LYONS CMC
COAL MINING & GEOTECHNICAL CONSULTANCY
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Brenda Davies
Lakeside View
Blacker Green Lane
Silkstone
Barnsley
S75 4NF

Date: 1st October 2025
Your ref: (S75 4NF).
My Ref: CMRA 00431

FOR THE ATTENTION OF BRENDA DAVIES & ROB AGUS

Dear Brenda / Rob,

COAL MINING RISK ASSESSMENT (CMRA) - FOR PROPOSED DEVELOPMENT AT LAKESIDE VIEW, BLACKER GREEN LANE, SILKSTONE, BARNSLEY S75 4NF

Introduction

Planning permission is being considered for an equestrian exercise arena development at the above site, the location of which can be seen on the attached plan No. 00431/A in Appendix 1. The site is centred around national grid reference 428390E / 404303N. 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 Council.

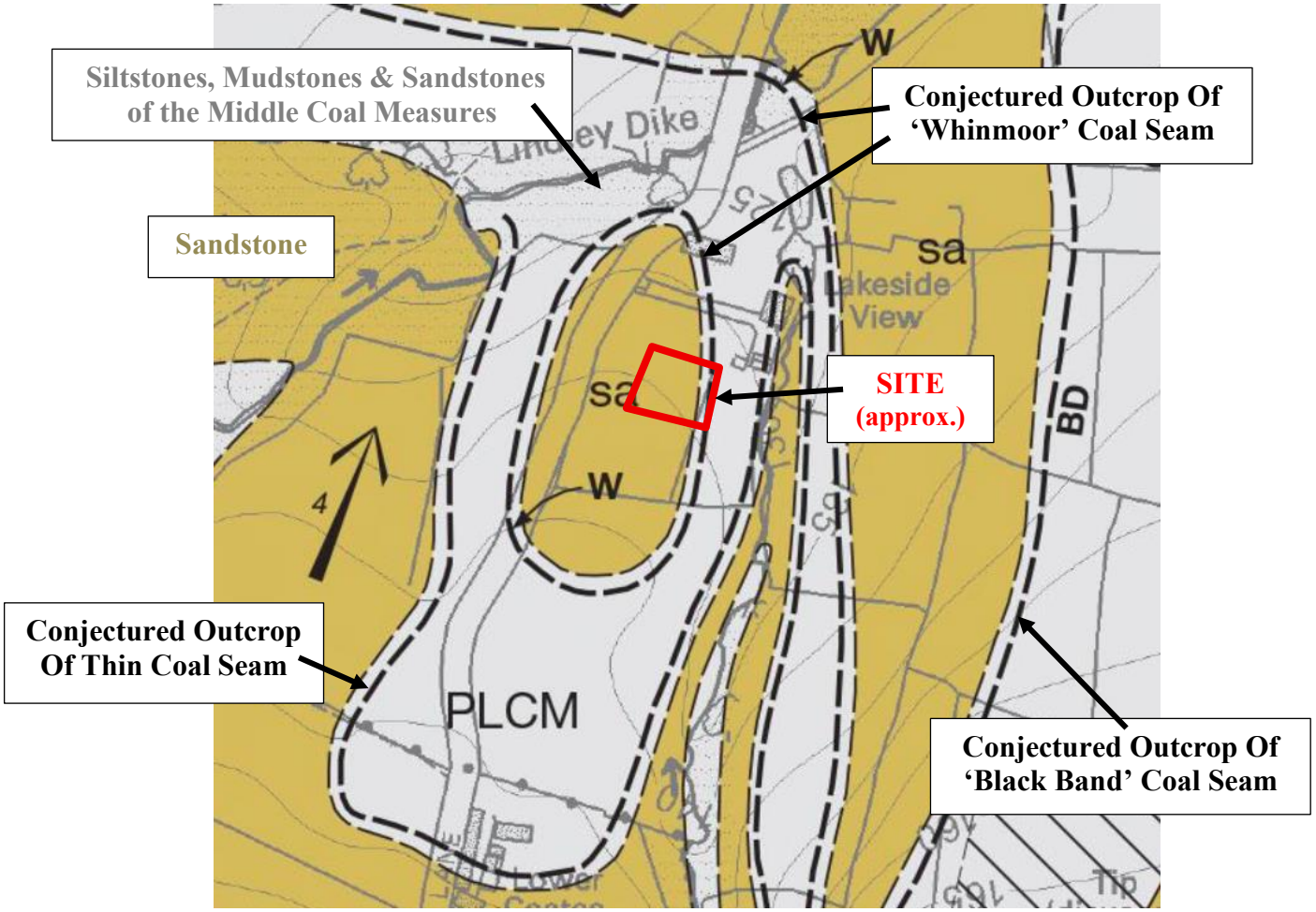
Scope of the Coal Mining Risk Assessment

