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# Land off Stringer House Lane

## Intrusive Coal Mining Assessment

## December 2025

**Document Control**

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|---|---|
| **Project:** | Land off Stringer House Lane Intrusive Coal Mining Assessment |
| **Client:** | Matthew Hobbs |
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Prepared and Issued by Ross Blake BSc MSc FGS, Engineer. Signed :

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|---|---|---|
| 001 | December 2025 | Final |

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**Disclaimer**

This report was produced by RB Geotechnical for Matthew Hobbs (The client), for the specific purpose of an Intrusive Coal Mining Assessment for the proposed new residential development on the Land Off Stringer House Lane in Emley, West Yorkshire. This report may not be used by anyone else other than the client without their express permission. In any event, RB Geotechnical accepts no liability for any costs, liabilities or losses arising from the use of reliance upon the contents of this report by anyone other than the client.

# 1.0 Introduction

RB Geotechnical was commissioned by the client to carry out an Intrusive Investigation for the proposed residential development on the site of Land off Stringer House Lane in Emley, West Yorkshire. The purpose of this assessment is to identify whether any risks of unrecorded mine workings exist beneath the site.

## 1.1 Aims and Scope

The principal aim of this Intrusive Coal Mining Assessment is to interpret the information obtained from an intrusive ground investigation carried out on the site on 1st December 2025.

Upon assessing the above information, this report will give recommendations as to whether any form of remedial works will be required to alleviate the risk posed by any (if encountered) mine workings or evidence of mine workings.

## 1.2 Terms and Conditions

This report has been prepared for Matthew Hobbs to allow for an assessment of potential mine workings beneath the site of Land off Stringer House Lane.

## 1.3 Constraints and Limitations

This report is intended for Matthew Hobbs for the purpose of assisting them in assessing the site for possible coal mine workings.

RB Geotechnical has endeavoured to assess all information provided to them. The report includes summaries of information from external sources and cannot offer any guarantees or warranties for the completeness or accuracy of information relied upon. The recommendations summarised in this report relate to the re-development proposal on site for new apartments. Any substantial changes to the intended use of the site may require a reassessment of the implications of the risks identified and a review of the findings.

The conclusions resulting from this study are not necessarily indicative of future conditions or operating practices at or adjacent to the site.

It should be noted that although every effort has been made to ensure the accuracy of the data obtained from the investigation, the possibility exists of variations in ground conditions between and around the borehole locations.

### 1.4 Sources of information

The following sources were used for this assessment:

- Rotary Open Hole Borehole Logs, December 2025 – Appendix B

Although every effort has been made to ensure the accuracy of any of the third-party information contained herein, no checks have been carried out to ensure the accuracy of information obtained from third parties and no liability can be accepted for any errors or misinterpretation of the third party information where it has been incorporated into this report.

## 2.0 Site Details

### 2.1 Site Location and Description

The proposed development area is situated off Stringer House Lane in Emley, West Yorkshire, at a roughly rectangular plot of land located adjacent to Broomfield Farm. The site currently comprises a small breeze block building used for storage of gardening equipment, in the South West corner, with the rest of the site undeveloped. The rest of the site comprises grass.

### 2.2 Proposed Development

The site is to be developed with a new large detached residential property, with driveway and garden. The proposed development plan is shown in Appendix A.

## 3.0 Intrusive Coal Mining Ground Investigation

An Intrusive Investigation was carried out on the site on 1st December 2025, comprising three Rotary Open Hole Boreholes, labelled RO1, RO2 and RO3 (undertaken by Cape Site Services Ltd). The exploratory hole location plan is shown in Appendix A and full Rotary Open Hole Borehole Logs are included as Appendix B.

### 3.1 Rotary Open Holes

Three Rotary Open Hole boreholes were carried out across the proposed development site. Upon using this drilling method, whereby a water flush is utilised, it ensures that there is no danger should mine gas be encountered. This drilling method is used to identify a void or mine working, whereby a sudden loss of water flush is encountered during drilling. Where voids or mine workings are not encountered, the water flush would continue to flow into the borehole at a generally consistent rate. Table 3.1 shows a summary of the findings of the Rotary Open Hole Drilling.

Note *: CIRIA (Construction over abandoned mine workings, 1989), suggests a thickness of solid rock through which a void can migrate is 7h to 10h above the roof of the workings, where h is the height of the workings (generally assumed to be similar to the seam thickness). The lower end of this range (7h) is generally only applicable where the overlying strata are predominantly thickly bedded sandstones, which are not typical of this site. Therefore the 10h rule should be used.

Table 3.1 shows in all three Rotary Open Hole Boreholes, bedrock was encountered at depths of 12.40mbgl (metres below ground level) to 2.60mbgl, as a light grey and brown SANDSTONE. This was found to extend to a depth of 11.40mbgl to 11.60mbgl, then underlain by a MUDSTONE interbedded with SANDSTONE bands.

