

Mr Chris Dickinson
Dickinson Properties Yorkshire Ltd
5 Ravens Close,
Mapplewell,
Barnsley,
S75 6LR

LYONS CMC
COAL MINING & GEOTECHNICAL
CONSULTANCY



Date: 8th September 2023
Your ref: (S75 3RF)
My Ref: SI 00321

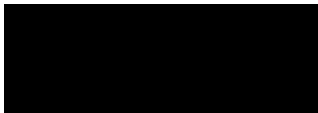
FOR THE ATTENTION OF MR CHRIS DICKINSON

Dear Sir,

**COAL MINING RISK INTERPRETATION REPORT – FOLLOWING THE SITE
INVESTIGATION FOR A PROPOSED NEW CHILDRENS DAY CARE CENTRE AT 2A, HIGH
STREET, DODWORTH, BARNSELY S75 3RF**

I am pleased to supply the following report for the above named project and trust that this satisfies your requirements. Please do not hesitate to contact myself at any time for further clarification or advice.

Yours Sincerely,



M. Lyons
Consultant Mining Engineer
BSci CSci MIMMM

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1. Introduction

Planning permission is being considered for the development of a detached new children's day care building facility at the above location subject to the mining legacy risks been fully realised and mitigated from on site, if necessary. Cape Site Services has now undertaken this work via an intrusive site investigation of 3 boreholes, the location of which is outlined on plan no. 00321/B – as attached and illustrated in appendix 5.2.

2. Scope of the Report

The mining legacy risks to the development are as follows:

- Instability from shallow underground coal workings
- Geological faulting/unstable bedrock
- Uncharted mine entries
- Fugitive gas emissions

As such, these risks need to be properly determined to ensure sound stability for the development. A borehole investigation consisting of 3 water-flush boreholes was deemed a reasonable level of investigation in the outset – as advised for in the CMRA report for the proposals of November 2022, prepared by RB Geotechnical. A watching brief would also be implemented for any signs of mine entries.

It should be noted that this investigation is focused mainly on determining stability from potential shallow historic coal workings and will only provide limited information regarding the risks of uncharted mine entries. A good level of detail should be obtained to provide a more informed opinion as to fugitive gas risks.

3. Site Investigation

3.1 Methodology

Prior to the intrusive site investigation, a search for utilities was undertaken both via online data providers and physically on site using a Cable Avoidance Tool (CAT). Boreholes were marked out with tape measure from boundary lines as illustrated on plan no. 00321/B outlined in appendix 5.2. As part of the mine entry watching brief, a pre survey was undertaken with no visible evidence of any uncharted mine entries. The process for the intrusive coal seam investigation is outlined via the system chart in appendix 5.4.

An investigation utilising a tracked Beretta Rotary Drill Rig equipped with 2m long 75mm diameter drill rods was deemed appropriate in this instance along with water flush techniques to analyse returns and minimise any risks associated with mine gas emissions and spontaneous combustion. Gas monitoring equipment would be employed during works for risks associated

with Methane, Carbon Monoxide, Oxygen and Carbon Dioxide. Any boreholes emitting a dangerous level of methane would be terminated and sealed immediately. All holes to be filled and sealed as soon as possible with bentonite upon termination. Prior agreement had been secured for these works from the Coal Authority -permit ref: 27063 – as attached for reference in appendix 5.5.

Given the details of the CMRA, the investigation should determine any shallow mining risks associated with either the Joan coal seam (which is expected at a relative shallow depth) and/or the deeper Flockton coal seam which is known to have been worked, although the depth of which is uncertain.

The works were to be supervised by the Drilling Engineers Mr. S. Fish and Mr I. Wiles, and overseen by the Principal Engineer Mr. M. Lyons.

3.2 Interpretation of Findings

All boreholes proved similar sections of strata with circa 0.4m of made ground above brown clay and then bedrock consisting of quite soft brown mudstone at between 0.9m deep to 1.2m deep. An in-tact coal seam was encountered in all holes circa 0.5m thickness @ 12.9m deep in BH1; 13m deep in BH2; and 12.7m deep in BH3. Holes were taken to 30m to check that the second seam wasn't present –which was confirmed with grey mudstones, including thin sandstone bands, proved to depth. The seam would appear consistent with being the 'Joan' seam, which is known to be surrounded by quite a thickness of 'dark bind / black shale' – noted as black mudstone – according to nearby mining records.

No signs of underground shallow workings or unstable ground were encountered at any of the borehole locations, with water flush maintained throughout drilling. At such a depth, the Joan seam should be too deep to affect the proposed development in any case. The Flockton coal seam workings will similarly be too deep to be of affect also. No fugitive gases were detected at any point during the drilling operations.

