

THE GATEHOUSE
WOODHILL ROAD
BURY

SHALLOW MINING
SITE INVESTIGATION WORKS

Job Number: LKC 22 1686
Date: April 2023
Client: Shahana Begum



INCREASING LAND VALUE

LK
GROUP

LK Consult Document Verification			
Site Address	The Gatehouse, Woodhill Road, Bury, BL8 1BN		
Report Title	Shallow Mining Investigation Works		
Job Number	LKC 22 1686	Document Ref.	LKC 22 1686-B1-CMSI-The Gatehouse
Date Issued	April 2023	Report Version	R0
Prepared By	Hannah Moss	Reviewed By	Catherine Baranek

Revision Record			
Revision No.	Date	Nature of Revision	Approved By

DISCLAIMER

This report has been prepared by LK Consult (LKC) who have exercised such professional skill, care and diligence as may reasonably be expected of a properly qualified and competent consultant, experienced in preparing reports of a similar scope.

However, to the extent that the report is based or relies upon information contained in records, reports or other materials provided to LKC, which have not been independently produced or verified, LKC gives no warranty, representation or assurance as to the accuracy or completeness of such information.

This report is issued on the condition that LKC will not be held liable for any loss arising from ground conditions between sampling points (i.e. boreholes/trial pits/hand augers/surface samples) which have not been shown by the sampling points or related testing carried out during the investigation, nor for any loss arising from conditions below the maximum depth of the investigation. Opinions on such conditions, where given, are for general guidance only.

This report is prepared solely for the benefit of Shahana Begum. It may not be relied upon by, or submitted to a third party for their reliance for the purposes of valuation, mortgage, insurance and regulatory approval, until all invoices have been settled in full.

Those using this information in subsequent assessments or evaluations do so at their own risk.

CONTENTS

1	Introduction	1
1.1	Background	1
1.2	Site Details	1
2	Summary of Previous Work	2
2.1	LKC Desk Based Coal Mining Risk Assessment.....	2
3	Investigation Works	6
3.1	Site Investigation Design and Methodology	6
4	Ground Conditions	7
4.1	Rotary Open Hole Drilling.....	7
5	Conclusions and Recommendations	9
5.1	Shallow Coal Mining	9
5.2	Additional Advice	10

FIGURES

- Figure 1: Site Location and Boundary Plan
Figure 2: Site Investigation Location Plan

APPENDICES

- Appendix A: Coal Authority Permit to Enter or Disturb Coal Authority Interests
Appendix B: Rotary Drilling Logs

1 Introduction

1.1 Background

LK Consult Ltd (LKC) has been commissioned by Shahana Begum to carry out an investigation works into the potential mining risks at The Gatehouse, Woodhill Road, Bury.

The following work was previously undertaken by LKC:

- Coal Mining Risk Assessment (CMRA) undertaken by LKC (Ref: LKC 22 1686-01, December 2022).

This investigation has been undertaken to confirm the ground conditions below the site and allow an assessment of the potential for the site to be affected by shallow coal seams / workings. The report will aim to confirm the risks from historical coal mining and recommend further assessment and / or remediation as required.

The assessment and interpretation of the factual data obtained as part of this investigation has been undertaken in line with currently accepted national and international guidelines including CIRIA758¹.

Ground conditions can change rapidly, especially in areas of Made Ground; however, it is assumed that the ground conditions observed are typical and representative of the site as a whole. The ground conditions have been determined from a limited number of exploratory holes, therefore only a small percentage of the total area of the property has been investigated. Conclusions drawn from the ground investigation should be read in this context. LKC cannot accept responsibility for any situations resulting from locally unforeseen ground conditions occurring between exploratory holes.

1.2 Site Details

A summary of the site details is presented in Table 1-1. Figures 1 and 2 indicate the site location, boundary and proposed development plan.

