

Our Ref: 4046-G-L026 Rev A

Date: 15th November 2022

Mr Matt Davis
Technical Manager
Story Homes Ltd
Story House,
Lords Way
Kingmoor Business Park
Carlisle
CA6 4SL



North West & Midlands

Caledonian House, Tatton Street,
Knutsford, Cheshire, WA16 6AG
t: 01565 755557

North East & Yorkshire

The Stables, Aske Hall, Aske,
Richmond
North Yorkshire, DL10 5HG
t: 01748 889010

Dear Mr Davis,

**Supplementary Hazardous Ground Gas Risk Assessment- Phase 4, Edgehill Park,
Whitehaven, Cumbria**

We are pleased to present the findings & conclusions of our supplementary hazardous ground gas risk assessment in respect of the above site. The site location is shown on Drawing No. 4046 –G-D038 Rev A in Appendix A.

IDG have previously issued the following reports in respect of the site:

- Preliminary Geoenvironmental Investigation & Coal Mining Risk Assessment, Edgehill Park Whitehaven, Reference 4046-G-R015, dated October 2020 (Rev A issued November 2021)
- Hazardous Ground Gas Risk Assessment- Phase 4, Edgehill Park, Whitehaven, Cumbria, reference 4046-G-LR014, dated December 2020.
- Geoenvironmental Appraisal & Supplementary Coal Mining Risk Assessment (Report Ref. 4046-G-R024, dated December 2021)
- Supplementary Rotary Probehole Investigation – Phase 4, Edgehill Park, Whitehaven– Findings & Recommendations letter report reference 4046-G-L020 dated June 2022

As stated in Report reference 4046-G-R015, an initial ground gas risk assessment based upon three shallow monitoring wells and four monitoring visits was undertaken as described in Section 3 of that report. Based on that assessment, the site was tentatively classified as CS1. However, the detailed mining presented in Report reference 4046-G-R024 identified further evidence of mining beneath the north eastern corner of the site and further monitoring was recommended. Deep monitoring wells PH902 & PH907 were installed with monitoring well response zones to further assess risks from mines gases being generated within shallow workings and their capacity to migrate to the surface; details of the installations are shown on the exploratory records presented in Appendix B.

Further probing during June 2022 confirmed that the shallow mineworkings were associated with the Slaty Coal seam which outcrops to the east of the site. Trial pitting and shaft probing identified the position of Coal Authority mineshaft reference 271515-008 located in the southwest site corner terminated at 37.5m bgl and while no direct evidence of workings were encountered between the shaft and the workings identified in the east of the site, geological modelling indicates that the shaft base terminates at a level which correlates with the predicted level of the Slaty Coal seam, assuming the seams dip remains constant.

Exploratory hole locations associated with each phase of investigation are shown on Drawing reference 4046-G-D040 Rev F. The geological model (cross section) is shown on Drawing No. 4046-G-D054 Rev A. Updated structure contours showing the base of the worked seam and correlation with the base of Shaft Reference 271515-008 are shown on Drawing 4046-G-D055 Rev D in Appendix A. The structure contours indicate that the dip of the seam towards the west remains constant and this suggests that bedrock above the seam is also relatively un-deformed.

Ground Gas Risk Assessment Methodology

This assessment of the hazardous ground gas regime for the site has been undertaken in accordance with the following current standards and guidance:

- BS8576:2013 - Guidance on investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOCs).
- BS8485:2015 - Code of Practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings.
- CIRIA C665 (2007) - Assessing risks posed by hazardous ground gases to buildings.
- CL:AIRE Technical Note - Good practice for risk assessment of mines gas emissions –V6 Wilson, Henman & Lee, November 2020.

Proposed Development

It is understood that consideration is being given to redevelopment of the site with two-storey domestic dwellings, associated gardens, Public Open Space (POS) areas, adoptable roads and sewers. The proposed site layout is shown on Story Homes Detailed Site Layout Plan reference 66D-STO Drawing No. 100 Rev N in Appendix A.

