Report No: C274/CMRA
Date: May 2018

COAL MINING RISK ASSESSMENT
For land at
1 WOODLANDS VIEW, SILKSTONE COMMON
Nr BARNSLEY, S75 4SA



Prepared for
MR JOHN WOOLLER

Prepared by
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REPORT NUMBER:	C274/CMRA	**REPORT STATUS:**	Final
REPORT TYPE:	Coal Mining Risk Assessment		
REPORT DATE:	May 2018		
SITE:	1 Woodlands View, Silkstone Common Nr Barnsley, S75 4SA		
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Introduction

G & M Consulting Ltd (G&M) was instructed by Mr John Wooller, to carry out a coal mining risk assessment for land at 1 Woodlands View, Silkstone Common near Barnsley, South Yorkshire S75 4SA. It is understood that a planning application has been submitted to develop the site for residential purposes.

The site location and its boundaries is shown below.

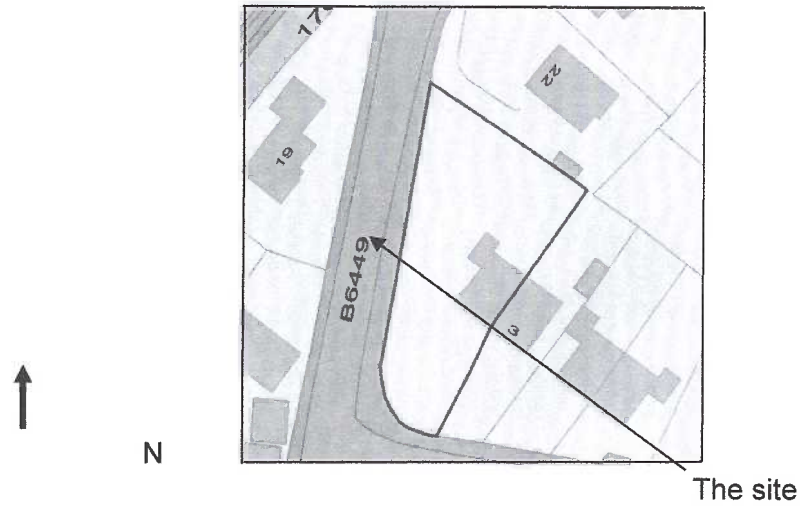


Figure 1

The proposed development comprises a single residential dwelling, see below;

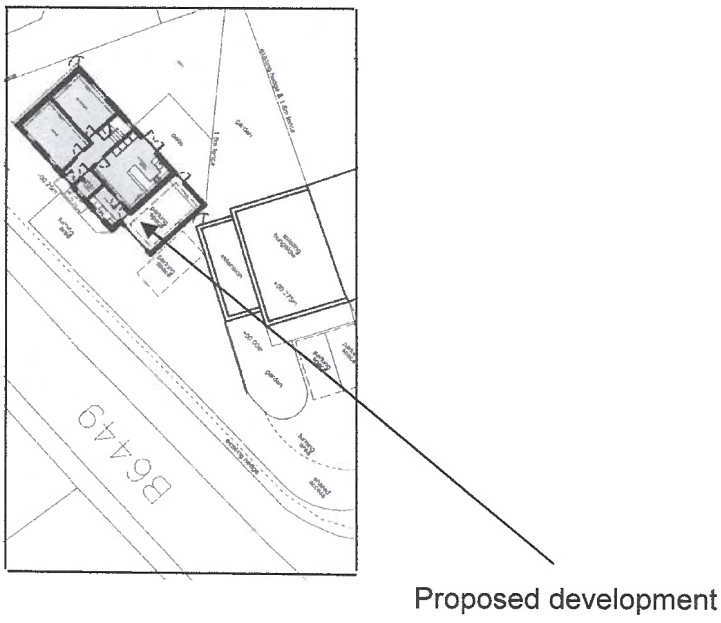


Figure 2

Scope of the Coal Mining Risk Assessment

This coal mining risk assessment is compiled in accordance with the guidance given in the Coal Authority publication *Risk Based Approach to Development Management Guidance for Developers Version 3 2014.*

This publication sets out the scope for a CMRA as follows:

- Present a desk-based review of all available information on coal mining issues which are relevant to the application site;
- Use that information to identify and assess the risks to the proposed development from coal mining legacy, including cumulative impact of issues;
- Set out appropriate mitigation measures to address coal mining legacy issues affecting the site, including any necessary remedial works and/or demonstrate how coal mining issues have influenced the proposed development; and
- Demonstrate to the Local Planning Authority that the application site is, or can be made safe and stable to meet requirements of national planning policy with regard to development on unstable land.

