



Coal Mining Site Investigation Report

Frontier Medical, Newbridge Road,

Pontllanfraith, NP12 2AN

On behalf of

Formaction Ltd

Quality Management

Prepared by:	Scott Greaves – Consultant (BSc MSc FGS)	S. Greet			
Reviewed by:	Chris Betts – Director (BSc MSc FGS CGeol)	Christy Setts-			
Reviewed & Authorised by:	Mike Willis – Director (BSc MSc FGS)				
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Hydrogeo Ltd Unit 4 Waddington House, Llanover Business Estate, Abergavenny Monmouthshire Np7 9HA T: 01873 856813





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1 Background

Hydrogeo Limited (Hydrogeo) was commissioned by Formaction Ltd (the Client) to progress a Coal Mining focused Site Investigation for the proposed commercial development at Frontier Medical Site, Newbridge Road, Pontllanfraith, NP12 2AN (the Site).

1.1 Scope of Work

The scope of work for the site investigation was formulated in order to inform site development and assess the risk posed by coal mining legacy. The works comprised the following:

- Advancement of 3 no. rotary open-hole boreholes with full water flush;
- Logging of drill arisings and production of borehole logs;
- Interpretation of coal mining features beneath the site;
- A risk assessment in relation to the coal mining legacy.

1.2 Site Geo-Environmental Setting

Site Location

The Site is located at Newbridge Road, Pontllanfriath, NP12 2AN, at an approximate National Grid Reference (NGR): 318646, 196065. The location of the Site is presented in Figure 1-1.

Figure 1-1 Site Location



The Site is undeveloped land at an approximate elevation of 143mAOD Above Ordnance Datum (mAOD).

The Site is bounded to the north by an adjacent commercial / industrial unit, to the east by an access road to Newbridge Industrial Estate, and the south by Newbridge Road. To the west the Site is bound by an unnamed watercourse.

1.3 Proposed Development

The proposed development at the Site is to consist of a large commercial building structure which is to be split into 4 smaller units, associated access, parking and cycle storage as presented in Figure 1-2.



Figure 1-2 Proposed Development

1.4 Geology

British Geological Survey (BGS) mapping data, including the BGS Online Geoindex and the BGS 1:50,000 Sheet Map 249 (Newport) has been reviewed in order to gain an insight into the expected underlying ground conditions beneath the Site.

Artificial Geology

The BGS mapping data does not indicate the presence of any artificial deposits across the Site. However, whist attending Site for the Site Investigation it was evident that a recycled aggregate had been imported onto Site to form a development level platform. Testing of any material was outside the scope of this current investigation.

Superficial Geology

BGS mapping indicates that the Site is underlain by Glacial Till superficial deposits. The BGs describe the Glacial Till as "*unsorted and unstratified drift, generally over consolidated, deposited directly by and underneath glacier without subsequent reworking by water from the glacier. It is a heterogeneous mixture of clay, sand, gravel and boulders varying widely in size and shape*".

Bedrock Geology

BGS data indicates that the Site is underlain by bedrock geology consisting of the Grovesend Formation – Sandstones, in the south-eastern Site area, and Grovesend Formation – Mudstone, siltstone and sandstone across the rest of the Site.

The BGS describe the Grovesend Formation – Sandstone as "*Predominantly argillaceous, comprising mudstones and siltstones, with well-developed coal. Minor lithic (Pennant) sandstones*".

Structural Geology

The Site and surrounding area is mapped as heavily faulted, with the Site being intersected by a large north-east south-west trending fault, resulting in the north-western portion of the Site being downthrown in relation to the south-eastern Site areas.

Generally, the bedrock beneath the Site dips shallowly to the north, north-west at approximately 5°.

1.5 Relevant Site Information and Reporting

Earther Science Partnership

Earth Science Partnership (ESP) 2019 – 2020 progressed a desk-based report and subsequent Site Investigation across the proposed development Site in November 2019 in order to support planning application 19/1001/FULL with Caerphilly County Borough Council (CCBC). The Site investigation viewed on the planning portal consisted of the excavation of 10 No. trial pits, to a maximum depth of 3.8m.

