

Our Ref: 2015/376/a/cd
02nd November 2015

FAO: Andrew Smith
Valley Properties
7 Holmfirth Road
Meltham
Holmfirth
HD9 4AA



Dear Andrew,

Coal Mining Risk Assessment
On Development on Land adjacent to
Brookfields Avenue, Wyke, Bradford BD12 9LU

Introduction

Following your confirmation of instruction we have now carried out a Risk Assessment on the development off Brookfields Avenue, Wyke, Bradford, in order to assess and comment on the proposed development which comprises the construction of six number residential dwellings and to assess the Coal Mining Report.

This report should be read in conjunction with the Coal Authority Mining Report dated 14th August 2015, appended at the rear of this report.

This report should be read in conjunction with the information provided by Valley Properties.

The purpose of our report is to:

1. Undertake a desk-based review of all information on the coal mining issues which are relevant to the application site after review of the coal mining report.
2. The report should also identify and assess the risks to the proposed development from any coal mining.
3. The report should set out appropriate mitigation measures to address the coal mining legacy issues affecting the site including any remedial works and assess how coal mining issues have influenced the proposed development.

It may be noted that guidance available from both the NHBC and the CIRIA publication construction over abandoned mine workings suggest that an overburden thickness of competent rock above a worked coal seam should be greater than 10 times the thickness of the seam plus seam thickness in order that the collapse of workings would pose a low risk to surface structures. On the basis that the typical maximum thickness of a coal seam in the UK would be about 3m, coal seams at depths of around 30m or shallower are considered significant in terms of risk to a development and are generally termed to be shallow.

Sources of Information

Information has been gathered from the following sources :-

- The Coal Mining Authority Report dated 14th August 2015 (Appendix A).
- Review of old historical Ordnance Survey maps.
- British Geological Survey (BGS) geology data

Of the suggested list of '*Sources of information to be used to inform this report*', we confirm that at present no intrusive investigation, ie drilling, has been undertaken on the site. The only non-intrusive information available is the Coal Authority Report, historical ordnance survey maps and the British Geological Survey (BGS) geology data. No information has been made available with regard to past intrusive site investigations.

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Summary of Coal Authority Report

In Summary, the salient points of the Coal Authority report makes reference to:

Past

The property **is** in the likely zone of influence from workings in two seams of coal at 70m to 140m depth, last worked in 1914. However, ground movement from these should have stopped by now. Also, the site **is** in an area where coal is thought to be close to the surface. This coal **may** have been worked.

Present

The property is **not** in the likely zone of influence of any present underground coal workings.

Future

No licences have been granted for future coal extraction. However, reserves of coal exist in the local area which could be worked at some time in the future.

No notice of the risk of the land being affected by subsidence has been given under section 46 of the Coal Mining Subsidence Act 1991.

Mine Entries

There are **no** known mine entries within, or within 20m of the boundary of the site.

Coal-mining Geology

There are no known geological faults or other lines of weakness that have been affected by coal mining.

Opencast Coal Mining

Past

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

Present

The property does not lie within 200 metres of the boundary of an opencast site.

Future

The site is not within 800m of a site where a licence has been granted to remove coal.

Coal-mining Subsidence

The Coal Authority has not received a damage notice or claim for the site or any property within 50m, since 31st October 1994. There is no current Stop Notice delaying the start of remedial works or repairs to the property.

We are advised by the Coal Authority that this is a standard clause inserted in all reports.

Mine Gas

There are no records of mine gas emission.

Hazards relating to coal mining

The property has not been subject to remedial works.

Comments on Coal Authority information.

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

Technical advice relating to investigation of coal, should be obtained.

Executive Summary of Coal Mining Report

The site is in the likely zone of influence from past workings although these are considered to be at sufficient depth not to pose any significant risk to the development. However, coal is thought to be close to the surface and this coal, if present, may have been worked at some time in the past, possibly illicitly. On the basis of this report, the focus of this desk study is to establish the risk to the development from shallow coal seams which may have been worked and whether there is any evidence for such workings.