A coal seam was encountered in all three boreholes at a depth of 17.10mbgl to 17.30mbgl, with a thickness of 0.20m to 0.50m. This coal seam was found to be completely intact with no evidence of workings. Intact MUDSTONE was encountered beyond this coal seam extending to the base of the boreholes at 25.0mbgl.

No remedial measures will therefore be necessary.

Table 3.1 Summary of Rotary Open Hole Findings

| Borehole ID | | RO1 | RO2 | RO3 |
|---|---|---|---|---|
| Final Depth (mbgl) | | 25.00 | 25.00 | 25.00 |
| Depth to Rockhead (mbgl) | | 2.40 | 2.50 | 2.60 |
| Coal Seams | Depth (mbgl) | 17.10 | 17.10 | 17.30 |
| | Thickness (m) | 0.50<br>0 | 0.50 | 0.50 |
| 10 x Competent Cover (CIRIA 1989)* | | YES | YES | YES |
| Evidence of Ground Gases | | NO | NO | NO |
| Loss of flush | Depth (mbgl) | NOT ENCOUNTERED | NOT ENCOUNTERED | NOT ENCOUNTERED |
| | Thickness (m) | NOT ENCOUNTERED | NOT ENCOUNTERED | NOT ENCOUNTERED |
| VOID | | NOT ENCOUNTERED | NOT ENCOUNTERED | NOT ENCOUNTERED |
| Other Information | | No loss of flush encountered during drilling. No evidence of mine workings | No loss of flush encountered during drilling. No evidence of mine workings. | No loss of flush encountered during drilling. No evidence of mine workings. |

Full Rotary Open Hole borehole logs are presented in Appendix B.

## 4.0 Foundations Recommended

The absence of voids or evidence of mine workings beneath the site indicates that no remedial measures will be necessary related to mine workings or voids.

Therefore shallow strip or pad footings placed into the shallower Clay soils (encountered at depths from around 0.40mbgl, should suffice for the new building, however with intact bedrock encountered at a depth of 2.40mbgl, this may provide a more sufficient founding medium.

All foundations must be inspected to ensure that no footings are placed upon any existing weak Made Ground, softer soils or any other weak materials that would be incapable of safely sustain the applied foundation loads. This is particularly important wherever any appreciable amounts of Made Ground occur. Additionally, all foundation excavations should be inspected to confirm that the proposed bearing stratum is rid of any largely clayey spots and is uniformly compacted.