The ground conditions encountered within the ESP trial pits generally consisted the following:

Made Ground

Made ground was noted to initially comprise very soft brown sandy gravelly organic clay with roots, rootlets, fragments of plastic, ceramic and wood, which have likely been placed as a topsoil across the Site and extended to depths of 0.1m - 0.3m.

Across the western Site area, a very soft dark grey to blackish grey gravelly silty clay was encountered and contained a high proportion of tree branches, barn and an organic odour; extending to a depth of 2.5m.

Superficial Deposits

Glacial Till deposits were encountered underlying the made ground to a maximum depth of 3.2m, with variable compositions. It was typically described as a brown mottled grey silty clayey gravelly cobble sand, with pockets of gravelly sandy clay.

Bedrock Geology

Due to the maximum depth of the trial pits (3.8m), no obvious bedrock was encountered across the Site.

Groundwater

ESP indicated a number of groundwater strikes across the Site. These mostly appear to be perched groundwater within the made ground deposits, encountered as groundwater seepages from depths of between 0.5m - 2m.

Groundwater was encountered as a seepage from alluvium deposits within TP109 at 3.6m depth.

Coal Mining

ESP note that the Site is underlain by bedrock of the Grovesend Formation, which contains several seams of well-developed coal. The Coal Authority data reviewed within the ESP report indicates that the south-eastern portion of the Site is mapped as 'Development High Risk' by the Coal Authority, and that coal seams are recorded as shallowly worked on-site.

ESP summarise that a coal seam (Small Rider) subcrops approximately 80m south of the Site, and the Mynyddislwyn Top Leaf Seam is also expected to underlie the Site, and this seam was well known to have been extensively worked in the Caerphilly and Blackwood area.

The ESP Conceptual Ground Model suggests that, at their shallowest point on the southern margins of the Site, the Small Rider is at a depth of around 7m, and the top leaf of the Mynyddislwyn is at a depth of approximately 25m. ESP considered that the risk of ground subsidence in the south-eastern portion of the Site as High.

The report concluded that further actions were required at the Site, including the drilling of a series of boreholes either side of the geological fault to understand the coal mining risk to any proposed development.

Coal Authority Consultee Response – March 2020

The Coal Authority as a statutory consultee of the planning application 19/1001/FULL provided comment on the ESP Report on March 4th 2020.

The Coal Authority indicated that the report made appropriate recommendations in regard the progression of an intrusive ground investigation in the form of boreholes in order to further assess the shallow coal mining situation.

The Coal Authority indicated that should planning permission be granted, the following conditions should be included on the Decision Notice:

 No development shall commence until intrusive site investigations have been carried out on site to establish the exact situation in respect of coal mining legacy features. The findings of the intrusive site investigations shall be submitted to the Local Planning Authority for consideration and approval in writing. The intrusive site investigations shall be carried out in accordance with authoritative UK guidance. Where the findings of the intrusive site investigations identify that coal mining legacy on the site poses a risk to surface stability, no development shall commence until a detailed remediation scheme to protect the development from the effects of such land instability has been submitted to the Local Planning Authority for consideration and approval in writing. Following approval, the remedial works shall be implemented on site in complete accordance with the approved details.

1.6 Principal Report Objectives

The principal objectives of this report are to report the site investigation findings provided following the advancement of 3 no. rotary open-hole boreholes.

The information collected during the site investigation works will be utilised to confirm the presence or otherwise of shallow coal and any associated shallow mine workings beneath the Site which is mapped as 'Development High Risk' by the Coal Authority. Results will be utilised in order to determine the risk posed by the presence or otherwise of historical coal mining features or shallow coal beneath the site to the proposed development.