Summary of historical OS Maps

The site is undeveloped and appears as open fields on the 1851 map, although four coal pits can be seen within 500m of the site and two quarries are evident north east & south of the site. The 1907 map shows a tram way on the site with the Drake Pit and Scholes Pit established west and north east of the site respectively. The tram way on the site has disappeared on the 1922 map. From the 1938 map, Brookfields Road appears and two houses are evident on the east of the site. Also the Drake Pit and Scholes Pit are now dis-used. From the 1957 map onwards it shows the area to have had further development with extensive housing north of the site by 1976. From the 1976 map onwards the site remains relatively unchanged with further housing being developed in the local area.

Summary of BGS Geology Data

The available published geology data for the site has been examined and the following anticipated strata conditions can be listed as:

Superficial Geology – None Recorded

Solid Geology – Pennine Lower Coal Seam Measures Formation - Sandstone

Generally describes as interbedded grey mudstone, siltstone and pale grey sandstone, commonly with mudstones containing marine fossils in the lower part, and more numerous and thicker coal seams in the upper part.

The shallowest coal seam beneath the site appears to be the Whinmoor Coal at approximately 5m depth, with a seam thickness of up to 0.9m. Beneath this are the 32 Yard and 22 Yard Coals at approximately 20m to 25m depth with the Crow Coal anticipated at 30m depth. Beneath this is the Better Bed Coal at approximately 60m depth which has been worked in the area.

A geological fault is evident 100m east of the site.

On study of the BGS borehole records of the proposed site, it was unfortunate that there were any significant published records of sufficient depth and proximity to the site.

Conclusion

1. As the Coal Authority Report and Geological Data shows that coal is evident near the surface, it is recommended that some form of intrusive investigations are under-taken to prove whether or not the shallow coal has been worked in the past. Exact Intrusive investigation works into the ground conditions is to be formulated to suit the proposed development and to also investigate the shallow coal that likely exists below the site.
2. This investigation should take the form initially of a series of a minimum of 3No. (approx.) deep bores down to a minimum depth of 30m. This may extend to further additional boreholes depending on the findings encountered.

Recommendations

In light of the information gathered, it is impossible to ascertain if the shallow coal has been worked in the past from this simple 'desk based' study and the fact that the site has records of coal, this cannot be ignored. Therefore, it is recommended to undertake an intrusive investigation prior to commencement of the development to establish whether the coal has been historically worked or not. As the use of deep core drilling down to a depth of 30m is likely to be required, this must be undertaken using water flush techniques.

Depending on whether coal mining is, or is not, present, the extent of the working and type of mining will need to be established. Any remedial works, such as grouting and/or special foundations etc, can only be determined on the outcome of the investigation findings.

I trust the above recommendations meet with your present requirements, in the meantime should you have any further queries please do not hesitate to contact me.

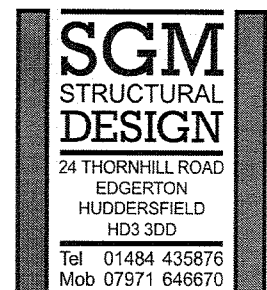
Yours faithfully.

Redacted

Carl Devenish
BSc (Hons)
Associate Director
SGM Structural Design Ltd

APPENDIX A

Coal Authority Report





The Coal
Authority

Issued by:

The Coal Authority, Property Search Services, 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire, NG18 4RG
Website: www.groundstability.com Phone: 0345 762 6848 DX 716176 MANSFIELD 5

VALLEY PROPERTIES
7
HOLMFIRTH ROAD
MELTHAM
HOLMFIRTH
WEST YORKSHIRE
HD94AA

Our reference: **51000971330001**
Your reference: **14-003**
Date of your enquiry: **14 August 2015**
Date we received your enquiry: **14 August 2015**
Date of issue: **14 August 2015**

This report is for the property described in the address below and the attached plan.

Non-Residential Coal Authority Mining Report

BROOKFIELDS AVENUE, BRADFORD, BD12 9LU

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.

