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Date: 8th January 2018
Your ref: (Sir Georges Arms).
My Ref: CMRA 00192

FOR THE ATTENTION OF JOHN BLACKBURN

Dear Sir,

COAL MINING RISK ASSESSMENT (CMRA) - FOR PROPOSED RESIDENTIAL DEVELOPMENT AT THE SIR GEORGES ARMS, HOUGH LANE, WOMBWELL, BARNSLEY.

Introduction

Planning permission is being sought for the development of seven residential dwellings at the above named site, the location of which can be seen on the attached plan No. 00192.A. 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 Local Authority.

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.

British Geological Survey Information

(Italics – derived from other sources).

Surface Geology (inc. any superficial deposits)

Records indicate the site to be located on shales and mudstones of the Upper Coal Measure series from the Carboniferous formation. No superficial deposits are indicated in the vicinity and depth to bedrock is uncertain.

Strata is recorded to dip to the east at rates of around 1in13 (approx. 4°) in these parts – according to abandoned coal mining records as mentioned below.

Coal Seam Outcrops

The Swinton Pottery Coal Seam is conjectured to outcrop just to the south-west of the site, roughly from north-west to south-east as illustrated on the attached plan. However, as this position is only 'conjecture' the actual outcrop (surface) position may vary. Dipping beneath the land to the east this coal is expected to be either at the surface or a few meters beneath the site itself. The coal itself is known to be of a relatively poor quality but the surround clay bands have historically being of interest for brick and pottery making.

The Newhill Coal Seam, in the region of 1m in thickness, will lie beneath the Swinton Pottery seam by around 30m.

Made Ground

No areas of made ground are indicated in the vicinity of the site, however some potential will exist in relation to historic small scale excavations/quarries considering the shallow clay deposits.

Fault Planes or Fissures

No geological faults or fissures are known or conjectured within the vicinity of the site.

Abandoned Mines Records

(Italics - derived from other sources).

Opencast Coal Workings.

None known within 250m of site.

Underground Coal Workings - Deep

Deep coal mining has taken place in various coal seams beneath this location, the latest being in the Silkstone Seam from Cortonwood Colliery in 1979 at around 550m deep. All settlement will

be long complete 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

No underground coal workings associated with the Swinton Pottery seam are known in either this or the wider area as a whole. The seam is more known to have been worked for its clay deposits for brick and pottery making via quarrying methods.

The Newhill coal seam is expected at a depth beneath the site that should not affect stability at the surface be it worked or otherwise.

Mine Entries

No mine entry is known within the site or within 20m of its boundary. However various old shafts are known in wider vicinity and considering the relatively shallow coal some potential will exist for unrecorded mine entries being present.

Fugitive Gases

No evidence of coal mining related fugitive gas emissions are known within 250m of the site. However, a slight risk for associated gases in relation to exposed coal will exist should future excavations cut through any shallow coal.

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)	**Moderate to Low**
Geological faulting	**Low**
Geological fissures	**Low to Moderate**
Fugitive gas emissions	**Low to Moderate**
Surface mining (opencast workings)	**Moderate to Low**
Coal exposed / near foundation level	**Moderate to High**

Defined Risk Assessment

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

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

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

Note: permission is not usually required for 'incidental' coal that is encountered in excavations for foundations for example.

Key:

** The critical depth is calculated according to Ciria Publication 32 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.*

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) Considering the LOW level of risk from the **Shallow Coal Mining** perspective no intrusive investigations for instability from void migration are deemed necessary in this instance.

3) Coal may be experienced at the surface in this vicinity which will require removal in order to site foundations on competent strata beneath the seam horizon. In such a case any exposed coal in the sides of footings for example will require blinding off using a suitable inert material, such as a lean mix concrete, to help prevent spontaneous combustion from occurring.

4) Caution should be given to the possibility of encountering made ground associated with any historic small scale quarrying/opencast operations. Compaction issues and/or contamination considerations may be required.

5) A watching brief should be employed for any future grounds works for any signs of unrecorded mine entries. A site scrape to natural ground is the most effective procedure to check for such features, the Coal Authority (as owners) should be notified immediately if any are suspected.

6) Should any coal be exposed in future ground works then all usual safety precautions should be employed regarding possible fugitive gases in any deep excavation work taking place. Precautions within foundations, such as a methane membrane, may be required.

It should be noted that should any investigations commence specifically for coal and/or coal mining related features then a prior license will be required from the Coal Authority. 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.

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.