

Environmental
Geotechnical
Specialists



COAL MINING INVESTIGATION REPORT

< ENVIRONMENTAL > < GEOTECHNICAL >

| | |
|--------------|------------|
| job number | date |
| site address | |
| written by | checked by |
| issued by | |

 Please consider the environment before printing this report.



Rogers Geotechnical Services Ltd
Offices 1 & 2 Barncliffe Business Park, Near Bank, Shelley, Huddersfield, HD8 8LU
☎ 01484 604354 Company No. 5130864

Contents

| | | Page |
|-----|--------------------------------------|------|
| 1. | Introduction | 1 |
| 2. | Limitations | 1 |
| 3. | Preliminary Desk Study | 2 |
| 4. | Fieldworks | 2 |
| 4.1 | Acquisition of Coal Authority Permit | 2 |
| 4.2 | Rotary Open-hole Boreholes | 2 |
| 4.3 | Summary of Works | 3 |
| 5. | Geological Appraisal | 3 |
| 6. | Strata Conditions | 4 |
| 7. | Discussion of Ground Conditions | 4 |
| 8. | Risk Assessment | 5 |
| 9. | References | 5 |

Appendices

| | |
|----|-----------------------|
| 1. | Coal Authority Permit |
| 2. | Site Plan |
| 3. | Borehole Records |



Report on Rotary Probing

Location: **Shelley Lodge**
2 Box Ings Lane, Shelley, Huddersfield, West Yorkshire, HD8 0SU

For: Peter Armitage

Report No. C3044/24/E/6655

Report date: April 2025

For and on behalf of **Rogers Geotechnical Services Ltd**

Redacted

Redacted

Steven Hale BSc FGS
Geo-environmental Technician

Rob Palmer MSc FGS ACIEH
Engineering Director

1. Introduction

It is understood that the site is to be developed by the construction of a detached bungalow. As part of the planning process a site investigation has been undertaken to establish if coal workings are present beneath the area of the proposed works. This report presents the data obtained and discusses the ground conditions in relation to the proposed development.

2. Limitations

The recommendations made and opinions expressed in this report are based on the ground conditions revealed by the site works, together with an assessment of the previous desk-based assessments. Whilst opinions may be expressed relating to sub-soil conditions in parts of the site not investigated, for example between borehole positions, these are for guidance only and no liability can be accepted for their accuracy.

This report has been prepared in accordance with our understanding of current best practice. However, new information or legislation, or changes to best practice may necessitate revision of the report after the date of issue.

3. Preliminary Desk Study

The following information has been considered during the works.

- Appraisal of available on-line British Geological Survey and Coal Authority data.
- Review of the Coal Mining Risk Assessment (CMRA) provided by the client, produced by JNP Group Consulting Engineers (Ref: B24000-JNP-XX-XX-RP-G-1001, April 2020).

The coal mining risk assessment determined that the Crow Coal seam may outcrop on the site immediately north of the property. As such, investigation consisting of 2no. boreholes to 15m depth was recommended to identify the existence of any potential workings within this seam.

4. Fieldworks

4.1 Acquisition of Coal Authority Permit

In order to undertake this investigation, it was necessary to obtain permission to enter or disturb Coal Authority interests. This permission was granted on the 2nd April 2025 as permit reference number 29672, which is presented in Appendix 1 to this report. In accordance with the joint Coal Authority and Health and Safety Executive positioning statement, and under the requirements of the permit, the works were undertaken employing water flush drilling techniques. Furthermore, the drillers wore gas detectors on their person throughout the works.

4.2 Rotary Open-hole Boreholes

The fieldworks were completed on the 7th and 8th April 2025, in accordance with the instruction to proceed issued by the client. These works were required in order to prove that workings were not present to a depth of 15m beneath this site.

The boreholes were sunk using a Comacchio 205 rotary drilling rig using rotary open-hole drilling techniques and employing 130mm diameter drag and tricone roller bits. Where necessary, 140mm diameter casing was temporarily installed through the overburden to support the bore. The investigation was undertaken using water flush drilling techniques in accordance with the Coal Authority and Health and Safety Executive positioning statement. Drill chippings brought to surface in the flush returns were inspected by the driller on a screen, which forms part of the re-circulation tanks. In addition, representative disturbed samples of the arisings were taken at regular depth intervals and sealed in plastic containers. The borehole positions are shown on the site plan, which is presented in Appendix 2 and the strata conditions are presented on the borehole records in Appendix 3.