2 Site Investigation Methodology

2.1 Introduction

Site investigation works were progressed in accordance with the Coal Authority (CA) permit to *enter or disturb Coal Authority Mining Interests* Permit Reference Number:27780.V2, as well as the provided *'Guidance for site operatives on the risk of hazardous gases when drilling or piling through coal'*. The CA Permit covering the Site Investigation works is included as Appendix A of this Report.

The CA Permit permitted the investigation of coal seams and potential mine workings beneath the Site, by 3 no. boreholes to a maximum depth of 30 meters below ground level (mbgl).

Site Investigation works were progressed at the Site over 2 no. days $22^{nd} - 23^{rd}$ February 2024. The drilling works were progressed by APEX Drilling, and supervised by a Geo-Environmental consultant from Hydrogeo in accordance with guidance advocated by the regulatory authorities, including:

 Coal Authority Guidance on Managing the Risk of Hazardous Gases when Drilling or

Piling Near Coal.

In advance of the intrusive site works, Hydrogeo liaised with the Coal Authority in order to outline and agree the investigation strategy, the principal focus of the site investigation being to determine the presence or otherwise of coal and any associated shallow workings beneath the site area.

2.2

Borehole Advancement

Borehole Locations

Prior to site works the approximate boreholes positions were agreed with The Coal Authority. A Cable Avoidance Tool (CAT) was utilised prior to the advancement of the exploratory boreholes as a precautionary measure in order to avoid the potential for inadvertently damaging any live site services. Site constraints and service plans were also provided to Hydrogeo in advance of the intrusive site works.

A surface water culvert runs through the middle of the Site with an associated 8m easement, as per CCBC Land Drainage Bye-Laws 2018, which covers any land lying 8m horizontally from the outer perimeter of a culvert measured from the widest part of the culvert.

The culvert transecting the Site has been surveyed and subsequently mapped in order that the drill team and subsequently developer are aware of its position. As drilled borehole positions were logged in the field via What 3 Words, which provides a 3m GPS accuracy.

Drilling Rig and Methodology

Drilling services were provided by APEX Drilling Limited. The rotary open-hole boreholes were advanced using a FRASTE PLG drilling rig. Full water flush was used to advance all boreholes, as was detailed on the permit issued by the Coal Authority.

The boreholes were advanced initially advanced through made ground and superficial deposits which was carried out through temporary steel casing/ following the advancement of the drilling bit into competent bedrock, the drill bit was changed and the boreholes were continued as rotary open-hole with a full water flush.

Details of the strata encountered were logged from flush returns and drilling rates. Details of the ground conditions encountered across the 3 no. boreholes are included in the borehole logs as Appendix B, and summarised in report Section 3.

Gas Monitoring

Gas monitoring was undertaken by APEX at the borehole rig during the progression of all 3 no. boreholes by portable gas detection monitor, in line with the Coal Authority Permit, which required monitoring of carbon dioxide (CO2), carbon monoxide (CO), methane (CH4), oxygen (O2) and hydrogen sulphide (H₂S).

Borehole Backfill and Sealing

Upon completion of drilling, boreholes were backfilled in line with the Coal Authority Permit which required the appropriate reinstatement and sealing of boreholes without delay and to withstand site level changes.

The boreholes were backfilled on completion using where appropriate drill arisings (bedrock chippings), gravel, bentonite and cement to ensure a sufficient seal.

3 Site Investigation Results

3.1 Introduction

The following sections present the findings of the Site Investigation including the ground conditions. Borehole logs are included as Appendix B and the borehole positions are included as Drawing 1. A cross-section through the Site detailing the findings of the intrusive investigation has been included as Drawing 2.

3.2 Ground Conditions

The general ground conditions encountered across the 3no. borehole positions (BH1 – BH3) have been summarised in this section.

Made Ground

Made ground was encountered in all borehole locations. The thickness of the made ground varied from 0.40m (BH2) to 0.7m (BH1). The made ground was encountered as gravels and cobbles of brick, concrete, and tarmac, with occasional inclusions of wood, ceramics, plastics and glass.

