

Mr Paul Stone
Lower Crawshaw Farm
Stringer House Lane
Emley
HD8 9SU

LYONS CMC
COAL MINING & GEOTECHNICAL
CONSULTANCY

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Date: 5th February 2025
Your ref: (HD8 9SU)
My Ref: SI 00331

FOR THE ATTENTION OF PAUL STONE & TONY STEAD

Dear Sirs,

COAL MINING RISK INTERPRETATION REPORT – FOLLOWING THE SITE
INVESTIGATION FOR PROPOSED RESIDENTIAL DEVELOPMENT AT LOWER
CRAWSHAW FARM, STRINGER HOUSE LANE, EMLEY HD8 9SU

I am pleased to supply the following report for the above 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

THIS 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 C758D – ‘Abandoned Mine Workings Manual’.. 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.

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1. Introduction

Planning permission is being considered for the development of two relatively substantial barn extensions 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. 00331/B – as attached and illustrated in appendix 5.2 which also outlines the proposed development.

2. Scope of the Report

The mining legacy risks to the development are as follows:

- Instability from shallow underground coal workings
- 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 between 2 to 4 holes was deemed a reasonable level of investigation in the outset regarding potential void migration given the scale and nature of development combined with the available geological and mining information. 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.

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. 00331/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 unchartered mine entries.

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, Carbon Dioxide and Hydrogen Sulphide. Prior agreement had been secured for these works from the Mining Remediation Authority -permit ref: 29346 – as attached for reference in appendix 5.4.

Considering the geological/mining details and the CMRA report as prepared by ourselves (ref: CMRA 00331 dated 14th November 2023) boreholes were decided to be taken to the base of the Flockton Thin seam or to 10m if not encountered. No other workable seam is anticipated at a shallow enough depth to be of affect (from a void migration aspect) beneath the Flockton Thin seam.

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

Borehole (BH) no. 1 (located adjacent a disused above ground fuel tank) beneath 0.3m of concrete/made ground, proved: sandy clay with sandstone boulders to 1.3m deep (no evidence of petrochemical contamination noted; either visibly or odour); brown sandstone (some grey) to 4m deep; grey silty mudstone to 6.7m deep (with some loss of flush at 6.5m which soon returned; no broken ground noted); black mudstone to 6.9m deep; **an in-tact 'dirty' coal to 7.6m deep (0.7m thickness; anticipated as the Flockton Thin seam);** and firm grey silty mudstone to 9m deep.

BH no. 2, beneath 0.3m of topsoil, proved: brown clay with sandstone boulders to 1.2m deep; brown sandstone to 5m deep; grey silty mudstone to 6.5m deep; black mudstone to 7m deep; **an in-tact 'dirty' coal to 7.5m deep (0.5m thickness; anticipated as the Flockton Thin seam);** and firm grey silty mudstone to 8m deep.

BH no. 3, beneath 0.3m of topsoil, proved: brown clay with sandstone boulders to 1.0m deep; brown sandstone to 4.8m deep; grey silty mudstone to 6.3m deep; black mudstone to 6.9m deep; **an in-tact 'dirty' coal to 7.4m deep (0.5m thickness; anticipated as the Flockton Thin seam);** and firm grey silty mudstone to 8m deep.

No signs of underground shallow workings or unstable ground were encountered at any of the three borehole locations. Given the apparent poor quality of the coal seam, shallow un-recorded workings are considered a low probability. No fugitive gases were detected at any point during the drilling operations.

The logs match well which would infer no signs of any geological faulting between the borehole locations.

4. CONCLUSIONS AND RECOMMENDATIONS

- 1) Although (what is believed to be) the 'Flockton Thin' coal seam is present at a relatively shallow depth of the proposed development, the three boreholes undertaken have proved stable ground conditions in the areas investigated across the proposed footprint area. Given the findings the risks of shallow voids to compromise stability in this instance is considered low, and usual foundations can be considered in line with the advice of the appointed building control officer/department at the time of construction. It should be noted however

that a further watching brief should be employed during future foundation/ground works for any signs of unstable ground or bedrock throughout areas not covered by this investigation. If encountered then further investigations may be required and foundation designs may need to be reconsidered.