Whilst it was necessary to ensure at least one borehole position was drilled to 30m depth, the required termination depth of the other positions was reviewed during the course of the fieldworks, in accordance with the findings of the geological review and CMRA. A summary of the works completed is presented below:

4.3 Summary of Works

| Table 1: Summary of Completed Works | | | |
|-------------------------------------|---------------|-----------|---|
| Location | Dates Drilled | Depth (m) | Comments |
| BH01 | 07.04.2025 | 20 | Terminated as sufficient data was obtained. |
| BH02 | 07-08.04.2025 | 15 | Terminated as sufficient data was obtained. |

5. Geological Appraisal

The available published geological data for the site has been examined and the following table presents the anticipated geology.

| Table 2: Geological Data for the Site | | | |
|---------------------------------------|---------------------------------------|---|--|
| Strata Type | Strata Name ¹ | Previous Name | Description ² |
| Superficial Geology | None recorded | - | - |
| Solid Geology | Pennine Lower Coal Measures Formation | Grey Measures of Yorkshire and Nottingham | Interbedded grey mudstone, siltstone and pale grey sandstone, commonly with mudstones containing marine fossils in the lower part, and more numerous and thicker coal seams in the upper part. |

It should be appreciated that the site is underlain by the undifferentiated strata of the Pennine Lower Coal Measures Formation. The CMRA states that the geological dip is suggested to dip 3° to the southeast

There are two notable coal seams that outcrop within the vicinity of the site, as summarised below:

| Table 3: Summary of Coal Seams within the Vicinity of the Site | | |
|--|-----------------|-----------------------------|
| Seam Name | Seam Thickness* | Outcrop Distance from Site* |
| Crow Coal | 0.00m – 1.20m | At or near the surface |
| Black Bed Coal | 0.00m – 1.80m | 42m |

*All distances are given as approximations only. It should be noted that coal seam thicknesses may vary over relatively short distances.

The JNP report highlighted that the Crow Coal may outcrop on the site immediately to the north of the proposed property. The report states that the Black Bed Coal is confirmed to have been worked beneath the site with workings anticipated at a depth of 20m at the northern end of the site, at the junction of Box Ings Lane, and also at a depth of 42m beneath the location of the proposed property. It also states that the Black Bed Coal should not affect the proposed development. The report concludes that the Crow Coal is anticipated to be present between the surface and 2m depth.

¹ Sources: British Geological Survey (NERC) Map Sheets 86; Glossop; Solid and Drift Edition, and the GeolIndex Onshore [online resource from www.bgs.ac.uk]

It should be appreciated that any coal seams within 30m of the site surface, if worked, could pose a risk of instability to the proposed development.

6. Strata Conditions

In accordance with the geology of the area, the succession has been shown to include the following:

| Table 4: Generalised Strata Profile | | | |
|--|---------------------------|--------------------------------------|------------------------|
| Depth to Base (m) | Strata Type | Positions Strata was Recorded | Groundwater (m) |
| 0.50 | TOPSOIL | Both | None |
| 1.20 – 2.00 | Dark brown CLAY | Both | None |
| 3.00 – 6.00 | Yellowish brown SANDSTONE | Both | None |
| +15.00 – +20.00 | Dark grey MUDSTONE | Both | None |

'+' Denotes that the strata extended below the termination depth of the investigated positions, thus the extent of the deposit is only proven to the depths indicated.

During this investigation, after initially encountering approximately 0.50m of topsoil, dark brown clay was revealed to a maximum depth of 2.00m. This stratum is anticipated to represent the upper most weathered fraction of the Pennine Lower Coal Measures formation, as indicated by the geological data for the site. Casing was installed to 3.00m within both boreholes due to soft ground conditions. Below this stratum, competent layers of the Pennine Lower Coal Measures Formation were revealed to a depth of 20m, comprising yellowish brown sandstone and then dark grey mudstone. During drilling operations, no voids were encountered within the strata or horizons of coal and no loss of flush or drilling resistance was noted during the investigation.

7. Discussion of Ground Conditions

On the basis of all of the information provided above it is noted that no coal seams were encountered within 20m beneath the site. Consequently, it is considered that it is highly unlikely that shallow coal workings are present beneath or in close proximity to the area of the proposed development.

8. Risk Assessment

In light of the findings of this investigation, the risk to the proposed development is considered with reference to the following ratings and definitions:

- Low - The possibility of instability is unlikely therefore no further action is necessary.
- Moderate - The possibility of instability is likely and further investigation or remedial action may be required.
- High - The possibility of instability is highly likely and further investigation or remedial action will be necessary.

