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Date: 5th January 2023
Your ref: (S70 5UD).
My Ref: CMRA 00304

FOR THE ATTENTION OF MR TOM AGUS

Dear Sir,

COAL MINING RISK ASSESSMENT (CMRA) - FOR PROPOSED BARN CONVERSION AT
LAND ADJACENT COCK INN, PILLEY HILL, BARNSELY S70 5UD

Introduction

Planning permission is being sought for a barn conversion to a residential dwelling at the above named site; the location of which can be seen on the attached plan No. 00304A in Appendix 1. The site is centred around national grid reference E: 434328 / N: 400951. A Coal Mining Risk Assessment is required for the proposals, in order to competently address the mining legacy for the site and determine what impact this may have had upon the land. The assessment is intended to be included as a supporting document to a future planning application to Barnsley MBC.

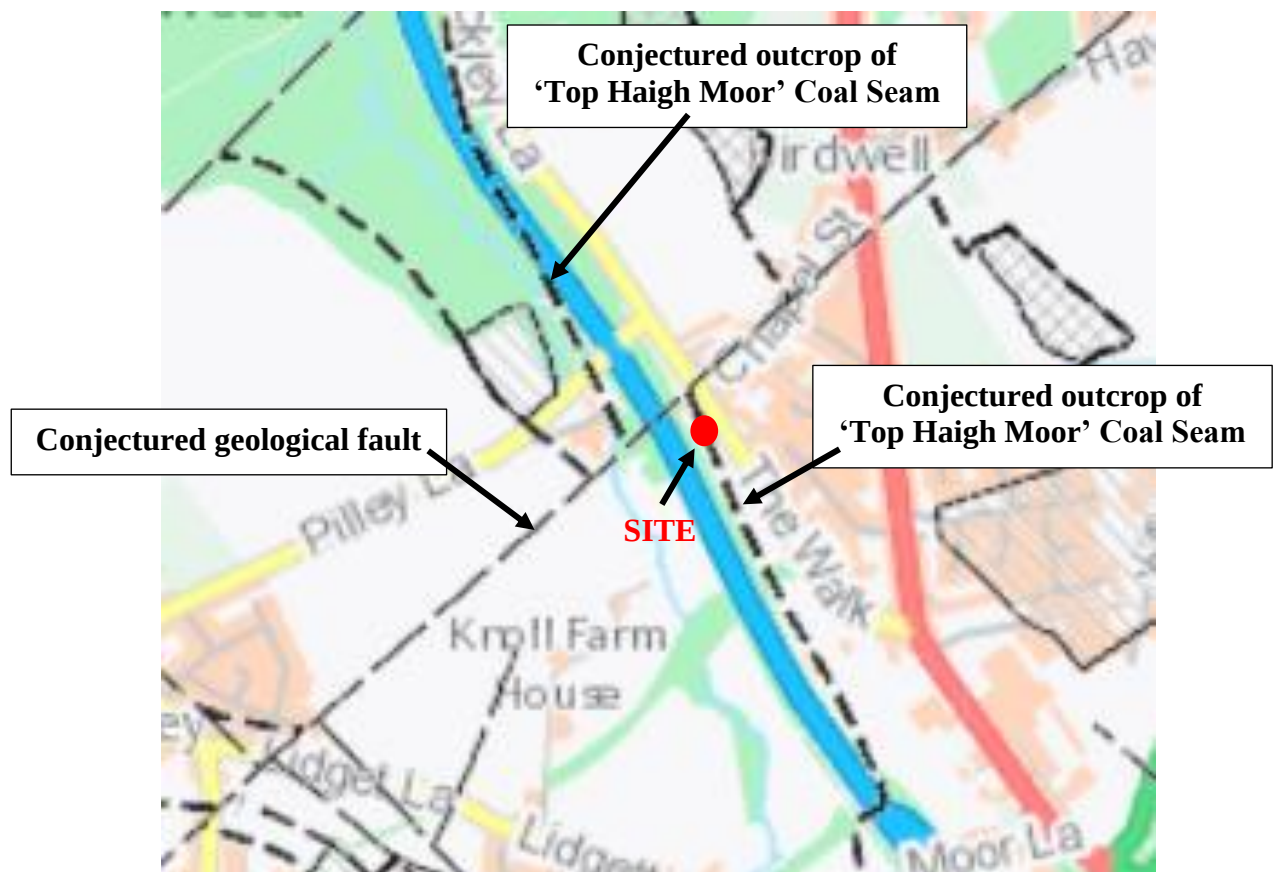
Scope of the Coal Mining Risk Assessment

The purpose of this Coal Mining Risk Assessment Report is to:

- Present a desk-based review of all available information on the 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 the cumulative impact of issues;
- Set out appropriate mitigation measures to address the coal mining legacy issues affecting the site, including any further works that may be necessary; and
- Demonstrate to the Local Planning Authority that the application site is, or can be made, safe and stable to meet the requirements of national planning policy with regard to development on unstable land.