- 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 Mining Remediation Authority should be notified where any such feature is suspected (grey circular areas of fill within natural bedrock would be an indication of an old mine shaft for example).
- 3) No fugitive gases were encountered, and given the geology the risk of such to impact the development is considered low. No petrochemical contamination or odour was noted during the operations in the vicinity of the disused above ground fuel tank (borehole no. 1).

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

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 C758D – “Abandoned Mine Working Manual.” 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.

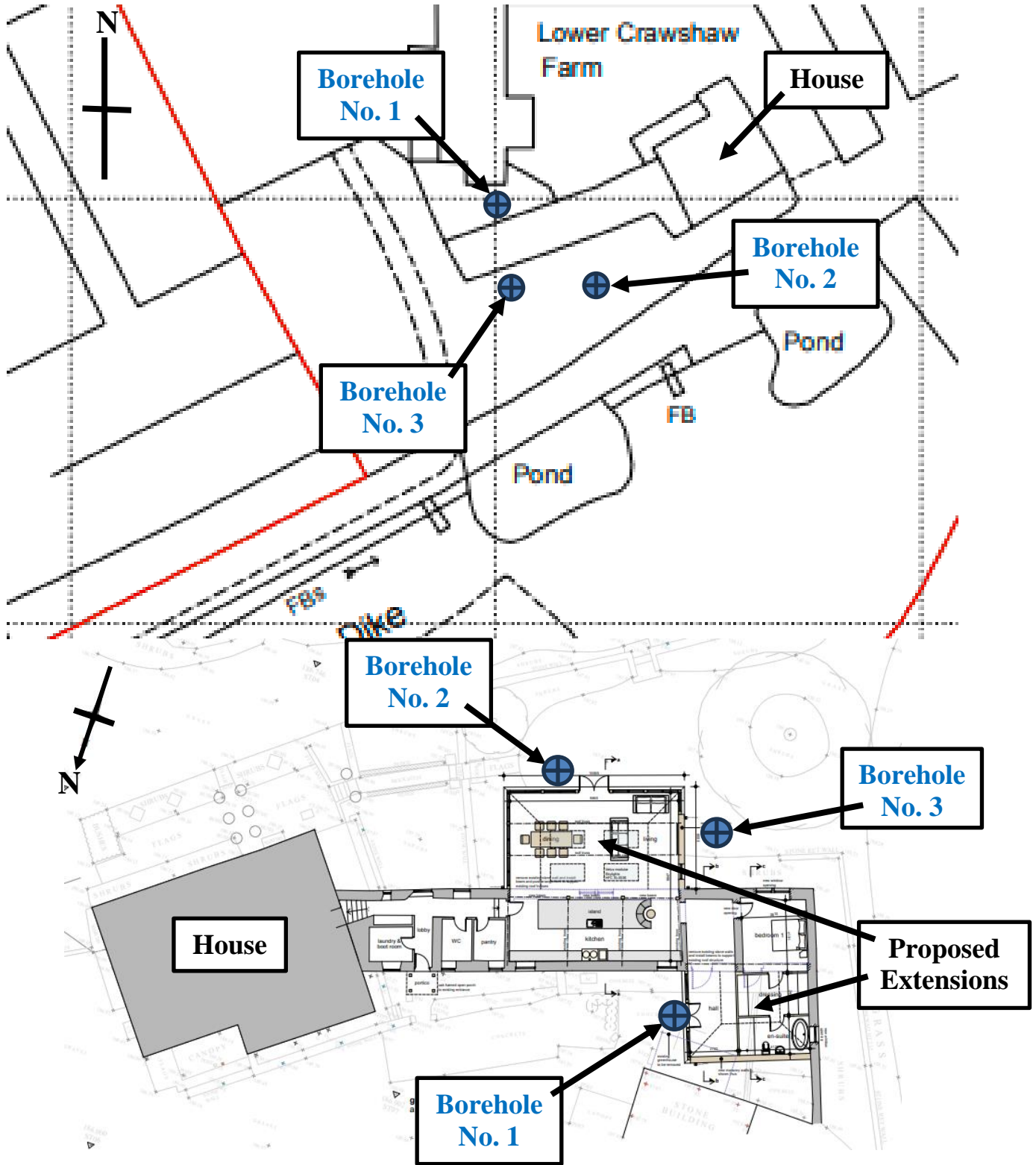
5 Appendix

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 Location/Development/Borehole Plan No. 00331/B

LAND AT LOWER CRAWSHAW FARM, STRINGER HOUSE LANE, EMLEY HD8 9SU
Site Investigation
Borehole Location Plan
(NTS)



5.3 Drilling Log Sheets

Client: Paul Stone	Site: Lower Crawshaw Farm, Stringer House Lane, Emley, Huddersfield. HD8 9SU.	Cape Site Services unit 2, rear of Castle Buildings Carlton Road, Barnsley, S71 3HX		
Date: 31/01/2025	Method: water flush	Permit No: 29346		
Driller: Ian Wiles		Driller Assistant: Richard Hawkins, Simon Fish, Jonathon Doughty		
		Page No: 1		

Measurements In Meters

BH No:	FROM	TO	THICKNESS	DESCRIPTION
1				
	0	0.1	0.1	Concrete
	0.1	0.3	0.2	Made ground dark grey
	0.3	1.3	1	Clay sandy with boulders brown
	1.3	4	2.7	Sandstone brown some grey
	4	6.5	2.5	Mudstone grey silty
	6.5	6.7	0.2	Mudstone grey silty water loss 50% then got back
	6.7	6.9	0.2	Mudstone black
	6.9	7.6	0.7	Coal dirty