Site Location	The Gatehouse, Woodhill Road, Bury, BL8 1BN. Centred at approximate National Grid Reference 379980E 411860N.
Approximate Area	2,000m ² .
Topography	92-94 metres Above Ordnance Datum (AOD).
Current Site Use	Residential.
Purpose of Report	Planning.
Planning Ref.	68799.
Proposed Development	Partial demolition and replacement of 1no. dwelling.

Table 1-1. Summary of site details.

¹ CIRIA2019: C758D Abandoned mine workings manual. ISBN: 978-0-860017-765-4

2 Summary of Previous Work

The following sections provide a summary of previous work relating to historical coal mining on the site.

2.1 LKC Desk Based Coal Mining Risk Assessment

2.1.1 *Geology*

Artificial

No BGS recorded artificial deposits are mapped on site.

Superficial

The superficial geology is mapped as River Terrace Deposits (sand and gravel). Linear features on the digital mapping shows the site lies within the eastern edge of a buried channel; therefore, deep superficial deposits may be present below the site.

Bedrock

The bedrock is mapped as the Pennine Lower Coal Measures Formation comprising mudstone, siltstone and sandstone across the majority of the site and sandstone in the southern corner of the site. The strata in the wider area is shown to dip to the south at 5-6°.

A coal seam is shown to subcrop (at rockhead) approximately 120m north which is expected to dip below the site. This coal seam is named as the Arley Coal on sheet mapping.

Based on the above information and assuming a similar topography, the Arley Coal is expected at a depth of 10.50-12.50m below rockhead in the north of the site.

Sheet 85 explanatory notes show the Arley coal seam to be 0.90-2.00m thick. The type of workings include deep mined, crop working and surface mined (opencast).

2.1.2 *Coal Authority Consultants Report*

As part of the CMRA, LKC obtained a Consultants Coal Mining Report. Table 2-1 Summarises the findings.

Mining Activity and Geology	
Past underground mining	Yes: See Plate 2-1.
Probable unrecorded shallow workings	Yes.
Spine roadways at shallow depth	No spine roadway recorded at shallow depth.
Mine entries (within 100m)	None recorded within 100m of the enquiry boundary.
Abandoned mine plan catalogue numbers	16820.
Outcrops	No outcrops recorded.
Geological faults, fissures and breaklines	No faults, fissures or breaklines recorded.
Opencast mines	None recorded within 500m of the enquiry boundary.
Coal Authority managed tips	None recorded within 500m of the enquiry boundary.
Investigative or Remedial Activity	
Site investigations	None recorded within 50m of the enquiry boundary.
Remediated sites	None recorded within 50m of the enquiry boundary.
Coal mining subsidence	Not received a damage notice or claim for the subject property, or any property within 50m, since 1994. No current Stop Notice delaying remedial works or repairs to property. Not aware of any request made to carry out preventative works before coal is worked.
Mine gas	None recorded within 500m of the enquiry boundary.
Mine water treatment schemes	None recorded within 500m of the enquiry boundary.
Licensing and Future Mining Activity	
Future underground mining	None recorded.
Coal mining licensing	None recorded within 200m of the enquiry boundary.
Court Orders	None recorded.
Section 46 notices	No notices have been given, stating that the land is at risk of subsidence.
Withdrawal of support notices	Not in an area where a notice to withdraw support has been given or where a notice has been given cancelling the entitlement to withdraw support.
Payments to owners of former copyhold land	Not in an area where a relevant notice has been published.
Further Information	
The following potential risks have been identified and as part of your risk assessment should be investigated further. Future development If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority. MINE GAS: Please note, if there are no recorded instances of mine gas within 500m of the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.	

Table 2-1: Summary of Coal Authority Consultants Coal Mining Report.

Plate 2-1 shows the past underground mining. This is defined by the Coal Authority as 'details of all recorded underground mining relative to the enquiry boundary. Only

underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included’.