Site Location and Description

The site is located off 1 Woodlands View, in the village of Silkstone Common; the National Grid Reference for the site is SE 289 042. The site is approximately 6km south west of Barnsley town centre.

The site comprises a relatively large lawned garden with a semi-detached bungalow, in the eastern part of the plot. The site occupies a corner location, with Woodlands View to the south and Knabbs Lane to the west and residential dwelling and gardens to the remaining boundaries.

Sources of Information

In compiling the CMRA information has been obtain from various sources:

- Historical Ordnance Survey Maps;
- Geological maps
    - 1:10,000 Scale Sheet SE30SE
    - 1:50,000 Scale Sheet 87 Barnsley (2008)
- Geological Memoir for Sheet 87 Barnsley
- Coal Authority Non Residential Mining Report
- Coal Authority interactive Viewer http://mapapps2.bgs.ac.uk/coalauthority/home.html
- General Internet Search

Historical Development

Historical Ordnance Survey plans examined (1851 to 1983) for the area show the site to have been fields/undeveloped until sometime before 1972, when the residence currently present on site is shown.

The 1855 map shows an inclined plane, running from the east and terminating at or close to the southern boundary of the site, where it links to railway lines running south

The map dated 1893 shows an 'airshaft' on or in close proximity to the site.

West Silkstone Colliery is shown approximately 150 m to the west of the site, on the map dated 1906; by 1931 the site of the colliery is shown as 'old shafts'.

Published Geology

The geological map for the area (Sheet 87 - 1:50,000 (2008)) and 1:10,000 (SE30SE) scale geological maps show the site to be underlain by strata of the Pennine Lower Coal Measures Formation which comprise interbedded mudstone, siltstone and sandstone with coal seams, ironstone and seatearth beds and marine bands.

No superficial deposits are shown to be present on site.

The Silkstone Four Foot Coal (SF) is shown to outcrop adjacent to the south western boundary of the site. The outcrop generally trends from north-west to south-east. No dips are shown in the immediate vicinity of the site; the nearest dip and an indication of strata dip, approximately 400 m to the south-east of this outcrop is shown as 5° to the north-east, therefore this seam will underlay the site at shallow depth. The stratigrapical column for the 1:10,000 map shows the SF to vary across the area between 0.4 m and 1.1 m thick. The 1:50,000 map, which covers a larger area, indicates the seam thickness as between 0 m and 1.6 m.

Also according to the geological memoir the SF is also referenced as the Wheatley Lime Coal

According to the geological memoir the SF *'from Silkstone to Silkstone Common the coal has been worked from outcrop and occasionally by shallow shafts'*

From the stratigraphical column of the 1:10,000 scale geological map it can be seen that the next named seam that underlies the SF is the Silkstone (Blocking) Coal. This seam is recorded to be up to 1.5 m thick. It is shown at a depth of approximately 35 m below the SF, and is therefore likely to underlay the site at a similar depth.

Lying between the two seams is the Claywood Ironstone; which the geological memoir states *'was formerly worked south-east of Chapleltown'* and *'is usually 30ft-40ft* (9m-12m) *above the Silkstone Coal'*.

An area of *made ground* is identified on the 1:10,000 map approximately 200 m to the west of the site and described on the map as *'mainly embankments, quarry and colliery spoil'* and is probably associated with the former West Silkstone Colliery identified on the historical maps for the area.