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.
- The report will not consider other geotechnical or geo-environmental issues.

Surface Geology (inc. any superficial deposits)

Records indicate the site to be located on sandstone, siltstones and mudstones of the Middle Coal Measure series from the Carboniferous formation. No superficial deposits are known in this vicinity; underlying strata is shown to dip to the north-north-east at around 4° (1 in 14). A summary of the surface geology is illustrated on the image below which is an extract from the BGS Sheet SE20SE 2005 Edition:



Fault Planes or Fissures

No geological faulting or fissuring is conjectured/recorded within 150m of the site. Given the site has not been affected by deep mining subsidence (as detailed below), the likelihood of discovering any opened-out fissures in sandstone bedrock, in this instance, is considered low.

Coal Seam Outcrops

As outlined on the BGS extract image above, the 'Whinmoor' coal seam is conjectured to outcrop on the eastern boundary of the proposed training area and circle the land which forms a 'knoll' feature – thus creating a geological 'outlier' formation. This coal is known to be of a workable thickness of around 0.9m in this vicinity – as detailed below from the nearby opencast site. If the projected detail is accurate then the coal would be encountered beneath the surface soils and sub-soils as the land is excavated from east to west - to create a more horizontal formation level as suggested in the attached plan. However, as it is based on conjecture, the coal seam could be deeper or not present beneath the site at all.

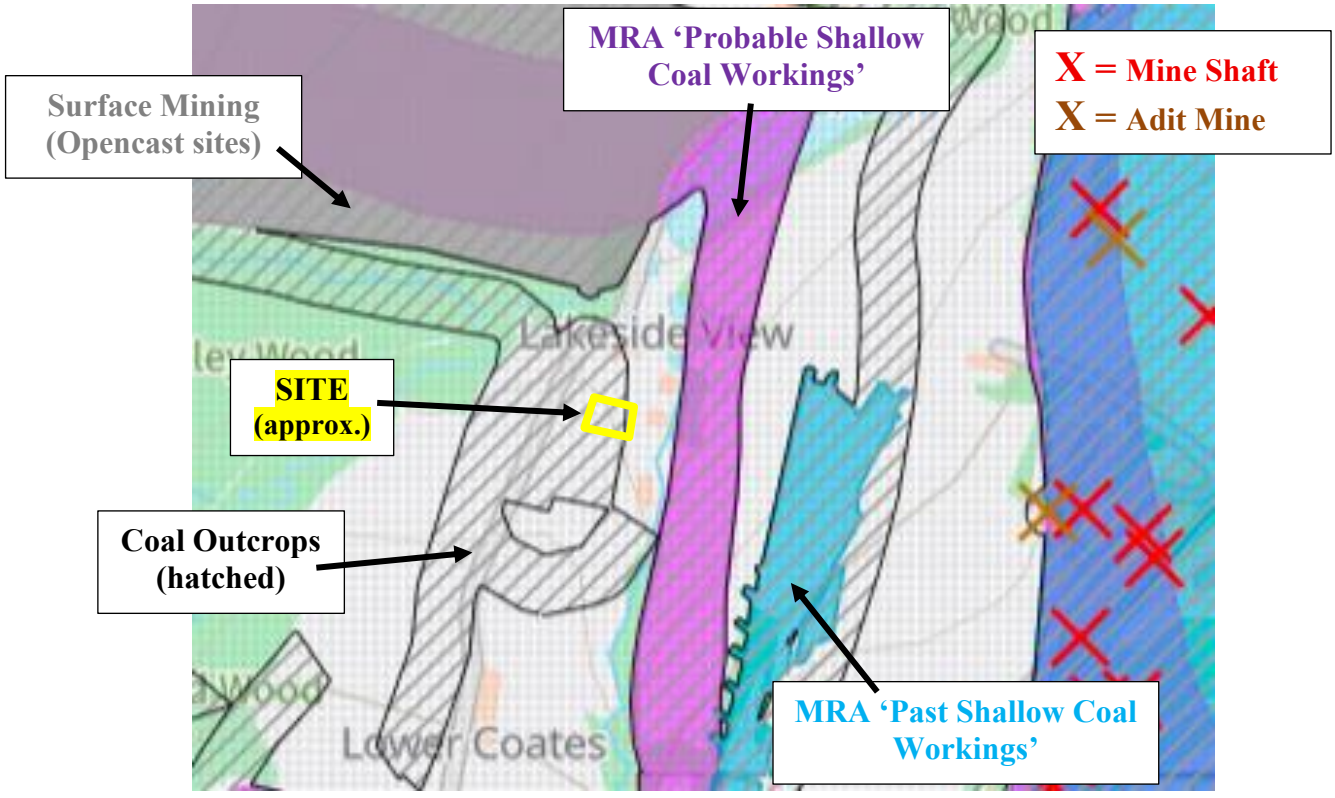
A thin, un-named coal seam is conjectured to outcrop some 20m to the east of the site which is anticipated at over 3m deep beneath the site; below the Whinmoor seam horizon.