Conceptual Site Model

Potential sources of hazardous ground gas generation and migration pathways identified in IDG's Preliminary Geoenvironmental Investigation & Coal Mining Risk Assessment (Report ref. 4046-G-R015) and updated by the findings presented in IDG correspondence 4046-G-L020 dated 15th June 2022 are summarised below:

- There are no significant sources of landfill gas within the vicinity of the site.
- The site is not indicated to be at risk from Radon gas.
- The BGS infer the Black Metal Coal to outcrop from north-south across the centre of the site and the Slaty Coal to outcrop immediately east of the site. However, the May 2022 investigation discussed in 4046-G-L020 concluded that four seams of coal were present at shallow depth beneath the site, including an unworked seam of coal with a mudstone parting circa 7.5m shallower than the Slaty Coal, which outcrops in the east of the site (IDG inferred outcrop shown on Drawing 4046-G-D040 Rev F).
- Intrusive mining investigations undertaken during 2020 (PH630-PH635), August 2021 (PH901-PH916) and May 2022 (PH1001-PH1023) have only encountered evidence of shallow workings within on coal seam between depths of 18.3m (PH907) and 27.78m BGL (PH630).
- No evidence of groundwater was encountered within the mineworkings or overburden during drilling or trial pitting.
- The shallow mine workings are likely to be in excess of 100 years old and consequently desorbed methane emissions are not anticipated to be significant, although oxidization of coal could still result in elevated carbon dioxide concentrations (CL:AIRE Technical Note 2020).

- One mine entry (CA reference 271515-008) was proven in the southwest of the site. Trial pitting and rotary probing (2022) confirmed the shaft to be 2.5m in diameter and 37.5m deep, backfilled with clay and weathered mudstone colliery spoil.
- Geological modelling presented in IDG letter report 4046-G-L020 indicates the shallow coal mineworkings to be within the Slaty Coal seam, which the BGS indicates to outcrop to the east beyond the site boundary, although the geological model (Section C-C') suggests the Slaty Coal could outcrop within the SE of the site where no development is proposed.
- No evidence of abandoned shallow mineworkings was encountered in any of the other three coal seams encountered.
- In excess of 15m of relatively impermeable competent mudstone is present above the abandoned mineworkings in the east of the site and up to 2.0m of Glacial clay superficial deposits are also present in the western half of the site (where the workings are likely to be in excess of 25m depth), which are considered to mitigate against migration of mines gases to the surface.
- The previously unrecorded workings represent a source of mines gases and the mine shaft (and any unidentified shafts or adits) represent potential migration pathways for hazardous mines gases
- It is anticipated that the majority properties will be constructed upon strip and trenchfill foundations, although mini-piles extending up to 6-8m may be utilised in the west of the site where clay has previously been extracted and it is necessary to raise development levels.

The Conceptual Site Model (CSM) and potential linkages presented in Report reference. 4046-G-R015 reproduced in the following summary table remains valid. The CSM provides an initial qualitative assessment of risks associated with hazardous ground gas based on the findings of IDG's intrusive investigations.

Summary of Potential Gas Linkages

Potential Contamination Source	Receptors	Plausible Pathways	Evidence / Site Features
Hazardous Gas (CO ₂ , CH ₄ , CO)	Human Health	Migration of Carbon Dioxide and Carbon Monoxide through bedrock and ingress into confined spaces leading to potential asphyxiating mixtures of gas	• Mine shaft in SW corner • Shallow mineworkings
	Proposed Buildings	Migration of Methane through bedrock and ingress into confined spaces leading to potential explosive mixtures of gas	

The generation potential of the gas source(s) was initially considered to be very low. Monitoring results obtained from shallow wells (i.e. with response zones <4.0m depth), presented in the initial Gas Risk Assessment reference 4046-G-LR014 appeared to confirm this. However, upon identification of further evidence of shallow mineworkings it was considered prudent to install deep monitoring wells within the shallow workings to establish the generation potential within the source and potential for any mines gas to migrate to surface via shafts, adits or fractured bedrock.

Monitoring Wells

Three gas monitoring wells were installed in rotary boreholes in the east of the site during IDG's ground investigation works on 10th and 11th September 2020 and a further two installed during 2021. Shallow monitoring wells were installed with response zones which targeted an outcropping coal seam (PH631) and mudstone and siltstone bedrock (PH633A and PH634A) between depths of 2.0m and 4.0m bgl and deep monitoring wells installed to depths of between 18.3m and 21.0m bgl to monitor gases within the shallow workings (PH902 & PH907). Based upon recent drilling and

geological modelling workings monitored within PH902 & PH907 are within the Slaty Coal seam.