Superficial Deposits

Superficial deposits in the form of Glacial Till were encountered within all 3no. borehole positions. The thickness varied from a minimum of 5.6m (BH3) to a maximum thickness of 8m (BH2).

The Glacial Till deposits were encountered as an orange/brown slightly sandy to sandy CLAY, with gravels of sandstone and mudstone.

Bedrock Geology

Rockhead was encountered beneath the Site at varying depths, from 6.2m (BH3) to 8.4m (BH2). The bedrock beneath the Site consisted of the Grovesend Formation – Sandstone, and the Grovesend Formation – Mudstone, siltstone and sandstone.

The Grovesend Formation was encountered underlying the south-eastern Site area as a hard minor lithic 'pennant' sandstone which remained present beneath the Site at the maximum depth of borehole BH1 (35m). During drilling within the sandstone of the Grovesend Formation, traces (flecks) of coal were noted on the drill return flush.

To the north of the mapped fault the Grovesend Formation was encountered as interbedded sandstone and mudstone, particularly in BH3, where a significant mudstone horizons was encountered from 23.2m - 30.5m (base of borehole).

Well-developed coal seam thicknesses (maximum of 0.6m) were encountered within BH1 and BH2 as discussed in the following section.

Coal Seams

Intact coal seams were encountered within boreholes BH1 to the south of the geological fault and BH2 to the north of the fault at varying depths across the Site. Intact coal seams were easily distinguishable with dark greyish / black drill flush returns, with easier drilling conditions noted.

A summary of the coal seam depths and thicknesses encountered can be viewed in Table 3-1.

Borehole	Seam Depth (mBGL)	Seam Thickness (m)	Coal Seam Name
BH1	23	0.6	Mynyddislwyn Top Leaf
BH2	33.3	0.2	Small Rider

Table 3-1 - Encountered Coal Seam Depths and Thicknesses

An intact coal seam was encountered within BH1 and BH2 respectively. Based upon the thicknesses of the seams encountered it is considered that these are two individual seams, notably the Mynyddislwyn seam (BH1) and the Small Rider seam (BH2). Both seams were encountered intact and did not present any indications of being worked beneath the Site.

Published geological data indicates that the Site is bisected by a large north-east southwest trending fault, with a downthrow to the northern side of the fault. This fault is mapped between the position of BH1 and BH2, resulting in BH2 being positioned on the downthrown side of the fault. This is reflected in the encountered ground conditions of BH2, where the Mynyddislwyn seam has not been encountered within the top 35mbgl. Additionally, the bedrock geology dips shallowly to the north / north-west beneath the site at a rate of appropriately 5°, taking the Mynyddislwyn seam deeper beneath the northern portion of the Site.

Both the encountered coal seams were returned as greyish black drill flush returns. The coal seams were proven to be intact and unworked at the drilled positions as noted by the drilling rates and the flush returns as the drill bit was advanced through the coal seam thickness. Drilling was at an increased rate compared to sandstone, but remained constant throughout the seam, with no shaking of the drilling rig, sudden dropping of the drill string or significant loss of the drill flush which would have been indicative of open voids or backfilled workings.

Voids, Broken Ground and Loss of Flush

Voids and broken ground, which may indicate historical mine workings, were not encountered in any of the boreholes during the site investigation. There were no significant increases in drilling rate or shaking/dropping of the drill string which could have represented voids or broken ground.

Gas Monitoring During Advancement

During the advancement of boreholes Apex monitored continuously at the drilling rig by portable gas detection monitor. No concentrations were detected during the drilling of all 3 no. boreholes.

Groundwater

Groundwater strikes were encountered across a range of depths at every borehole position, with minor groundwater strikes noted with the superficial deposits at depths ranging 2.7m (Bh1) to 5.7m (BH3). The larger groundwater strikes remained consistent beneath the Site and were present at the contact between the base of the superficial deposits and the top of the sandstone bedrock. These depths ranged 6.2m (BH3) to 8.7m (BH1).