Mining

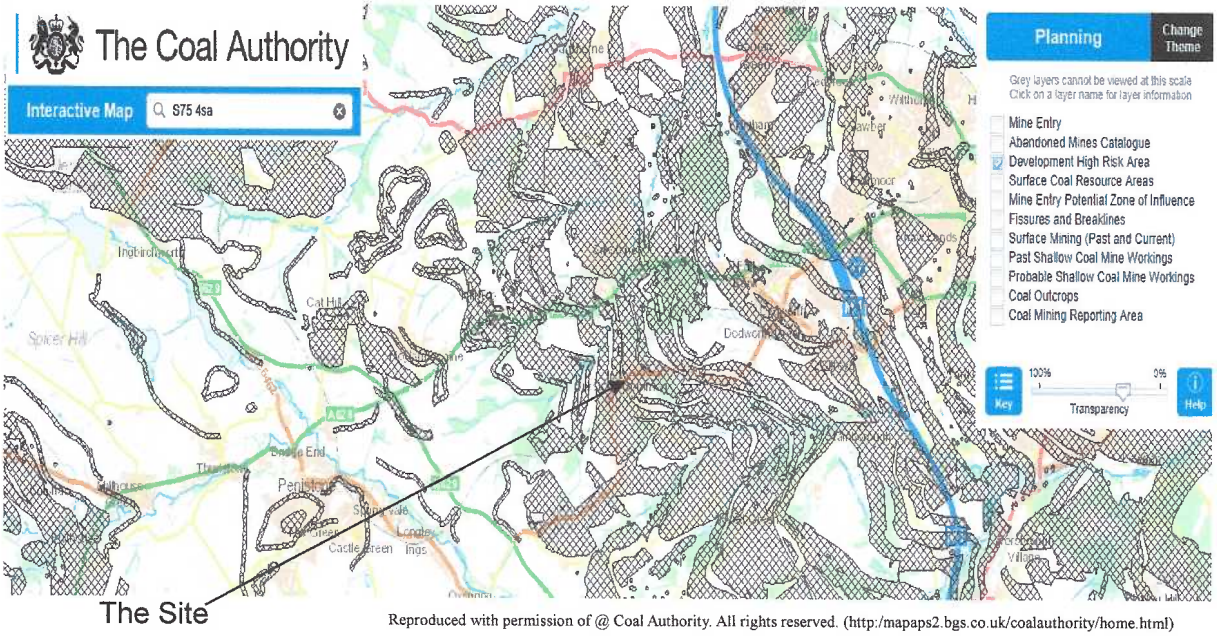
A Mining Report was obtained from the Coal Authority (CA) by G&M, a copy of which is included in Appendix A of this assessment.

Within the report the CA state with regard to past mining:

- *The property is in a surface area that could be affected by underground mining in two seams of coal at 30m to 90m depth, and last worked in 1921. Any movement in the ground due to coal mining activity should have stopped.*
- *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.*

- *The property is not within a surface area that could be affected by present underground mining.*
- *Within, or within 20 metres of, the boundary of the property there are 4 mine entries, the approximate positions of which are shown on the enquiry boundary plot.* (One of the mine entries is shown as an adit, the other three as shafts).
- *No notices have been given, under Section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.*
- *There is no current Stop Notice delaying the start of remedial works or repairs to the property.*
- *The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.*
- *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.*

An inspection of the CA interactive viewer shows that the site lies in a "development high risk area", see below;



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The approximate positions of the mine entries identified in the CA report are shown below;

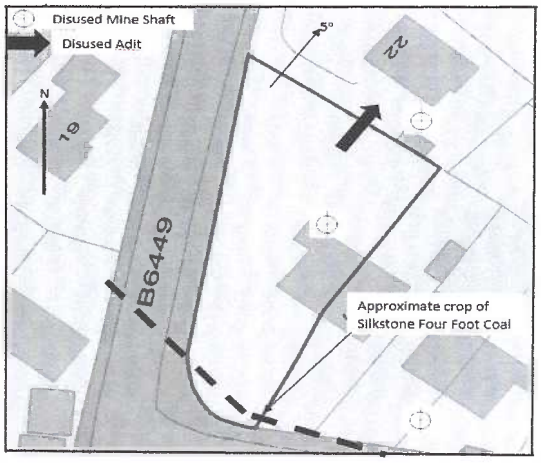


Figure 3

Risk Assessment

The potential risks associated with coal mining legacy of the site are summarised in the following table.

Table 1 Risk Assessment

Coal Mining Issue	Yes	No	Risk
Underground coal mining (recorded at depths >30m)	X		**Low** - West Silkstone Colliery shown approximately 170m west
Underground coal mining (recorded at shallow depths <30m)	X		**Low** - See above
Underground coal mining (probable at shallow depths) <30m)	X		**High** - Silkstone Four Foot Coal shown to outcrop in the south west of the site
Mine entries (shafts and adits within 20m)	X		**High** – Four mine entries indicated in the CA report. Two present on site
Coal mining geology (fissures)		X	
Record of past mine gas emissions		X	
Recorded coal mining surface hazard		X	
Surface mining (opencast workings)		X	

Conclusions and Recommendations

The site appears to be directly underlain by the bedrock of Pennine Lower Coal Measures age. The Silkstone Four Foot Coal (SF) seam is shown to outcrop adjacent to the south western boundary of, and dips beneath, the site. The stratigraphical column for the 1:10,000 geological map shows the seam to vary in thickness across the area, between 0.4 m to 1.1 m.

According to the geological memoir the SF *'from Silkstone to Silkstone Common the coal has been worked from outcrop and occasionally by shallow shafts',* therefore the possibility of shallow workings within this seam beneath the site cannot be discounted at this stage.