The logs appear to match well at the same elevation which would infer no signs of any geological faulting between the borehole locations.

4. CONCLUSIONS AND RECOMMENDATIONS

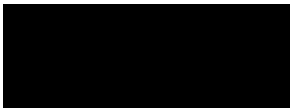
- 1) The site is considered to be stable from the shallow coal mining aspect and as such usual foundations can be considered in line with the advice provided by the appointed building control department should the development progress.
- 2) No signs of any mine entries were observed during the investigation, however slight risks are always present within the exposed coalfield for discovering such features. Watching briefs would be prudent during future ground works for any associated signs of either an old mine shaft or adit. The Coal Authority should be notified where any such feature is suspected.

- 3) No fugitive gases were encountered, and given the findings the risk of such is considered low. This position may change of course if any mine entries are discovered, in which case mine gas monitoring/precautions should be considered further.

This report and future development proposals should be submitted to the regulators for their approval prior to any works taking place.

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
Consultant Mining Engineer
BSc CSci MIMMM

Enc.

THIS SITE INVESTIGATION INTERPRETATIVE REPORT 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 Special Publication 32 - "Construction Over Abandoned Mine Workings." The opinion may be overruled by Government Authorities based on other information not in my record. Further site investigations may be undertaken which would supersede the factual findings of this investigation. Copyright in this report 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.