Coal mining	See comments below
Brine Compensation District	No

Information from the Coal Authority

Underground coal mining

Past

The property is in the likely zone of influence from workings in 2 seams of coal at 70m to 140m depth, and last worked in 1914.

Any ground movement from these coal workings should have stopped by now.

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 Coal Authority Information section of the report.

Present

The property is not in the likely zone of influence of any present underground coal workings.

Future

The property is not in an area for which the Coal Authority is determining whether to grant a licence to remove coal using underground methods.

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

The property is not in an area that is likely to be affected at the surface from any planned future workings.

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

No notice of the risk of the land being affected by subsidence has been given under section 46 of the Coal Mining Subsidence Act 1991.

Mine entries

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

Records may be incomplete. Consequently, there may exist in the local area mine entries of which the Coal Authority has no knowledge.

Coal mining geology

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

Opencast coal mining

Past

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

Present

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

Future

The property is not within 800 metres of the boundary of an opencast site for which the Coal Authority is determining whether to grant a licence to remove coal by opencast methods.

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.

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 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

There is no record of a mine gas emission requiring action by the Coal Authority within the boundary of the property.

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.

Withdrawal of support

The property is not in an area for which a notice of entitlement to withdraw support has been published.

The property is not in an area for which a notice has been given under section 41 of the Coal Industry Act 1994, revoking the entitlement to withdraw support.

Working facilities orders

The property is not in an area for which 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.

Payments to owners of former copyhold land

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

Comments on Coal Authority information

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.

Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

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.

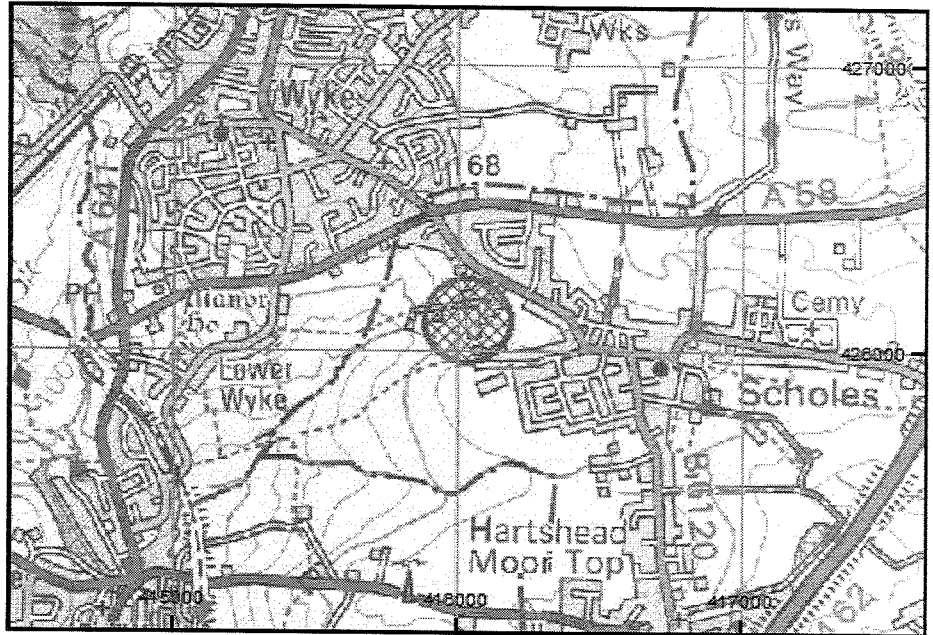
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Issued by:	The Coal Authority, 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG
Tax Point Date:	14 August 2015
Issued to:	VALLEY PROPERTIES 7 HOLMFIRTH ROAD MELTHAM HOLMFIRTH WEST YORKSHIRE HD94AA
Property Search for:	BROOKFIELDS AVENUE, BRADFORD, BD12 9LU
Reference Number:	51000971330001
Date of Issue:	14 August 2015
Cost:	£59.00
VAT @ 20%:	£11.80
Total Received:	£70.80
VAT Registration	598 5850 68

Location map



Approximate position
of property



Enquiry boundary

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Key

Approximate position of enquiry
boundary shown