The site is shown to be underlain by recorded coal workings at 30 m to 90 m beneath the site and last worked in 1912. However, according to the CA report any ground movement associated with these workings should have stopped. These workings are likely to be associated with the former West Silkstone Colliery, located approximately 170 m to the east of the site.

Based on a review of the stratigraphical column for the 1:10,000 geological map the seam likely to be worked at 30 m is the Silkstone (Blocking) seam; which is shown on the same column as 1.5 m thick. The general rule of thumb for assessing the risk from shallow coal mining is the presence of rock cover over the seam equal to or greater than 10 x the seam thickness. It is considered likely that there will be sufficient bedrock cover over any such workings and that the risk from these historical workings is considered as low.

The CA report indicates the possible presence of two mine entries; a 'disused mineshaft' to the centre of the site and an adit shown adjacent to the northern site boundary, with the direction of entry shown to the north east. The location of the 'disused mineshaft' approximates with the location of an 'airshaft' shown on the historical maps discussed previously. Two other shafts are shown in close proximity to the site.

Based on the above findings it is recommended that an intrusive investigation is carried out and comprises the following;

- Site strip using an excavator in the area of the 'disused mineshaft' and adit entry, to assess any visual evidence of ground disturbance associated with either of the potential features.
- Four open-hole boreholes, with at least one drilled to 30 m, to assess the likely presence of workings within the shallow underlying Silkstone Four Foot coal seam, which is shown to outcrop in the south of the site, and also to confirm the depth of potential workings associated with the deeper Silkstone (Blocking) seam, to assess the bedrock cover over any workings, if encountered, within the depth range.

Prior to carrying out any work on site, a permit should be obtained from the Coal Authority for the investigation.

The findings of this current report should be submitted to the Coal Authority, prior to undertaking any development work on site, for their consideration.

Mitigation Measures

Subject to the findings of the intrusive investigation work, if any shallow workings are located then they would need to be potentially infilled by drilling and grouting or possibly by taking foundations below them. The possible presence of mines gas should also be considered.

If the shaft and adit are located, then a discussion should be held with the Coal Authority on the best course of action to make them safe; prior to any development of the site.

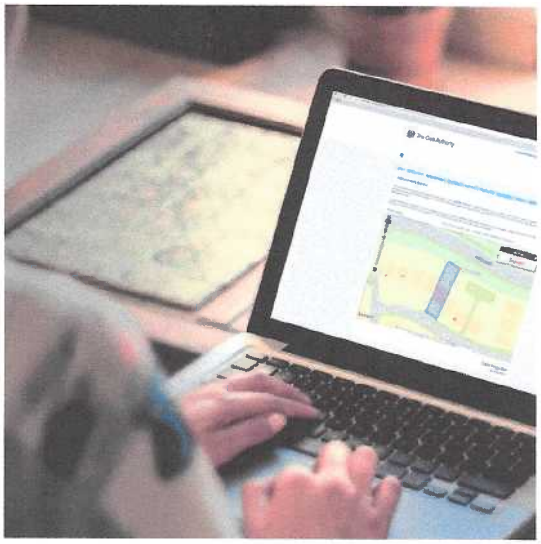


APPENDIX A

The Coal Authority

Resolving the impacts of mining

CON29M Non-Residential Mining Report







1 WOODLAND VIEW
SILKSTONE COMMON
BARNSLEY
S75 4SA

Date of enquiry:	01 May 2018
Date enquiry received:	01 May 2018
Issue date:	01 May 2018
Our reference:	51001835481001
Your reference:	C274

CON29M Non-Residential Mining Report

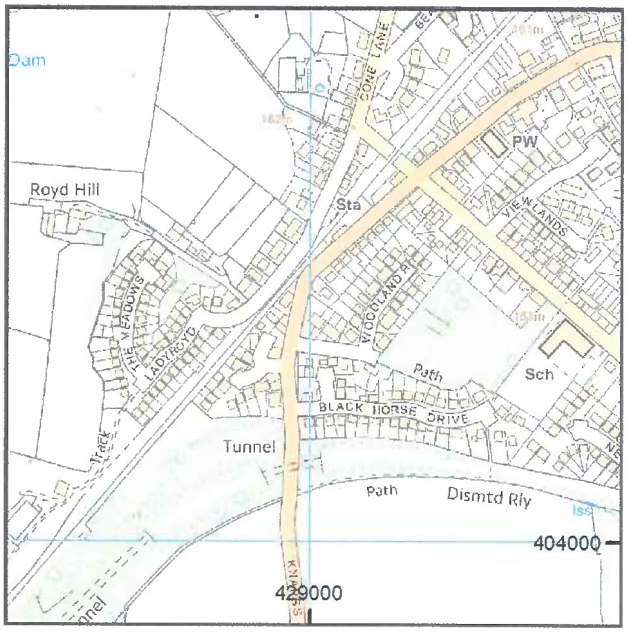
This report is based on, and limited to, the records held by the Coal Authority and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Client name