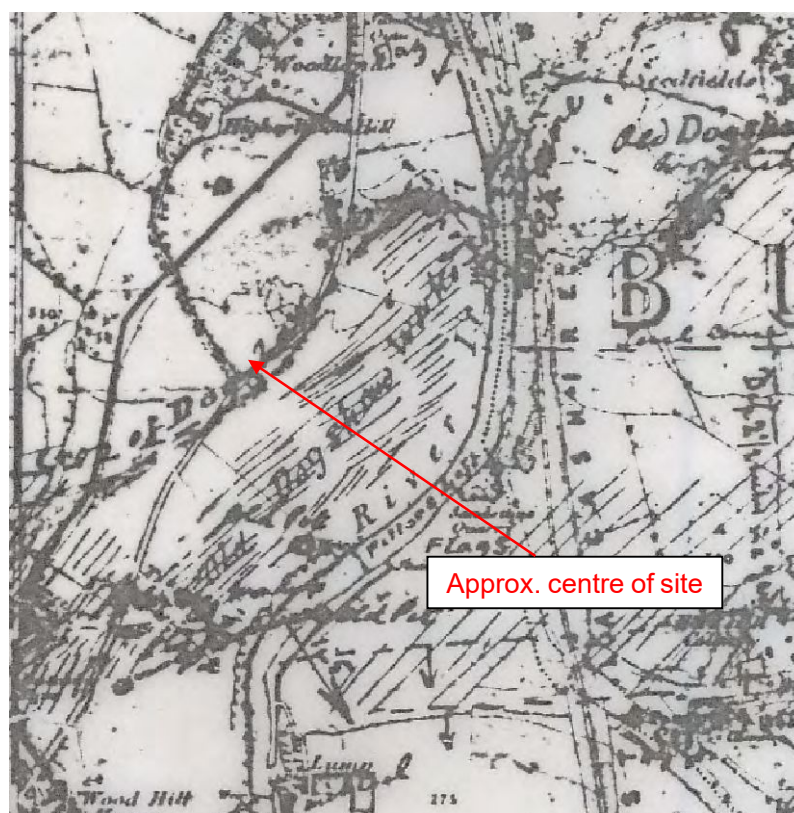
Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	ARLEY	Coal	6DMG	15	Beneath Property	3.1	South-East	130	1900

Plate 2-1: Extract from Coal Authority Report showing past underground mining.

Probable unrecorded shallow workings are defined as ‘*areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30m deep)*’.

2.1.3 Abandoned Mine Plans

Abandoned mine plan 16820 (6 of 11) shows workings to the south of the site, possibly encroaching into the southern boundary. A possible coal crop is also shown on or close to the southern boundary of the site. An extract is provided below:



2.1.4 Risk Assessment

Based upon the available information, LKC have identified potential shallow coal mining risks which are summarised in Table 2-2.

Coal Mining Issue	Potential Risk
Underground coal mining (recorded at shallow depths)	✓
Underground coal mining (probable at shallow depths)	✓
Mine entries (shafts / adits)	?
Coal mining geology (fissures)	X
Record of past mine gas emissions	?
Recorded coal mining surface hazard	X
Surface mining (opencast workings)	X

Table 2-2: Summary of coal mining potential risks.

Considering the available information and guidance given in CIRIA C758², LKC considered that intrusive investigation work should be carried out to confirm the risk associated with coal mining.

² CIRIA (2019). "Abandoned Mine Workings Manual". CIRIA C758

3 Investigation Works

3.1 Site Investigation Design and Methodology

The following site investigation works were carried out by LKC on 4th-5th April 2023 and comprised the following:

- » 2no. open hole rotary boreholes to 40.00mbgl and 1no. open hole rotary borehole to 30.00mbgl (ref: RB101-103).

The Open Hole Rotary Drilling was carried out in 3no. locations to determine the presence / absence of shallow workings across site. RB102 was located outside of the Development High Risk Area, whereas RB101 and RB103 were positioned within the Development High Risk Area.

The boreholes were undertaken by Taylor Drilling Services using a Baretta T41 Rotary rig fitted with a PCD drill bit.