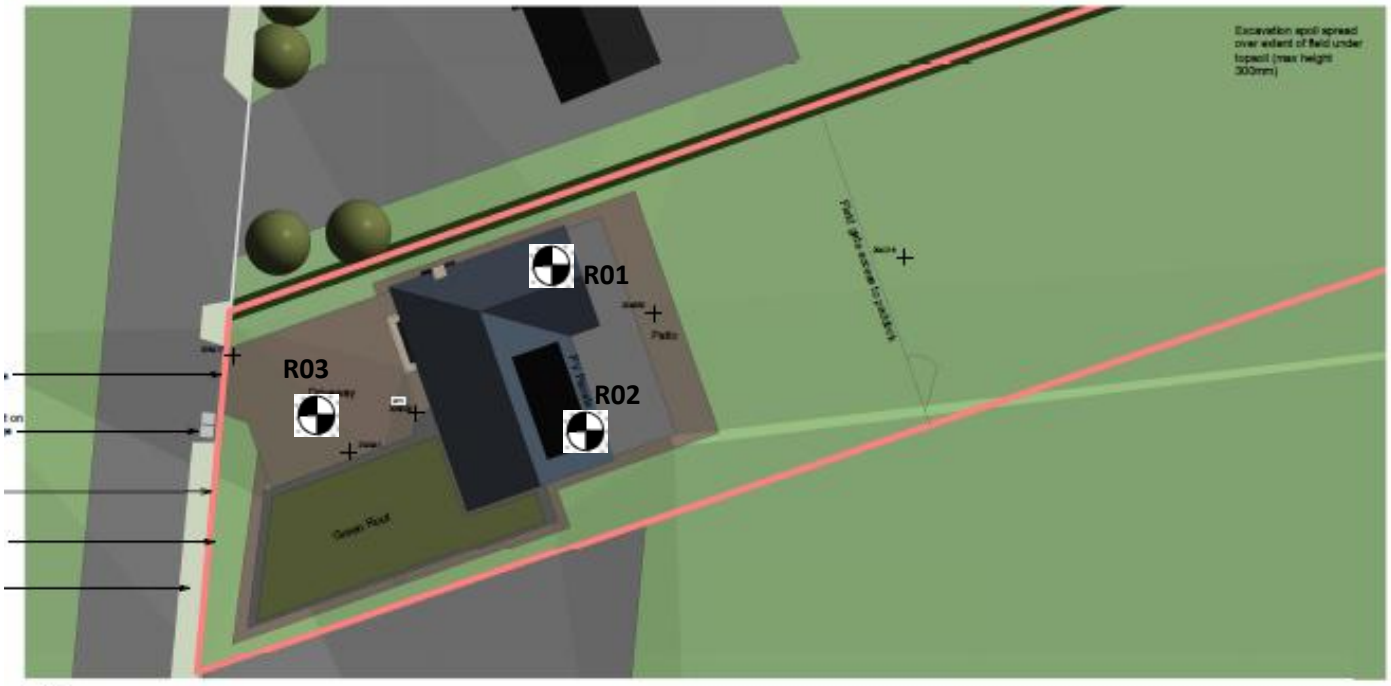
## 5.0 Conclusions and Recommendations

The exploratory holes undertaken across the site identified bedrock at depths from 2.40mbgl to 2.60mbgl as a SANDSTONE underlain by MUDSTONE with SANDSTONE bands. A coal seam (likely the Flockton Coals) was encountered at a depth of 17.10mbgl to 17.30mbgl, with a thickness of 0.20m to 0.50m. This coal seam was found to be intact with no evidence of workings or voids.

RB Geotechnical can therefore confirm that the risk of possible unrecorded mine workings beneath the site that could affect the proposed development is deemed to be Low. No further soil or ground remedial measures are deemed necessary related to possible past mining activity.

# APPENDIX A – EXPLORATORY HOLE LOCATION PLAN AND PROPOSED DEVELOPMENT

Rotary Borehole




Proposed Site Plan 1:200

Appendix A –Proposed Development Plan and Exploratory Hole Locations RB Geotechnical

# APPENDIX B – ROTARY OPEN HOLE BOREHOLE LOGS

| Client: RB Geotechnical | Site: Land Adj to 28 Stringer House Lane, Emley Moor. HD8 9SU | | Cape Site Services unit 2, rear of Castle Buildings Carlton Road, Barnsley, S71 3HX |
|---|---|---|---|
| Date: 01/12/2025 | Method: water flush | Permit No: 30666 | |
| Driller: Ian Wiles | | Driller Assistant: Richard Hawkins, Simon Fish | |
| | | Page No: 1 | |

**Measurements In Meters**

| BH No: | FROM | TO | THICKNESS | DESCRIPTION |
|---|---|---|---|---|
| RO1 | | | | |
| | 0 | 0.3 | 0 | Topsoil grass |
| | 0.3 | 2.4 | 2.1 | Clay brown grey silty |
| | 2.4 | 11.4 | 9 | Sandstone light grey some brown bands |
| | 11.4 | 13.5 | 2.1 | Mudstone grey silty odd sandstone band |
| | 13.5 | 14.5 | 1 | Mudstne dark grey black shale |
| | 14.5 | 17.1 | 2.6 | Mudstone grey silty |
| | 17.1 | 17.6 | 0.5 | Coal |
| | 17.6 | 23.1 | 5.5 | Mudstone grey silty |
| | 23.1 | 24 | 0.9 | Mudstone dark grey some black shale small coal trace |
| | 24 | 25 | 1 | Mudstone grey silty |
| | | | | |
| RO2 | | | | |
| | 0 | 0.4 | 0.4 | Topsoil grass |
| | 0.4 | 2.5 | 2.1 | Clay brown grey silty |
| | 2.5 | 11.5 | 9 | Sandstone light grey some brown bands |
| | 11.5 | 13.6 | 2.1 | Mudstone grey silty odd sandstone band |
| | 13.6 | 14.5 | 0.9 | Mudstne dark grey black shale |
| | 14.5 | 17.1 | 2.6 | Mudstone grey silty |
| | 17.1 | 17.6 | 0.5 | Coal |
| | 17.6 | 32.1 | 14.5 | Mudstone grey silty |
| | 32.1 | 24 | -8.1 | Mudstone dark grey some black shale small coal trace |
| | 24 | 25 | 1 | Mudstone grey silty |
| | | | | |
| RO3 | | | | |
| | 0 | 0.4 | 0.4 | Topsoil grass |
| | 0.4 | 2.6 | 2.2 | Clay brown grey silty |
| | 2.6 | 11.6 | 9 | Sandstone light grey some brown bands |
| | 11.6 | 13.7 | 2.1 | Mudstone grey silty odd sandstone band |
| | 13.7 | 14.7 | 1 | Mudstne dark grey black shale |
| | 14.7 | 17.3 | 2.6 | Mudstone grey silty |
| | 17.3 | 17.5 | 0.2 | Coal |
| | 17.5 | 23.3 | 5.8 | Mudstone grey silty |
| | 23.3 | 24.2 | 0.9 | Mudstone dark grey some black shale small coal trace |
| | 24.2 | 25 | 0.8 | Mudstone grey silty |
| | | | | |