Table 5: Development Specific Risk Assessment

| Item | Risk of Instability | Coal Seam(s) Considered | Risk Rating |
|------|-----------------------|-------------------------|-------------|
| 1 | Shallow coal workings | Crow Coal Seam | Low |

In view of all the information obtained in this investigation, it is considered that there is a low risk of ground movement as a consequence of coal workings beneath the site.

9. References

- British Standards Institution (2015 +A1: 2020) BS 5930: *Code of practice for ground investigations*, B.S.I., London.
- Healy, P. and Head, J., 1984. *Construction over abandoned mine workings*. London: Construction Industry Research and Information Association [for] Directorate of Civil Engineering Services, Property Services Agency, Dept. of the Environment.
- Parry, D. and Chiverrell, C., 2019. *Abandoned mine workings manual*. London: CIRIA.
- British Geological Survey (NERC) (2025), BGS, Keyworth.
 - Geology of Britain Viewer:
(http://maps.bgs.ac.uk/geologyviewer_google/googleviewer.html)
 - Borehole Scans:
(<http://www.bgs.ac.uk/data/boreholescans/>)
 - Lexicon of Named Rock Units:
(<http://www.bgs.ac.uk/lexicon/>)

Appendix 1

Coal Authority Permit



Mining
Remediation
Authority

Permit to Enter or Disturb Mining Remediation Authority Interests

Permit 29672

Name and Address of Permit Holder:

*Peter Armitage
Shelley Lodge
2 Box Ings Lane
Shelley
Huddersfield
West Yorkshire
HD8 0SU*

Site Location:

*Shelley Lodge
2 Box Ings Lane
Shelley
Huddersfield
HD8 0SU*

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

Ground investigation by two boreholes to 15m, trial pits to be undertaken to determine presence of shallow mine workings

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*
- *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: **Redacted**

Granted Date: **2nd April 2025**

For and on behalf of the Mining Remediation Authority

Nominated Representative: Amy McKenna, Permitting Manager;

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

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

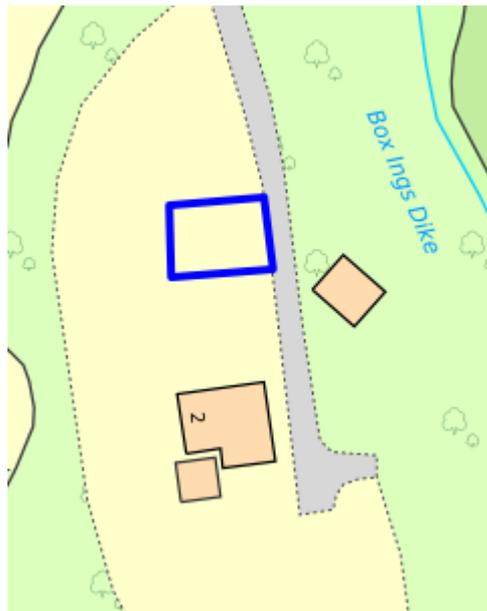


Mining
Remediation
Authority

Granted Permit Boundary

Permit Ref: 29672

Permit Boundary:



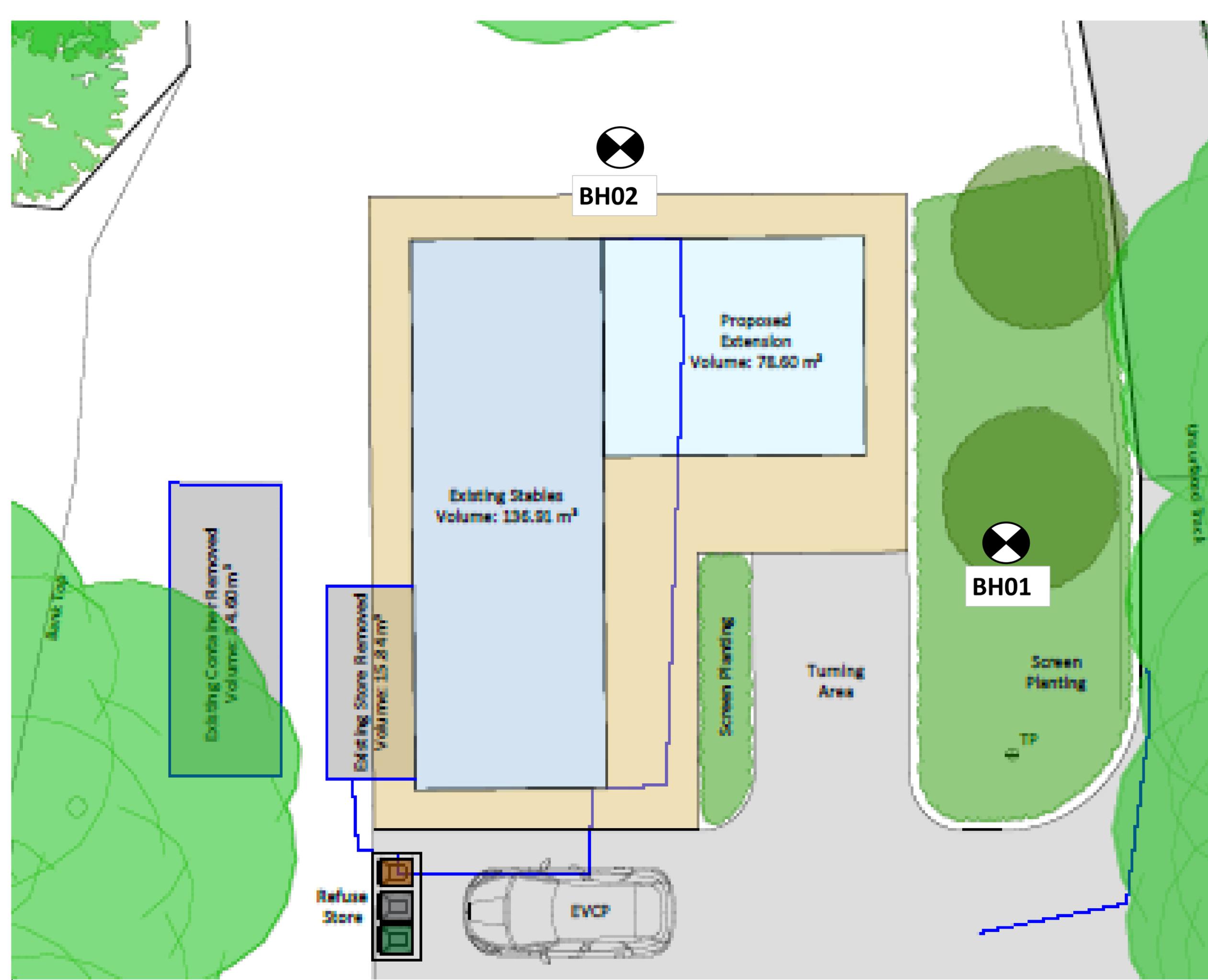
These maps are reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationary Office. © Crown Copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Mining Remediation Authority. Licence No: AC0000820577. [216]

The Mining Remediation Authority is the trading name of the Coal Authority ('TCA') established pursuant to Section 1 of the Coal Industry Act 1994, of 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire, NG18 4RG. The Coal Authority remains the legal name of the Authority



Appendix 2

Site Plan



Notes:



Rogers Geotechnical Services Ltd
 Offices 1 & 2, Barncliffe Business Park,
 Near Bank, Shelley, Huddersfield, HD8 8LU
Telephone: 0843 50 66 87
www.rogersgeotech.co.uk

Client:
 Peter Armitage

Job Number:
 C3044/24/E/6655

Project Details:
 Shelley Lodge, Kirkburton

Scale: Not to scale - reference only

ground investigation | drilling & excavation | insitu testing
 laboratory testing & gas monitoring | engineering consultancy
 surveying & flood risk assessments | training, CPD & expert witness
 ... delivered using our own drilling rigs / crews / soils lab / engineers

Constructionline | GMS 2015-2018 | GMS 2016-2018 | GMS 2017-2018 | GMS 2018-2021 | GMS 2021-2024 | UKAS

Appendix 3

Borehole Records



Borehole Log

Borehole No.

BH01

Sheet 1 of 2

Project Name: Shelley Lodge

Project No.
C3044/24/E/6655

Co-ords:

Hole Type
RO

Location: 2 Box Ings Lane, Shelley, Huddersfield, West Yorkshire, HD8 0SU

Level:

Scale
1:50

Client: Peter Armitage

Dates: 07/04/2025

Logged By
AB

| Well | Water Strikes | Samples and In Situ Testing | | | Depth (m) | Level (m) | Legend | Stratum Description | |
|------|---------------|-----------------------------|------|---------|-----------|-----------|---|---------------------|--|
| | | Depth (m) | Type | Results | | | | | |
| | | | | | | | TOPSOIL (Drillers notes). | | |
| | | | | | 0.50 | | Dark brown CLAY (Drillers notes). | 1 | |
| | | | | | 1.20 | | Yellowish brown SANDSTONE (Drillers notes). | 2 | |
| | | | | | 3.00 | | Dark grey MUDSTONE (Drillers notes). | 3 | |
| | | | | | | | | 4 | |
| | | | | | | | | 5 | |
| | | | | | | | | 6 | |
| | | | | | | | | 7 | |
| | | | | | | | | 8 | |
| | | | | | | | | 9 | |
| | | | | | | | | 10 | |

Remarks

1. Position scanned for services using CAT and Genny. 2. Service pit dug to 1.2m. 3. Collecting water to assist drilling - 1 hour.





Borehole Log

Borehole No.

BH01

Sheet 2 of 2

| | | | |
|---|-----------------------------|----------|--------------|
| Project Name: Shelley Lodge | Project No. C3044/24/E/6655 | Co-ords: | Hole Type RO |
| Location: 2 Box Ings Lane, Shelley, Huddersfield, West Yorkshire, HD8 0SU | Level: | | Scale 1:50 |
| Client: Peter Armitage | Dates: 07/04/2025 | | Logged By AB |

| Well | Water Strikes | Samples and In Situ Testing | | | Depth (m) | Level (m) | Legend | Stratum Description | |
|------|---------------|-----------------------------|------|---------|-----------|-----------|--------------------------------------|---------------------|--|
| | | Depth (m) | Type | Results | | | | | |
| | | | | | | | Dark grey MUDSTONE (Drillers notes). | | |
| | | | | | | | | 11 | |
| | | | | | | | | 12 | |
| | | | | | | | | 13 | |
| | | | | | | | | 14 | |
| | | | | | | | | 15 | |
| | | | | | | | | 16 | |
| | | | | | | | | 17 | |
| | | | | | | | | 18 | |
| | | | | | | | | 19 | |
| | | | | | 20.00 | | End of Borehole at 20.00m | 20 | |

Remarks
 1. Position scanned for services using CAT and Genny. 2. Service pit dug to 1.2m. 3. Collecting water to assist drilling - 1 hour.





Borehole Log

Borehole No.

BH02

Sheet 1 of 2

| | | | |
|---|--------------------------------|----------|--------------|
| Project Name: Shelley Lodge | Project No. C3044/24/E/6655 | Co-ords: | Hole Type RO |
| Location: 2 Box Ings Lane, Shelley, Huddersfield, West Yorkshire, HD8 0SU | Level: | | Scale 1:50 |
| Client: Peter Armitage | Dates: 07/04/2025 - 08/04/2025 | | Logged By AB |

| Well | Water Strikes | Samples and In Situ Testing | | | Depth (m) | Level (m) | Legend | Stratum Description |
|------|---------------|-----------------------------|------|---------|-----------|-----------|---|---------------------|
| | | Depth (m) | Type | Results | | | | |
| | | | | | 0.50 | | TOPSOIL (Drillers notes). | |
| | | | | | | | Dark brown CLAY (Drillers notes). | |
| | | | | | 2.00 | | Yellowish brown SANDSTONE (Drillers notes). | |
| | | | | | 6.00 | | Dark grey MUDSTONE (Drillers notes). | |

Remarks
 1. Position scanned for services using CAT and Genny. 2. Service pit dug to 1.2m. 3. Collecting water to assist drilling - 1 hour.





Borehole Log

Borehole No.

BH02

Sheet 2 of 2

| | | | |
|---|--------------------------------|----------|--------------|
| Project Name: Shelley Lodge | Project No. C3044/24/E/6655 | Co-ords: | Hole Type RO |
| Location: 2 Box Ings Lane, Shelley, Huddersfield, West Yorkshire, HD8 0SU | Level: | | Scale 1:50 |
| Client: Peter Armitage | Dates: 07/04/2025 - 08/04/2025 | | Logged By AB |

| Well | Water Strikes | Samples and In Situ Testing | | | Depth (m) | Level (m) | Legend | Stratum Description | |
|------|---------------|-----------------------------|------|---------|-----------|-----------|--------------------------------------|---------------------|--|
| | | Depth (m) | Type | Results | | | | | |
| | | | | | | | Dark grey MUDSTONE (Drillers notes). | | |
| | | | | | 15.00 | | End of Borehole at 15.00m | | |

Remarks
 1. Position scanned for services using CAT and Genny. 2. Service pit dug to 1.2m. 3. Collecting water to assist drilling - 1 hour.