Graeme Swinbourne

Enquiry address

1 WOODLAND VIEW, SILKSTONE COMMON, BARNSLEY, S75 4SA



Approximate position of property

Map data

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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

Further recommended reports
Mine entry interpretive report
Mine entry plan and data sheets

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 30m to 90m depth, and last worked in 1912.

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. Please refer to the Comments section of this report for further information.

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

Within, or within 20 metres of, the boundary of the property there are 4 mine entries, the approximate positions of which are shown on the enquiry boundary plot.

There is no record of what steps, if any, have been taken to treat the mine entries.

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

For an additional fee, the Coal Authority can provide a Mine Entry Interpretive Report. The report will provide a separate assessment for the mine entry/entries referred to in this report. It gives an opinion on the likelihood of mining subsidence damage caused from ground movement as a consequence of the mine entry/entries. It also gives details of the remedies available for subsidence damage where the mine entry was sunk in connection with coal mining.

Please note that it may not be possible to produce a report if the main building to the property cannot be identified from Coal Authority plans (ie for development sites and new build).

For further advice on how to order this additional information please visit www.groundstability.com.

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 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.

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.

The boundary plot shows the approximate location of the disused mine entry/entries referred to in this report. For reasons of clarity, mine entry symbols may not be drawn to the same scale as the plan.

Property owners have the benefit of statutory protection (under the Coal Mining Subsidence Act 1991*). This contains provision for the making good, to the reasonable satisfaction of the owner, of physical damage from disused coal mine workings including disused coal mine entries. A leaflet setting out the rights and obligations of either the Coal Authority or other responsible persons under the 1991 Act can be obtained by visiting www.groundstability.com.

If you wish to discuss the relevance of any of the information contained in this report, you should seek the advice of a qualified mining engineer or surveyor. If you or your advisor wish to examine the source plans from which the information has been taken, these are available to view, free of charge, at our Head Office in Mansfield. To book an appointment please ring 01623 637225. Should you or your advisor wish to carry out a physical investigation that may enter, disturb or interfere with any disused mine entry, prior permission of the owner must be sought. For coal mine entries, the owner will normally be the Coal Authority.

The Coal Authority, regardless of responsibility and in conjunction with other public bodies, provide an emergency call out facility in coalfield areas to assess the public safety implications of mining features (including disused mine entries). Our emergency telephone number is 01623 646333.

*Note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

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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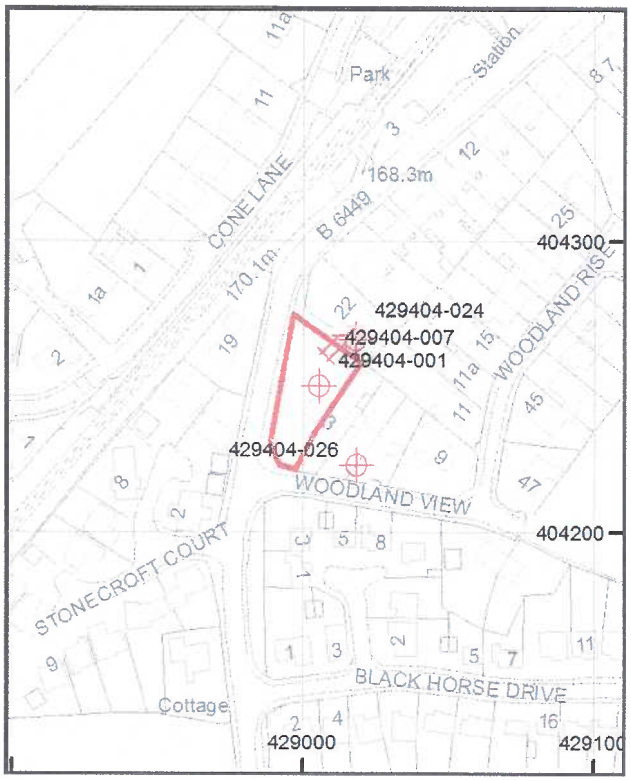
Enquiry boundary

Key

Approximate position of enquiry boundary shown

Disused adit

Disused mineshaft



Map data

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