Surface Geology (inc. any superficial deposits)

Records indicate the site to be located on shales, mudstones and possibly the Haigh Moor Rock sandstone of the Middle Coal Measure series from the Carboniferous formation which will dip beneath the land to the ENE at around 1 in 12 (5°). No superficial deposits are indicated in the vicinity of the site itself. A summary of the surface geology is illustrated on the image below which is an extract from the BGS Onshore Interactive Viewer:



Fault Planes or Fissures

A geological fault is conjectured to pass clear of the site some 50m away to the north-west as shown above. The Haigh Moor Rock sandstone, which will be present above the Top Haigh Moor coal seam (therefore eastwards of its outcrop position), may contain natural fissures that could have been opened out by the past deep coal mining in the area.

Coal Seam Outcrops

As outlined on the extract image above from the BGS Onshore Interactive Viewer, the 'Top Haigh Moor' coal seam (of around 400mm thickness in these parts) is conjectured to outcrop through the site. As this is based on conjecture a slight potential will exist for discovering this coal beneath surface soils or at shallow depth. If the actual outcrop is further eastwards then the coal will not be encountered.

The next coal seam down in stratigraphical order (from nearby shaft section information of the former Rockingham Colliery) will be the Lidgett coal seam (of around 1.2m thickness) which will be in the region of 20m or more below the Top Haigh Moor seam.

Made Ground

No made ground is indicated beneath the site. There will be a slight potential for discovering an element of made/infilled ground associated with historic 'digging out' of shallow coal.

Opencast Coal Workings.

No opencast coal operations are known within the site or to within 300m of its boundary.

Underground Coal Workings - Deep

Deep coal mining (over 50m deep) has taken place beneath the site in various coal seams, all settlement from which will be long complete. As no coalfields now exist, the site should remain stable from the deep coal mining perspective for the foreseeable future.

Underground Coal Workings - Shallow

No underground workings in the Top Haigh Moor (THM) coal seam are known in these parts, probably due to its limited thickness/poor quality – as reflected in the shaft section details from the nearby former Rockingham Colliery, some 1km away to the east. This shows that the seam will be in the region of 0.4m thickness. The Lidgett coal seam (below the THM seam) will be too deep beneath the site to give rise to shallow mining risks.

Mine Entries

No mine entries are known within 100m of the site. Considering the mining and geological information, the likelihood of any uncharted mine entries being encountered in this instance is considered low.

Fugitive Gases

As far as we are aware, no evidence of coal mining related fugitive gas emissions is known within 250m of the site. However, there will be a slight risk for associated gases in relation to any shallow exposed coal.

Historical Records

According to the historical records, no nearby indications of any mining or quarrying activities are noted within the site itself.

Coal Mining Risk Assessment (based on the above).

Coal Seam / Coal Mining Issue	Risk Assessment (VeryHigh/High/Moderate/Low/VeryLow)
Underground coal mining (at shallow depths)	Low
Mine entries (shafts and adits)	Low
Geological faulting	Low
Geological fissures	Low to Moderate
Fugitive gas emissions	Low to Moderate
Surface mining (opencast workings)	Low
Aggressive ground	Moderate
Coal exposed / near foundation level	High

Defined Risk Assessment

(Where 'Underground Coal Mining' above = Very High to Moderate)

Extent of known underground mining in this/these shallow coal seam/s in the wider vicinity	(Extensive / Much / Occasional / None Known) None Known (THM)
Intrusive Site Investigation of Coal Seam / Mines of Coal (given nature of proposals).	(Required / Recommended / Unnecessary)** Unnecessary
Advised critical depth beneath foundation level to investigate considering geology and nature of the shallow coal/s*	N/A

Key:

** The critical depth is calculated according to Ciria C758D guidance which details that for the land to be regarded as stable from any voided mineworkings, then a suitable section of competent rock cover above the workings should be proved that is equal or greater than ten times the 'in-tact' coal seam thickness. The advised critical depth to investigate to in this report takes into account the available geological information, any nearby mining records and may include a contingency for the seam to be of a slightly greater thickness than anticipated. Due care and diligence should be employed on-site to ensure that sound information is gathered of the in-tact seam thickness, particularly if concluding that old workings are outside the critical depth of affecting stability for the proposed development.*

*** Where :*

Required	<i>Intrusive Site Investigation required of the shallow coal/s and/or mine entries to determine any necessary stabilisation works for the given development.</i>
Recommended	<i>Intrusive Site investigation recommended – given a lower level of risk in relation to the nature of proposed development some proposals may reduce the risk to an acceptable level via suitable design considerations.</i>
Unnecessary	<i>Intrusive Site Investigation deemed unnecessary – given geological/mining information.</i>

Coal Authority

Prior written permission from The Coal Authority is required for intrusive activities which will disturb or enter any coal seams, coal mine workings or coal mine entries (shafts and adits). Further information on The Coal Authority's permissions process can be found at:

www.coal.gov.uk/services/permissions/index.cfm

Information sources:

- *British Geological Survey Map Sheet SE 30 SW 1980 Edition*
- *British Geological Survey – Geology Of Britain Viewer*
- *Coal Authority Interactive Viewer and Mine Abandonment Plans*
- *Historical Mapping – old-maps.co.uk*

CONCLUSIONS

- 1) The site can be regarded as stable from the **Deep Coal Mining** perspective, and as no coal fields now remain this position should continue for the foreseeable future.
- 2) Given the **Shallow Coal Mining** position from the available information we would not suggest that any further intrusive works are required to determine any associated risks. As such, if any other foundations from what are existing are to be considered, then usual designs could be utilised in conjunction with the appointed building control officer at the time of development.
- 3) Any coal exposed at the surface beneath surface soils/clays will require appropriate considerations for removal and blinding off to help prevent chemical attack on foundations and reduce the risk of spontaneous combustion risks.
- 4) Although only a low risk, a watching brief should be employed during future grounds works for any signs of unrecorded mine entries; circular areas of grey fill within bedrock would be an indication. If suspected the Coal Authority (as owners) should be notified immediately for appropriate deliberations.
- 5) A similar watching brief should be employed during future grounds works for any signs of made ground that may be associated with small scale 'digging' out of shallow coal, along with any opened-out fissures within sandstone bedrock. Appropriate foundation design considerations may be required.

Note: should there be any uncertainty of actual conditions during future ground works Lyons CMC or indeed the Coal Authority themselves can be further consulted for on site assessment if necessary.

A suitably qualified and competent professional should be employed to use this report to determine the conditions on site, and ultimately advise on what action, if any, is necessary to safeguard the development. It should be noted that any future works to investigate any coal seam, mines of coal or associated mine entries will need the prior consent of the Coal Authority via their permitting procedure.

I trust that this satisfies your requirements, however please do not hesitate to contact myself at any time for further clarification or advice.

Yours Sincerely,

M Lyons

M. Lyons
Consultant Mining Engineer
BSc CSci MIMMM

Enc.

THIS COAL MINING RISK ASSESSMENT IS BASED ON AND LIMITED TO THE INFORMATION IN MY RECORD AT THE TIME THE ENQUIRY IS ANSWERED. It is based on my professional opinion in line with the guidelines set out in CIRIA C758D "Abandoned mine workings manual." The opinion may be overruled by Government Authorities decisions based on other information not in my record. If a site investigation is recommended then this risk assessment will be superseded by the factual findings of that investigation. All site investigation work should be carried out by a competent professional from which independent conclusions and recommendations for safe development should be provided. It should be noted that: no operation should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. The investigation of coal seams/former mines of coal may have the potential to generate and/or displace underground gases; these risks both under and adjacent the site should be fully considered in any proposals both for personnel and public safety. Copyright in this CMRA belongs to M.A.Lyons. All rights are reserved and unauthorised use is prohibited. Copyright is not transferred to external parties by possession of this report, however, those for whom the report is compiled have the right to use it. If any unauthorised third party comes into possession of this report, they rely upon it entirely at their own risk and the author does not owe them any Duty of Care or Skill.

Appendix 1 – Location Plan No. 00304/A
(Not To Scale)
Site centred at O.S. 434328 / 400951