4 Risk Assessment & Conclusions

4.1 Coal Mining Risk

The principal objective of the site investigation was to confirm the presence or otherwise of shallow coal and any associated shallow mine workings beneath the Site.

The site investigation did not identify the presence of any broken ground/voids during the advancement of the rotary boreholes to a maximum depth of 35mbgl.

Shallow coal mining is defined as lying at a depth of up to 10 x the thickness of coal seam extraction down to a maximum depth of 30 metres. It is generally considered with competent overlying strata that workings deeper than 30 m do not readily constitute a threat to surface stability due to the ability of the overlying strata to dissipate any movement from within the workings before they reach the surface through choking and bridging of the migrating void.

Two individual intact coal seams have been identified underlying the Site. These have been interpreted as the Small Rider and the Mynyddislwyn Top Leaf. The intact seams were encountered at depths of 33.3mBGL and 23mBGL respectively. The Small Rider Coal Seam was encountered as 0.20m thick, with the Mynyddislwyn Top Leaf encountered as 0.60m thick.

At the depths both coal seams were encountered (33.3mBGL & 23mBGL) a sufficient thickness of competent bedrock cover has been proven. Considering that no voids or broken ground were encountered during the advancement of the boreholes, and the depth in which the coal seams were encountered, providing > 10x seam thickness of competent bedrock above the seam, the revised risk to the site from shallow mine workings is considered to be Low Risk.

4.2 Conclusions

On the basis of the work to date, we are of the opinion that the mining risk posed by any working of the Small Rider or the Mynyddislwyn Top Leaf coal seam beneath this site poses a **Low Risk** of instability to future development. This conclusion is formed on the basis that no broken or voided ground has been identified, and the coal seams have been encountered at depths (23mBGL & 33.3mBGL) where sufficient competent overlying bedrock cover > 10x seam thickness has been proven.

It is recommended that this report together with the appended Coal Authority Permit Closure form is issued to the Coal Authority for review of the findings and conclusions that the site can be considered safe, stable and suitable for development without any mitigation from the risks associated with any historical extraction of either the Small Rider or the Mynyddislwyn Top Leaf beneath the development site area.

During the enabling and construction works phase it is also recommended that a watching brief should be kept in order to determine presence or otherwise of any unrecorded near surface disturbed ground or historical mine related workings. If unforeseen conditions are encountered contact Hydrogeo or the project Structural Engineer in order to advise and further assess the potential for impact and where required detail mitigation measures.

Drawings

Drawing 1

Borehole Location Plan





Drawing 2

Site Cross-Section





HYDROGEO / Telephone:01873 856813 Email:mike@hydrogeo.co.uk Web:www.hydrogeo.co.uk

Appendices

Appendix A

Coal Authority Permit to Drill (Ref. 27780. V2)



Permit to Enter or Disturb Coal Authority Interests

Permit 27780.V2

Name and Address of Permit Holder:

Starburst (UK) Limited Glandwr Industrial Estate Aberbeeg Abertillery Gwent NP13 2LN

Site Location:

Frontier Medical Newbridge Road Industrial Estate Newbridge Caerphilly NP12 2YN

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

Ground investigation by three rotary boreholes to a scheduled 30m depth or as required to determine ground conditions 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.
- All drilling by water flush methods below rock head level
- Gas Monitoring for CO, CH4, CO2, O2, and H2S at the 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: Leigh Sharpe Granted Date: 22nd January 2024

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: <u>permissions@coal.gov.uk</u>





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Appendix B

Borehole Logs





Coal Mining Site Investigation BH1

PROJECT NUMBER HYG1246 PROJECT NAME Frontier Medical CLIENT Formaction Ltd ADDRESS Newbridge Road, Pontllanfraith, NP12 2AN DRILLING DATE 22/02/2024 DRILLING COMPANY APEX Drilling DRILLER Adam Ricketts DRILLING METHOD Rotary Open-hole TOTAL DEPTH 30.5m COORDINATES COORD SYS SURFACE ELEVATION LOGGED BY SG CHECKED BY SG & MW