Upon completion the boreholes were grouted up.

In order to carry out the above works permission is required from the Coal Authority. The permission certificate is included in Appendix A.

All site investigation locations are shown in Figure 2.

4 Ground Conditions

4.1 Rotary Open Hole Drilling

The rotary borehole logs are provided in Appendix B. The investigation locations are shown on Figure 2.

Please note that the drillers logs refers to RB101-RB103 as RH1-RH3.

4.1.1 Made Ground

Made ground comprising black gravel (predominantly ash) was encountered in all locations to depths of between 0.80-1.20mbgl.

4.1.2 Superficial

Compacted gravel with sandstone boulders was recorded as possible reworked strata in RH1 between 1.20-3.50mbgl, and dense brown gravel was recorded in RH2 and RH3 between 1.00-3.50mbgl.

A layer of brown clay was recorded between 0.80-1.00mbgl in RH2.

Light grey clay was recorded in RH1 between 3.80-5.00mbgl and in RH2 between 3.50-4.20mbgl. This material was recorded as possible weathered mudstone so may not be representative of superficial deposits.

4.1.3 Bedrock (Coal Measures)

Rockhead was encountered between 3.50mbgl and 5.00mbgl in all locations. Bedrock comprised:

- Possible weathered mudstone was recorded in RH1 between 3.80-5.00mbgl, RH2 between 3.50-4.20mbgl as light grey clay.
- Mudstone recorded between 5.00-7.50mbgl in RH1, 4.20-7.60mbgl in RH2 (with siltstone bands) and 3.50-7.60mbgl in RH3.
- Shaley mudstone was recorded in RH1 between 7.50-11.50mbgl and 12.60-14.10mbgl, 7.60-10.80mbgl in RH2 and 7.50-10.70mbgl in RH3.
- RH1 - **Coal** (recorded as 'dirty' and 'shaley') recorded between 11.00-12.60mbgl.
- RH2 - **Coal** (recorded as 'dirty' and 'shaley') recorded between 10.80-11.90mbgl. Intact **coal** also recorded between depths of 11.90-12.50mbgl
- Siltstone was recorded in RH1 between 14.10-33.40mbgl, 12.50-36.10mbgl in RH2 and 26.00-30.00mbgl in RH3.
- Sandstone was recorded in RH1 between 33.40-40.00mbgl and in RH2 between 36.10-40.00mbgl.
- Soft drilling and loss of flush was recorded in RH3 between 10.70-12.60mbgl with small voids recorded. Intermittent flush returned recorded until 26.00mbgl, when full flush returned.
- Fast drilling with no loss of flush recorded in RH1 between 7.50-12.60mbgl.
- No loss of flush, fast / soft drilling or broken drilling recorded in RB102.

It should be noted that evidence for the presence of coal workings can include (but is not limited to) partial or total loss of flush, broken drilling, voids, fast drilling or the sudden dropping of the drill string.

Due to the similar depth at which the loss of flush / fast drilling was encountered it is reasonable to assume that the loss of flush associated with the soft drilling in RH1 and

RH3 may represent an area of collapsed or backfilled workings within the coal seam proven in RH2 between 11.90-12.50mbgl and the 'dirty' coal proven in RH1 between 11.00-12.60mbgl and in RH2 between 10.80-11.90mbgl . The workings are likely to be within the Arley seam based on Coal Authority data and desk based assessments, which is recorded as dipping towards the southeast.

No evidence of workings have been identified in the coal seam in RH2.

4.1.4 *Ground Gas*

No detectable concentrations of methane, carbon dioxide, carbon monoxide or hydrogen sulphide or any oxygen depletions were measured during the rotary drilling process.

5 Conclusions and Recommendations

5.1 Shallow Coal Mining

The site is within a Development High Risk Area relating to probable and past shallow coal workings.

To investigate the above potential hazards a total of 3no. rotary open hole boreholes were sunk to 30-40mbgl across site.