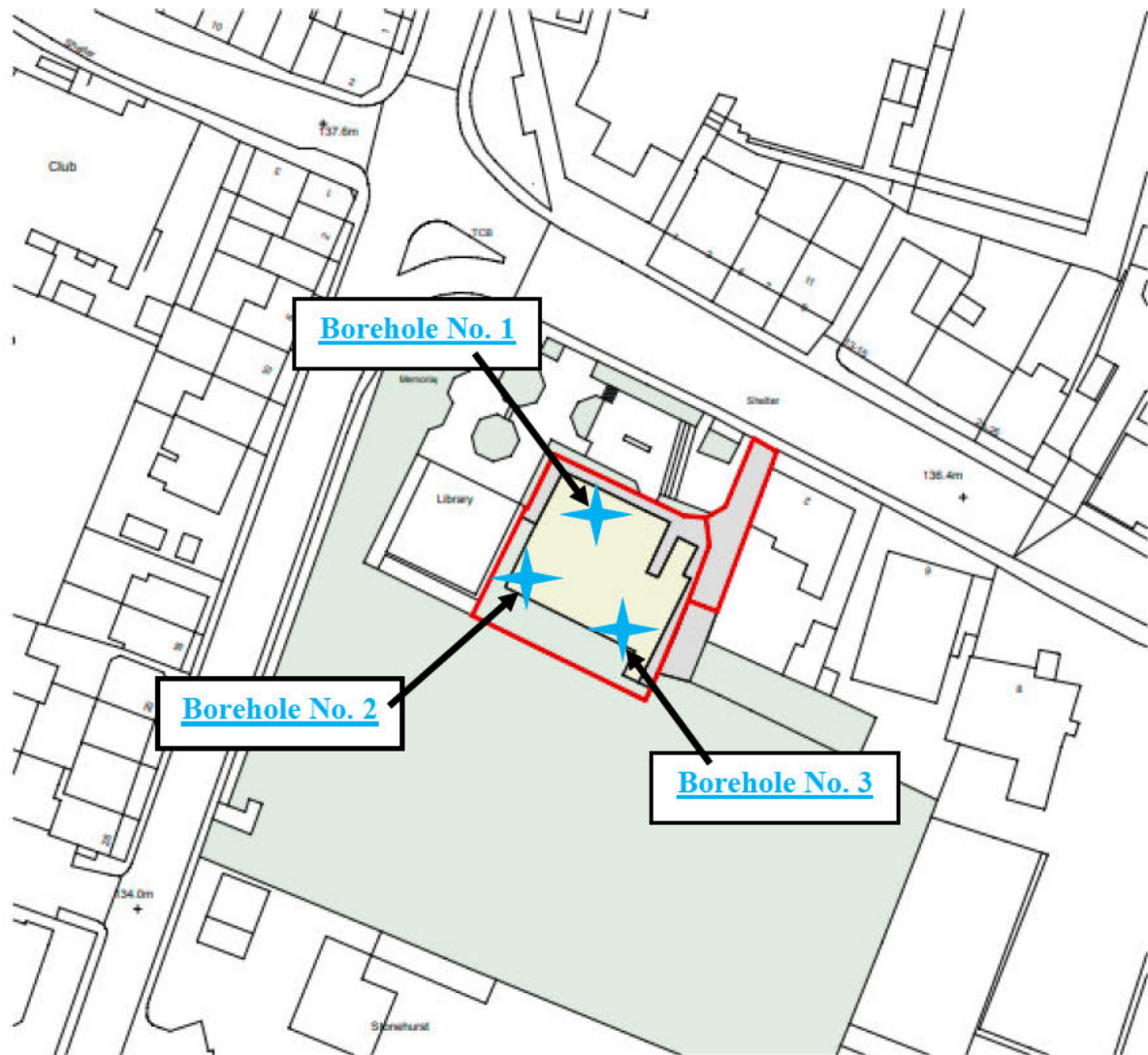
5 Appendix

5.1 References

- 5.1.1 CIRIA C758D ‘Abandoned mine workings manual’.
- 5.1.2 British Standards Institution: BS 5930:2015 ‘Code of practice for ground investigations’ BSI 2015.
- 5.1.3 British Standards Institution: BS EN ISO 14688-1: 2002 + A1 2013 ‘Geotechnical Investigation and Testing - Identification and Classification of Soil - Part 1 - Identification and Description. BSI 2013.
- 5.1.4 British Standards Institution: BS EN ISO 14689-1: 2003 ‘Geotechnical Investigation and Testing – Identification and Classification of Rock – Part 1 – Identification and Description. BSI 2003. Incorporating Corrigendum No. 1 February 2007.
- 5.1.5 British Standards Institution: BS 10175 ‘The Investigation of Potentially Contaminated Sites. Codes of Practice’. BSI 2011+A1 2013.
- 5.1.6 British Standards Institution: BS EN ISO 22476-3: 2005 + A1 2011 ‘Geological Investigating and Testing. Field Testing. Standard Penetration Test’.
- 5.1.7 British Standard 1377:1990 Parts 1-9 ‘Methods of Test for Soils for Civil Engineering Purposes’.