Made Ground

No known/recorded areas of made ground are shown beneath the site.

Opencast Coal Workings.

As can be seen on the image below, which forms an extract from the Mining Remediation Authorities Interactive Viewer, a former opencast coal site is recorded some 190m away to the north of the site – the 'Kine Moor' site of 1950 which worked the Whinmoor seam @ 0.9m thick.



Underground Coal Workings - Deep

The site has not been affected by deep coal mining (over 30m deep) and as no coalfields now exist, the site should remain stable from the deep coal mining perspective for the foreseeable future.

Underground Coal Workings - Shallow

According to the Mining Remediation Authorities (MRA) interactive viewer information the site outside the area of both 'probable shallow coal workings' and 'past shallow coal workings' as shown on the above image, which relates to underground operations in the Whinmoor coal seam from the former 'Silkstone Common' and 'West Silkstone' colliery workings. No other workable coal seam will lie beneath the Whinmoor seam at a shallow enough depth to be of concern from a potential void migration aspect. As such, the likelihood of any unrecorded shallow mining voids in this instance would be considered low.

Mine Entries

No known mine entries are indicated within 20m of the site. The closest are indicated on the above image – various shafts and adits which accessed the Whinmoor coal seam workings further eastwards. Given the information it is unlikely that any unrecorded mine entries would be encountered in the specific vicinity of the site itself.

Fugitive Gases

As far as we are aware, no evidence of coal mining related fugitive gas emissions are known within 250m of the site. Given the information there will be some associated risks given the potential shallow coal. ***Note: informative no. 3 in appendix 2.***

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**
Fugitive gas emissions	**Moderate**
Surface mining (opencast workings)	**Low**
Aggressive ground	**High**
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) **N/A**
Intrusive Site Investigation of Coal Seam / Mines of Coal (given nature of proposals).	(Required / Recommended / Unnecessary)** **Unnecessary**
Advised critical depth beneath foundation/rock-head 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	*Intrusive Site Investigation **required** of the shallow coal/s and/or mine entries to determine any necessary stabilisation works for the given development.*
Recommended	*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.*
Unnecessary	*Intrusive Site Investigation deemed **unnecessary** – given geological/mining information.*