The investigation works identified possibly up to 3.50m of made ground, over possible weathered mudstone recorded a slight grey clay, underlain by coal measures (mudstone, siltstone and sandstone) to 30.00-40.00mbgl.

Coal (recorded as 'dirty' and 'shaley') was recorded in RH1 between 11.00-12.60mbgl. Coal was recorded in RH2 between 10.80-12.50mbgl (including dirty and shaley coal at 10.80-11.90mbgl and intact coal between 11.90-12.50mbgl).

Evidence of potential coal workings was identified as soft drilling and loss of flush was in RH3 between 10.70-12.60mbgl with small voids recorded. Intermittent flush returned recorded until 26.00mbgl, when full flush returned. Fast drilling with no loss of flush was recorded in RH1 between 7.50-12.60mbgl. This is likely to represent workings with the Arley coal seam, in line with desk based assessments.

No evidence of workings were recorded in RH2 (intact coal recorded).

All boreholes terminated at 30-40mbgl in mudstone and sandstone.

Shallow workings related ground subsidence events may manifest as localised crown hole collapses at the surface (which are related to workings roof failures), or can be associated with more extensive ground movements, typically associated with pillar collapse, floor heave, or a combination of roof and pillar failure. As there is limited evidence for structural damage caused by pillar failure compared with that resulting from roof collapses, the focus of engineering assessments of the potential instability at the surface has focussed on roof collapses as the more likely mechanism of failure.

The limit height on void migration, where no appreciable surface subsidence can result is termed 'acceptable cover'. The calculation of the amount of acceptable cover is determined by the worked thickness of the seam (t) and the amount of overlying rock cover (h). The acceptable cover criterion is generally referred to as ht.

According to CIRIA C758D³, from the examination of mines within Coal Measures, the height of collapse migration might exceptionally extend to 10t the height of the original extraction. As a result of this, the 10t criterion has been adopted by the industry as providing reasonable assurance against surface subsidence from roof collapses in old pillar and stall mines. However, there are documented cases, albeit rare, where migrations in excess of 20t have been observed.

CIRIA C758D, lists a number of circumstances where the acceptable cover criterion may need to be increased from 10t. These include:

- » Where the strata dip is >20° (unlikely on this site).

³CIRIA (2019). "Abandoned Mine Workings Manual". CIRIA C758D

» Strong groundwater flows within workings and rising or falling groundwater levels. The deep groundwater regime is unknown beneath the site.

» Where multi-seam extractions have taken place (unlikely on this site).

Intact coal seams have been encountered in RH2 with a thickness of 1.70m. Assuming $t=1.70\text{m}$, the 10t height of rock cover will be 17m. This investigation has proven that there is <10t of rock cover overlying the coal seams in all investigation locations. As bedrock is unlikely to dip at $>20^\circ$ and as multiple seams have not been extracted the 10t guidelines are considered appropriate.

Stabilisation work is recommended. Stabilisation works should be designed by an appropriately experienced and qualified contractor using the information provided.

5.2 Additional Advice

A Coal Authority permit would need to be obtained prior to any further coal mining treatment works being carried out on this site. Treatment of the shallow workings will need to be agreed in advance of the works taking place with the Coal Authorities engineering department, the local authority and building control.

In line with the guidance supplied by the Coal Authority there remains a risk of encountering unrecorded mine entries during the redevelopment of the site. Mine entries are likely to manifest as potentially square, rectangular or circular areas of dark deep Made Ground (which may or may not be brick lined) surrounded by natural soils/weathered rock; mine shafts could also potentially be capped – e.g. with a large block of concrete. If the presence of mine entries is suspected, the affected area should be cordoned off immediately and the advice of a coal mining engineer sought.