COMMENTS	Drilled in accord	rdance with Coal Authority Permit Reference: 22780 - Full Water Flush and Gas Monitoring				
Depth (m)	Graphic Log	nscs	Material Description	Additional Observations		
1 2 3 4 5 5 6 7 8		MG SC&G	gravels and cobbles of brick, concrete, and tarmac. Inclusions of wood, plastics, ceramic and glass. [MADE GROUND] Sandy CLAY and gravels [GLACIAL TILL Superficial Deposits]	The borehole was drilled within a temporary steel casing to 8.7m. A minor groundwater strike was encountered at 2.7m. A significant groundwater strike encountered at 8.3m		
9 10 11 12 13 14 15 16 17 18 19 20 21		GDB	Sandstone [GROVESEND FORMATION - Sandstone]	The Drill hammer was changed at 8.7m at the base of the casing. Rockhead at 8.3m. Hard drilling was noted from 8.7m - 23m, indicative of competent sandstone.		
22 23 24 25 26 27 28 29 30		Coal GDB	Intact Coal Sandstone [GROVESEND FORMATION - Sandstone]	Greyish black drilling flush return, with easier drilling noted. Indicative of an intact coal seam. Usual drilling flush return and harder drilling noted. Indicative of competent bedrock.		

Disclaimer Borehole log interpreted from APEX Drilling Sheets

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Coal Mining Site Investigation BH2

PROJECT NUMBER HYG1246 PROJECT NAME Frontier Medical CLIENT Formaction Ltd ADDRESS Newbridge Road, Pontllanfraith, NP12 2AN DRILLING DATE 22/02/2024 DRILLING COMPANY APEX Drilling DRILLER Adam Ricketts DRILLING METHOD Rotary Open-hole TOTAL DEPTH 35m COORDINATES COORD SYS SURFACE ELEVATION LOGGED BY SG CHECKED BY SG & MW

COMMENTS	Drilled in accord	ed in accordance with Coal Authority Permit Reference: 22780 - Full Water Flush and Gas Monitoring			
Depth (m)	Graphic Log	USCS	Material Description	Additional Observations	
1 2 3 4 5 6 7 8		- MG SC&G	gravels and cobbles of brick, concrete, and tarmac. Inclusions of wood, plastics, ceramic and glass. [MADE GROUND] Sandy CLAY and gravels [GLACIAL TILL Superficial Deposits] ⊈ 1	The borehole was drilled within a temporary steel casing to 8.7m. A minor groundwater strike was encountered at 4.2m. A significant groundwater strike encountered at 8.4m	
9 10 11 12 13 14 15 16				The Drill hammer was changed at 8.7m at the base of the casing. Rockhead at 8.4m. Hard drilling was noted from 8.4m - 33.3m, indicative of competent sandstone.	
17 18 19 20 21 22 23					
24 25 26 27 28 29 30 31					
32 33 34 - 35		√ _{Coal} ∖ GDB	/Intact Coal Sandstone [GROVESEND FORMATION - Sandstone] Borehole Terminated: 35m	Greyish black drilling flush return, with easier drilling noted. Indicative of an intact coal seam. Usual drilling flush return and harder drilling noted. Indicative of competent bedrock.	

Disclaimer Borehole log interpreted from APEX Drilling Sheets

produced by ESlog.ESdat.net on 04 Mar 2024

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Coal Mining Site Investigation BH3

PROJECT NUMBER HYG1246 PROJECT NAME Frontier Medical CLIENT Formaction Ltd ADDRESS Newbridge Road, Pontllanfraith, NP12 2AN DRILLING DATE 23/02/2024 DRILLING COMPANY APEX Drilling DRILLER Joe Brown DRILLING METHOD Rotary Open-hole TOTAL DEPTH 30.5m COORDINATES COORD SYS SURFACE ELEVATION LOGGED BY SG CHECKED BY SG & MW