5.2 Borehole Location Plan No. 00321/B

**LAND AT 2A HIGH STREET,
DODWORTH, BARNSLEY S75 3RF**
Site Investigation
Borehole Location Plan
(NTS)

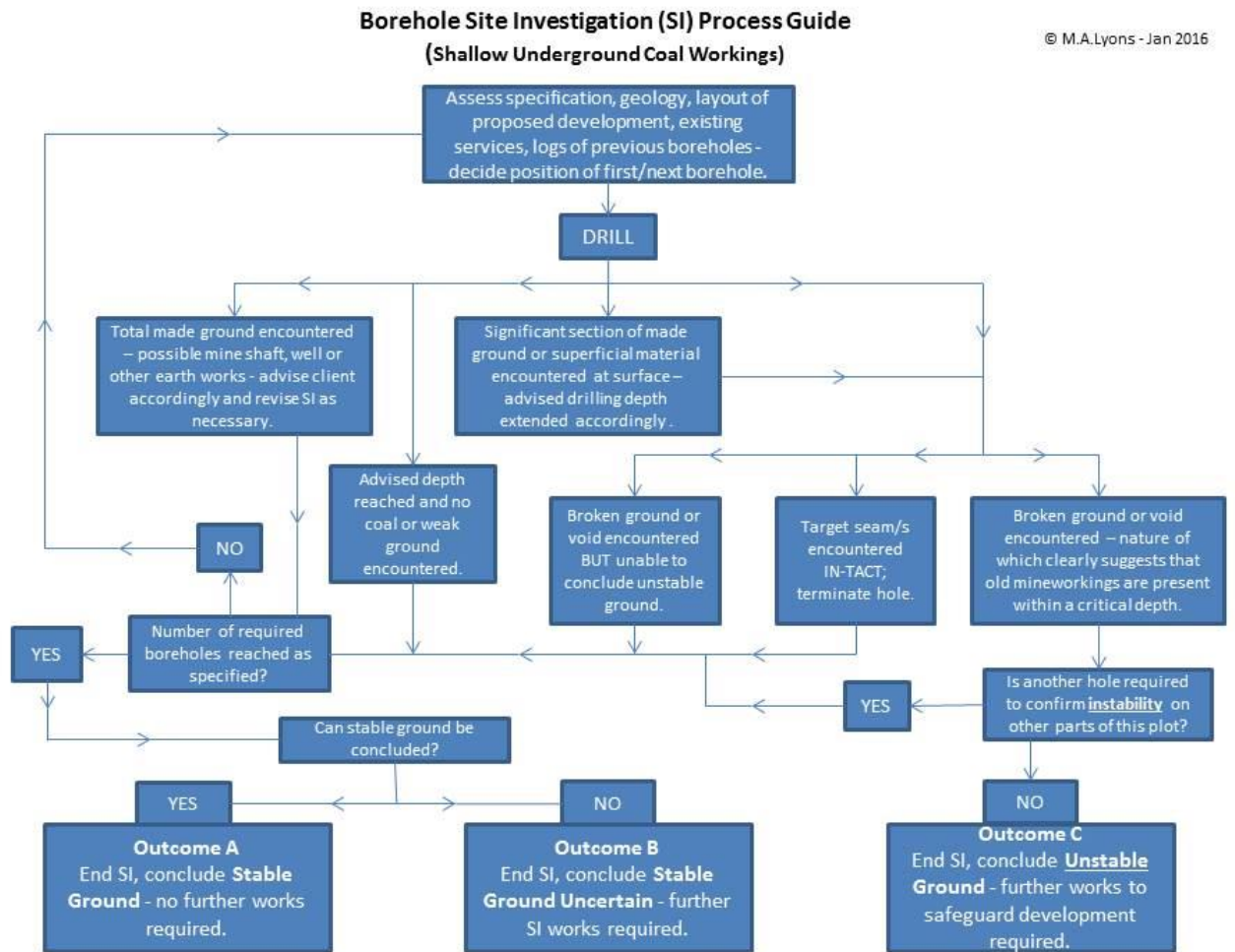


5.3 Drilling log sheets

Client: Chris Dickinson	Site: Land at 2A High Street Dodworth Barnsley		Cape Site Services unit 2, rear of Castle Buildings Carlton Road, Barnsley, S71 3HX	
Date: 07/09/2023	Method: water flush	Permit No: 27063		
Driller: Simon Fish		Driller Assistant: Richard Hawkins		
		Page No:		

Measurements In Meters				
BH No:	FROM	TO	THICKNESS	DESCRIPTION
1				
	0	0.4	0.4	Made ground
	0.4	0.9	0.5	Clay brown
	0.9	3.8	2.9	Mudstone brown soft clay bands
	3.8	9	5.2	Mudstone grey soft bands
	9	12.9	3.9	Mudstone black
	12.9	13.3	0.4	Coal
	13.3	14.5	1.2	Mudstone black
	14.5	30	15.5	Mudstone grey sandstone bands
2				
	0	0.4	0.4	Made ground
	0.4	1.2	0.8	Clay light brown
	1.2	4	2.8	Mudstone brown soft bands
	4	9.2	5.2	Mudstone grey
	9.2	13	3.8	Mudstone black
	13	13.4	0.4	Coal
	13.4	15	1.6	Mudstone black
	15	30	15	Mudstone grey sandstone bands
3				
	0	0.4	0.4	Made ground
	0.4	1.2	0.8	Clay light brown
	1.2	4.2	3	Mudstone light brown
	4.2	9.2	5	Mudstone grey
	9.2	12.7	3.5	Mudstone Black
	12.7	13.2	0.5	Coal
	13.2	14.9	1.7	Mudstone black
	14.9	30	15.1	Mudstone grey Sandstone bands

5.4 Site Investigation Process



5.5 Coal Authority Permit



The Coal
Authority

Permit to Enter or Disturb Coal Authority Interests

Permit 27063

Name and Address of Permit Holder:

*Dickinson Properties Yorkshire Ltd
5 Ravens Close
Mapplewell
Barnsley
S75 6LR*

Site Location:

*Land At
2A High Street
Dodworth
Barnsley
S75 3RF*

This certificate hereby grants the above named Permit Holder a Permit to carry out:-

Ground investigation by three rotary boreholes to 30m depth to determine presence of shallow mine workings all within the Authority's interests at the identified site location above as shown on the Grant Permit Boundary (overleaf) for the period of **12 months** from the granted date shown below. *The granting of this Permit does not constitute advice given by the Authority in relation to the proposed operations. It is the Permit Holder's responsibility to obtain appropriate health, safety, environmental, technical and legal advice.*

Conditions:

- *Manned entry (i.e.) into mine entries/workings) is strictly prohibited.*
- *Water flush drilling only*
- *Gas Monitoring for CO, CH₄, CO₂, O₂, and H₂S at borehole and drill rig*
- *Operators undertaking the work must be in possession of this certificate and the Permit boundary plan at the time of works*
- *Appropriate borehole reinstatement and sealing without delay and to withstand site level changes*

Signed: _____ Granted Date: **4th August 2023**

For and on behalf of The Coal Authority

Nominated Representative: Leigh Sharpe, Permitting Manager;

The Coal Authority, Permitting Office, 200 Lichfield Lane, Mansfield, Notts, NG18 4RG

Tel: 01623 637450; E-Mail: permissions@coal.gov.uk