Figures



Client: Shahana Begum				Title: Site Location & Boundary Plan				
Site: The Gatehouse, Woodhill Road, Bury				Scale (see scale bar): 1:25,000 & 1:2,500 @ A4			Figure: 1	Revision:
Job No.: LKC 22 1686	Drawn By: CB	Checked By: BS	Drawn: Dec 2022					



KEY

Site Boundary

Rotary Borehole (RH)

Development High Risk Area

Probable Shallow Coal Mine Working

Known Past Shallow Coal Mine Workings

ADDITIONAL MAPPING:

Coal Authority WMS Layers
Contains Ordnance Survey Data
© Crown Copyright & Database Right 2010

Sampling Locations and features annotated by LK Consult Ltd are approximate and are based upon observed measurements unless otherwise stated. Do not scale from this drawing and work from marked dimensions only. All dimensions and features should be confirmed on site by the Contractor. Where this drawing includes information provided to LK Consult Ltd by others, LK Consult Ltd gives no warranty, representation or assurance as to the accuracy of such information.

Client:
Shahana Begum

Site:
The Gatehouse, Woodhill Road, Bury

Title:
Site Investigation Location Plan

Job No.: LKC 22 1686	Scale (See Scale Bar): See Scale Bar	Figure: 2	Revision: A
Drawn By: AC	Checked By: HM	Drawn: Apr 2023	

Extract from: © Google Maps
Drawing Ref: The Gatehouse, Woodhill Road, Bury

Appendix A

Coal Authority Permit to Enter or Disturb Mine Workings



The Coal
Authority

Permit to Enter or Disturb Coal Authority Interests

Permit 26430

Name and Address of Permit Holder:

Shahana Begum
The Gatehouse, Woodhill Road
Bury
Greater Manchester
BL8 1BN

Site Location:

The Gatehouse
Woodhill Road
Bury
Greater Manchester
BL8 1BN

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

Ground investigation by three boreholes to 40m 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: Izaak Hayes Granted Date: 20/03/2023

For and on behalf of The Coal Authority

Nominated Representative: Izaak Hayes, Permitting Manager;

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

Tel: 01623 637147; E-Mail: permissions@coal.gov.uk



The Coal
Authority

Granted Permit Boundary

Permit Ref: 26430

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. The Coal Authority. Licence No: 100020315. [216]

Appendix B

Rotary Borehole Logs

Rotary Drilling Journal

Core run mBGL		Description	Stratum Depth m	Core Size mm	Run Duration mins	Run Length m	Core Recovery m	Flush Return %	Casing Depth m	Casing Size	Time	Water Level mBGL	Inspection Pit Dimensions
From	To												
START OF SHIFT / BOREHOLE													
0.1	0.1	Grass top Soil							4.5.				WATER ENCOUNTERED
0.1	1.2	Black gravelly ash											
1.2	3.5	compacted gravel + SIS											
		boulders hard drilling											
		Poss mly.											
3.5	3.8	4/8 SIS boulder											Backfill
3.8	5.0	4/8 clay Poss weathered mls											
5.0	7.5	4/8 + 0/8 mls											
7.5	11.0	0/8 Shales mls fast drilling											
11.0	12.6	Dirty Shales coal fast drilling											
12.6	14.1	0/8 Shales mls											
14.1	33.4	4/8 Silty shale with 4/8 bands + 0/8 Shale bands.											
33.4	40.0	4/8 + 1/8 SIS.											
END OF SHIFT / BOREHOLE (complete / incomplete)													

DIAMOND TOOL RECORDS

PENETRATION TESTING AND SAMPLING

	Serial Number	Size	Type	Shift Meterage	Sample Test	Sample No.	Depth m		Standard Penetration Tests								Casing	Size	Depth m	
							From	To	SW	75	75	pen	75	75	75	pen				
Corebits		411	PCD															Start of Shift		
Casing Shoe		S11	Pw																	
Reaming Shell																		End of Shift		

Water entry - 12.0m.

45min Pull Rods + Back Fill BH

Rig Type
Bertha 421

Pumps & Additional Plant

1

Flush Type
Air-mist

NVA No.