COMMENTS	OMMENTS Drilled in accordance with Coal Authority Permit Reference: 22780 - Full Water Flush and Gas Monitoring				
Depth (m)	Graphic Log	nscs	Material Description	Additional Observations	
1 2 3 4		MG SC&G C&G	Gravels and cobbles of brick, concrete, and tarmac. Inclusions of wood, plastics, ceramic and glass. [MADE GROUND] Sandy CLAY and gravels [GLACIAL TILL Superficial Deposits] CLAY and gravel [GLACIAL TILL Superficial Deposits]	The borehole was drilled within a temporary steel casing to 7.2m. A minor groundwater strike was encountered at 5.7m. A significant groundwater strike encountered at 6.2m	
5 6 7		GDB	☑ 1 ☑ 2 Sandstone with Coal traces [GROVESEND FORMATION - SANDSTONE]		
8 9 10				The Drill hammer was changed at 7.2m at the base of the casing. Rockhead at 6.2m. Hard drilling was noted from 6.2m - 23.2m, indicative of competent sandstone.	
11 12 13 14					
- 15 - 16 - 17					
18 19 20 21					
-22 -23		GDB	Mudstone with clay bands [GROVESEND FORMATION -	Moderate drilling noted, with an off-white	
24 - 25 - 26			MUDSTONE, SILTSTONE and SANDSTONE]	coloured drilling flush return. Indicative of a slightly softer mudstone with clay bands.	
-27 -28 -29					
30			Borebole Terminated: 30.5m		

Disclaimer Borehole log interpreted from APEX Drilling Sheets

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Appendix C

Coal Authority Permit Closure Form

×.	The	Coal	Authority
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	27780	Droject / Site Location	Frontier Medical, Newbridge Road Industrial	
Permit Ref.	21100	Project / Site Location	Estate, Newbridge, Caerphilly, NP12 2YN	

Please supply all relevant documents, including this completed form within 3 months of the permitted works being completed.

Where relevant the report should include; borehole logs and details of mine or mine entry treatment works carried out (incl. engineering drawings, grout takes etc.) and a scaled site layout plan (correlated to O.S N' Grid) showing all relevant mine entry positions, coal seams, voids and broken ground proved by the works.

Summary of works	Start date	22/02/2024	Finish date	23/02/2024
Have any variations occurred?	□ No ☑ Yes	s If so was the A	uthority notified	? □No ☑Yes

Boreholes were advanced by APEX Drilling Limited 22nd - 23rd February 2024 drill depth was extended sightly to determine depth to coal in nortern area of the site

Did if any of the following incidents occur?

□ Spontaneous combustion □ Water emission □ Gas emission (elevated or above action levels)

□ Geotechnical instability □ Legal issues incl. damage or potential claims □ None

If yes, please detail each item;

Were any of the following encountered? Please give a brief summary of the works undertaken.

☐ Intact coal only ☐ Broken ground ☐ Backfilled ground ☐ Voids **Description**;

A total of 3 no. boreholes were advanced across the site area as detailed within the permit. The exact position for these boreholes is shown on the attached report / plan of the site. Works were progressed by Apex Drilling Limited in full accordance with the Coal Authority Permit. All Coal Seams were proven to be intact, additionally there was sufficient rock cover above the identified Coal Seams such that if the coal had been worked there would be sufficient competent rock (> than 10 X the coal seam thickness) overlying the identified coal seam.

As per the geological map for the area it was also evident that a fault runs through the site, with the Mynyddislwyn coal seam detected at 23.00 - 23.60 mbgl in BH 1south of the fault. To the north of the fault coal was detected at 33.30 - 33.50 mbgl, in BH2 this coal seam was estimated to be the Small Rider. BH2 was stopped in sandstone at 35 mbgl all boreholes were backfilled by APEX in accordance with the Permit. Please see report for further details.

Will further works be necessary that require a Permit? 🛛 No 🗌 Yes

If yes, please describe, including any recommendations;

Name: Michael Willis		Email:	mike@hydrogeo.co.uk
Company:	Hydrogeo Limited	Tel:	01873 856813