in the future, although this is considered unlikely due to the demise of the UK coal mining industry. Coal has not been removed via opencast methods at this site, and no licenses have been issued for future opencast coal removal.

The property is not in an area where a notice to withdraw support has been given. There are no records of claims for mining related subsidence on the site since October 1994, nor are there any records of any mine gas emissions which have required action by the Coal Authority.

Risk Assessment

Based on information from the geological map, the Abdy Coal is expected to be at shallow depth (less than 10 m) below the north western half of the site, and has an expected seam thickness of between about 1.2 m and 1.4 m. Therefore it is consequently not considered there may be sufficient thickness of competent strata (12 to 14 m) above any possible unrecorded workings. On this basis it is considered that there may be a risk to the proposed development from shallow mine workings, although this risk is generally considered to be low due to the fault lines which run through the surrounding area, which had off-cut the Abdy seam below the site. However, it is considered prudent to undertake a borehole investigation on the site to confirm the depth and thickness of the Abdy seam, and to prove if this remains intact. It would be proposed to boreholes using a rotary drilling rig around the footprint of the proposed dwellings. An appropriate permit would be required from the Coal Authority prior to undertaking any intrusive works.



It would also be prudent to extend a number of the boreholes to also investigate the Top Beamshaw coal, which may also be within influencing depth of foundations, particularly in the north west of the site. Again, workings are considered to be relatively unlikely to be present. The Low Beamshaw Coal is considered to be at a depth where it will not influence surface developments, should workings have been undertaken.

The position of the fault that is indicated to cross the site should also be determined, as there is potential for differential movement to occur along this plane, particularly if mine workings are present. The proposed boreholes could be expected to pick up the fault position at depth, but some trenches/trial pits at surface may also be required. Reinforcement of foundations and superstructure for plots above or close to the line of the fault may also be required.

Conclusion

Based on the information from the geological map and the Coal Authority report, the Abdy coal seam is probably present at less than 10 m depth below the site. Due to the thickness of the seam, it is considered there are not sufficient competent strata above any unrecorded workings, although it is generally considered unlikely that the seam has been worked in the past. It is recommended that an investigation is carried out on site to confirm the location and depth of the Abdy seam, and also of the Low Beamshaw Coal below this. The position of a conjectured fault should also be determined.

If shallow workings are identified, it is likely that drilling and grouting would be required.

We trust that the above is satisfactory, however if you have any comments or queries please do not hesitate to contact us. This risk assessment should be submitted to the regulators for their review.

Yours sincerely

A handwritten signature in black ink, appearing to read 'K R Pursall'.

Kevin R Pursall

Enc. Coal Authority mining report

Copy: Mr M. Cook – Windle Cook Architects (by e-mail)



The Coal
Authority

Resolving the **impacts** of mining

CON29M Non-Residential Mining Report

63, TOWER STREET
BARNSELY
SOUTH YORKSHIRE

Date of enquiry: 13 July 2017
Date enquiry received: 13 July 2017
Issue date: 13 July 2017

Our reference: 51001532840001
Your reference: 132086741_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.

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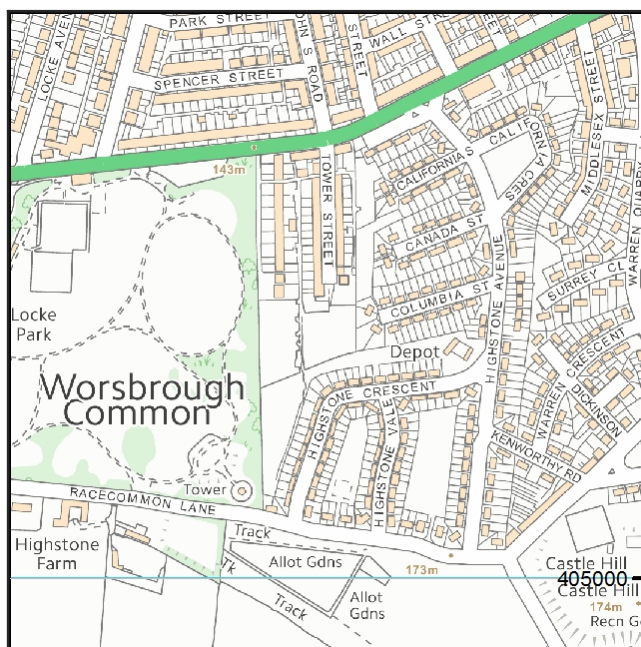
200 Lichfield Lane
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Nottinghamshire
NG18 4RG

www.groundstability.com

 /company/the-coal-authority

 /thecoalauthority

 /coalauthority



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 5 seams of coal at 130m to 480m depth, and last worked in 1975.

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 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

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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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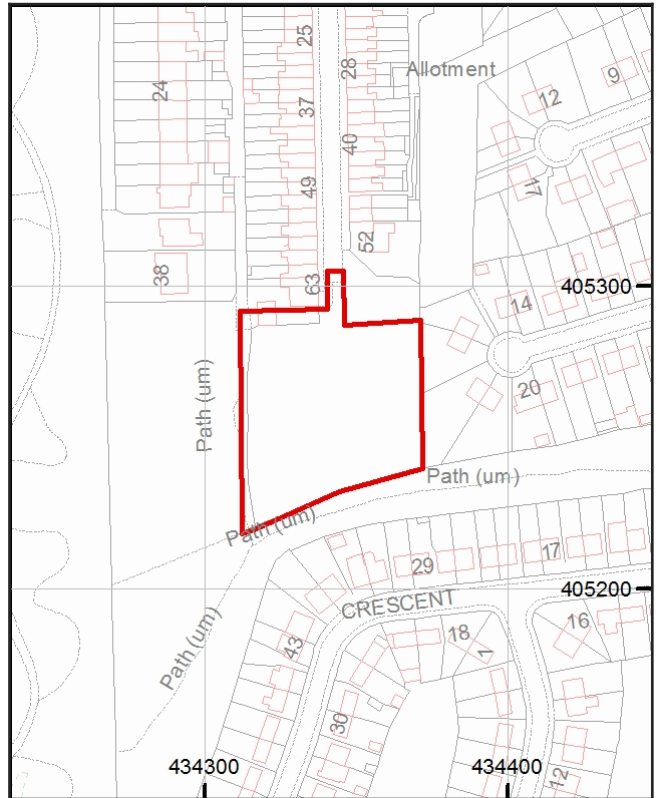
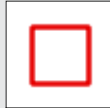
Alternative formats

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

Enquiry boundary

Key

Approximate position of enquiry boundary shown




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