Project No.

Foreman
D Taylor

Project
Burs

Assistant
D. H. Skinnell

Day
Tues

Foreman's Signature

Move From

Date
4.4.23

BH No.
BH1

This is a site log only and the data are subject to amendment after checking and sample description by or under the supervision of an engineer or geologist

Rotary Drilling Journal

Core run mBGL		Description	Stratum Depth m	Core Size mm	Run Duration mins	Run Length m	Core Recovery m	Flush Return %	Casing Depth m	Casing Size	Time	Water Level mBGL	Inspection Pit Dimensions		
From	To														
START OF SHIFT / BOREHOLE															
GL	0.2	Grass top soil											WATER ENCOUNTERED		
0.2	1.0	Black gravelly soil													
1.0	3.5	Brown Dense gravel													
3.5	4.2	Clay / weathered m/s													
4.2	7.6	Clay m/s + siltstone bands													
7.6	10.8	Dark m/s Shale + siltstone													
10.8	11.9	Dark Shale coal													
11.9	12.5	Coal infat.													
12.5	36.1	Clay + siltstone + gravel bands													
36.1	40.0	Clay + siltstone + gravel bands													
END OF SHIFT / BOREHOLE (complete / incomplete)															
DIAMOND TOOL RECORDS															
Serial Number		Size	Type	Shift Meterage	Sample Test		Sample No.		Depth m		Standard Penetration Tests		Casing	Size	Depth m
Corebits		4 1/2"	PC												
Casing Shoe		5 1/4"	PC												
Reaming Shell															
45m m Drill Rods + Back Air Bit															
Rig Type Bertha 141															
Pumps & Additional Plant															
Flush Type Air-mist															
NVQ No.															
Project No.															
Foreman D. Taylor															
Assistant E. Asanall															
Foreman's Signature															
Day Tuesday															
Move From															
Date 4/5/4/23															
BH No. 12132															

This is a site log only and the data are subject to amendment after checking and sample description by or under the supervision of an engineer or geologist

Rotary Drilling Journal

Core run mBGL		Description	Stratum Depth m	Core Size mm	Run Duration mins	Run Length m	Core Recovery m	Flush Return %	Casing Depth m	Casing Size	Time	Water Level mBGL	Inspection Pit Dimensions	
From	To													
START OF SHIFT / BOREHOLE														
GL	0.2	Tarmac.											WATER ENCOUNTERED 1 2	
0.2	0.8	Gravelly ash.												
0.8	1.0	Brown clay.												
1.0	3.5	Dense gravels +												
		Boulders												
3.5	7.6	Clay m/s.												
7.5	10.7	Clay Shales m/s +												
		Siltstone												
10.7	12.6	Soft drilling loss of												
		Flush small voids												
12.6	14.2	Steady drilling.												
14.2	26.0	Steady drilling intermittent												
		Flush Return.												
26.0	30.0	Full flush clay siltstone.												
END OF SHIFT / BOREHOLE (complete / incomplete)														
DIAMOND TOOL RECORDS														
Serial Number		Size	Type	Shift Meterage	Sample Test		Sample No.	Depth m		Standard Penetration Tests		Casing	Size	Depth m
Corebits		41	PCD											
Casing Shoe		511	Pu											
Reaming Shell														
PENETRATION TESTING AND SAMPLING														
Rig Type														
Pumps & Additional Plant														
Flush Type														
Foreman														
Project														
Date														
BH No.														

This is a site log only and the data are subject to amendment after checking and sample description by or under the supervision of an engineer or geologist

45min Drill Rods + Back Fill 84
3.5hr clean up 2men
3 Postmix Tarmac 10x gravel.

Bored pile 41

Pumps & Additional Plant

Flush Type
Air-mist

Foreman
D. Taylor

Project
Bury

Assistant
J. Aspinall

Day
Wed

Foreman's Signature

Move
From

Date
5.4.23

BH No.
1243