Mining Remediation Authority

Prior written permission from The Mining Remediation (formerly 'Coal') Authority (MRA) 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 MRA's permissions process can be found at: www.coal.gov.uk/services/permissions/index.cfm

Information sources:

- *British Geological Survey Map Sheet SE20SE 2005 Edition*
- *British Geological Survey – Geology Of Britain Viewer*
- *MRA 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) Regarding the **Shallow Coal Mining** position, no further intrusive investigation works for potential shallow mining voids would be deemed necessary in this instance (as outlined in informative(s) nos. 1 & 2 in appendix 2), with the associated risks considered low. However, it is very likely that coal could be exposed at or close to the surface, and given the proposals it may be the case that a significant amount of coal may need to be removed to ensure a safe formation level beneath the seam (if encountered) – note conclusion no. 3 below. It would be prudent therefore that prior to the ground/earth works taking place a limited site investigation is carried out to determine if 'coal handling/removal considerations' will be required – via for example 4 shallow trial pits or window sampling holes at each corner of the site; verified by a suitably qualified geotechnical/mining engineer. If no coal is encountered to say 0.3m below proposed formation levels then no further considerations would be necessary. However, if coal is encountered then the Mining Remediation Authority (as custodians of the coal) should be consulted for both a permit and an incidental coal agreement prior to any coal being removed.

3) Any exposed coal in future excavation/foundation work should be removed and edges blinded off using a sulphur resistant concreate to help mitigate from the risk of spontaneous combustion and chemical attack; with formation levels sited on firm strata beneath the coal seam.

4) A watching brief should be employed during future grounds works for any signs of unrecorded mine entries. Circular areas of grey fill material within natural ground would be an indication of a mine shaft for example. If suspected the MRA (as owners) should be notified immediately for appropriate deliberations.

5) All usual safety precautions should be employed regarding possible coal seam related fugitive gases in any deep excavation work taking place.

Note: should there be any uncertainty of actual conditions during future ground works Lyons CMC or indeed the Mining Remediation 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 Mining Remediation 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.

Appendix 1 – Location Plan No. 00431/A
(Not To Scale)
Site centred at NGR: 428390E / 404303N

Appendix 2 – Informative(s)

1) The relatively recently revised CIRIA C758D document titled 'Abandoned Mine Workings Manual', which replaced Special Publication 32 (1984), indicates that the use of empirical or 'rule of thumb' guides, as the design basis for treatment depth, has been successfully observed for many years for a wide range of abandoned mine workings and overlying rock/soil strata scenarios. As such, the guidance indicates that further design/ground stabilisation consideretions will be required if there is less than 10 times the aggregate measured height of mine workings as competent rock cover above the workings.

2) For information, should the grouting of any mine workings be required, a 10:1 PFA/cement mix or similar would need to be injected into the workings and any other disturbed strata above it under pressure on an OS coordinated treatment grid approved by the Coal Authority (and Building Control/third-party Warranty provider as required). Specific proposals to treat any mine workings would need to be submitted in the form of a standalone 'Specification', with a separate permit to treat being obtained from the Coal Authority. The method of consolidation is dependent on the nature of the bedrock strata and the underground mining conditions encountered, although fissile strata, such as shales and mudstone deposits, do permit mining voids to migrate upwards to quite high levels. All grouting works would need to be supervised by a competent engineer, with a final validation report being produced to confirm what works were undertaken and whether they were successful or not.

3) Ground gas monitoring can be undertaken to confirm or discount the presence of an elevated gassing regime within the underlying soils. Elevated concentrations of mine gases (e.g. CO2, CH4) may be present within the coal seams, mine entries, voids in or above any shallow mine workings, areas of made ground/opencast backfill, and in any permeable bedrock strata (and any organic rich surficial soils). Geological faulting and/or fissured bedrock can create pathways for gas migration. The period of monitoring to be undertaken should be broadly completed in accordance with current guidance [BS8485]. Piezometers would need to be installed (during drilling works for example) to facilitate this.