	7.6	9	1.4	Mudstone grey silty
2				
	0	0.3	0.3	Topsoil grass
	0.3	1.2	0.9	Clay brown with sandstone boulders
	1.2	5	3.8	Sandstone brown
	5	6.5	1.5	Mudstone grey silty
	6.5	7	0.5	Mudstone black
	7	7.5	0.5	Coal Dirty
	7.5	8	0.5	Mudstone grey silty
3				
	0	0.3	0.3	Topsoil grass
	0.3	1	0.7	Clay brown with sandstone boulders
	1	4.8	3.8	Sandstone brown
	4.8	6.3	1.5	Mudstone grey silty
	6.3	6.9	0.6	Mudstone black
	6.9	7.4	0.5	Coal Dirty
	7.4	8	0.6	Mudstone grey silty

5.4 Coal Authority Permit



Mining
Remediation
Authority

Permit to Enter or Disturb Mining Remediation Authority Interests

Permit 29346

Name and Address of Permit Holder:

Paul Stone
Lower Crawshaw Farm
Stringer House Lane, Emley
Huddersfield
HD8 9SU

Site Location:

Lower Crawshaw Farm
Stringer House Lane
Emley
Huddersfield
HD8 9SU

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

Ground investigation by four boreholes to 10m to determine presence of shallow mine workings

within the Authority's interests at the identified site location above as shown on the Granted 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*
- *Gas Monitoring CO, CH₄, CO₂, O₂, H₂S at borehole and rig*
- *Operators undertaking the work must be in possession of this certificate and the Permit boundary plan at the time of works*
- *Appropriate borehole sealing without delay and to withstand site level changes*

Signed: Ruth Griffiths Granted Date: 13th January 2025

For and on behalf of the Mining Remediation Authority

Nominated Representative: Ruth Griffiths, Permitting Manager;

Mining Remediation Authority, Permitting Office, 200 Lichfield Lane, Mansfield, Notts, NG18 4RG

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