The locations of the monitoring wells are shown on Drawing No. 4046-G-D040 Rev F, presented in Appendix A..

Details of the monitoring wells are provided on the exploratory records presented in Appendix B.

Monitoring Programme

The gas monitoring programme comprised 4 visits over a period of 6 weeks. The standard procedure was followed, in accordance with CIRIA guidance, comprising measurement of the following:

- Ambient oxygen concentration (to provide a check for instrument drift)
- Atmospheric pressure
- Borehole flow rate using a Gas Data LMSx infra-red gas analyser
- Methane, oxygen and carbon dioxide concentrations using a Gas Data LMSx infra-red gas analyser, together with carbon monoxide and/or hydrogen sulphide concentrations where appropriate
- Standing water level using a dipmeter

Calibration Certificates for the monitoring equipment used are presented in Appendix C.

Monitoring Results

Gas monitoring has been undertaken on up to 10 occasions during periods of atmospheric pressure ranging between 967mb and 1018mb and periods of falling or low atmospheric pressures (i.e. 1000mb or less). Detailed gas monitoring records are presented in Appendix D which are summarised in the following table.

PH633A which was vandalized shortly after its installation and repaired was vandalized beyond repair after a total of eight visits. However, PH633A was also flooded on three occasions and consequently results are only available from 5 visits.

Summary of Gas Monitoring Results

Well Ref.	Nature of response zone strata	Range of Water levels (m bgl)	Response Zone (m bgl)	Range of Steady Methane Conc's (% v/v)	Range of Steady Carbon Dioxide Conc's (% v/v)	Oxygen Conc's (% v/v)	Steady Flow Rates (l/hr)
PH631	Coal Measures	Dry – 3.65	3.0 - 4.5	0.0 – 0.1	0.2 – 18.6	0.1 – 20.9	ND
PH633A	Coal Measures	Dry – 0.05	2.0 – 3.0	ND	0.0 – 2.3	17.3 – 21.0	0.0 – 0.1
PH634A	Coal Measures (Black Metal Coal Seam)	Dry – 1.49	1.0 – 3.0	0.0 – 0.1	0.2 – 1.7	9.9 – 20.5	0.0 – 0.1
PH902	Coal Measures (Shallow Workings)	DRY	18.4 – 21.4	0.3 – 2.0	4.0 – 6.4	0.1 – 0.3	-22.0 – +7.5
PH907	Coal Measures (Shallow Workings)	DRY	18.3 – 19.5	0.2 – 2.0	0.4 – 6.1	0.1 – 2.6	-24.0 – +7.4

Notes: Atmospheric pressures varied between 969mb and 1012mb. ND= not detected

Discussion of Data

Shallow monitoring well PH633A was periodically flooded during the monitoring programme. This was considered to be a consequence of temporary saturation of the shallow weathered natural deposits following periods of heavy rainfall.

Shallow monitoring well PH631 only contained 50mm of groundwater on one occasion and PH634A was initially dry, although groundwater was recorded as shallow as 1.49m bgl.

Deep monitoring wells installed within PH902 and PH907 remained dry throughout the monitoring programme, indicating workings are dry/not flooded.

IDG's results include an initial assessment and assignment of Q_{HG} values for both methane and carbon dioxide and an initial 'Implied Characteristic Situation' (CS1 - CS4) applicable to individual monitoring locations. These indicative values are calculated using the raw monitoring data.

The following sections discuss the observed data and any additional considerations or influencing factors.

Carbon Dioxide

Low carbon dioxide concentrations typically between 0.2% - 3.9% were detected within the shallow monitoring wells, with the exception of three occasions at PH631 when unusually elevated concentrations of up to 18.7% were detected on 30th May & 8th June 2022, coinciding with low oxygen concentrations. No significant positive flows were detected, however a negative flow rate of -4.4l/hr was detected at PH631 which coincided with the highest carbon dioxide concentration. It was notable that the high carbon dioxide and negative flow also coincided with the only occasion when groundwater was recorded at PH631. The temporarily elevated concentrations of carbon dioxide are considered to be associated with the presence of groundwater and temporarily enhanced oxidisation of the coal seam within which the response zone is constructed. This is not considered to represent a significant risk.

Slightly elevated concentrations of up to 6.4% carbon dioxide were recorded at the base of the deep monitoring wells PH902 & PH907.

Methane

Methane was not detected at shallow monitoring wells PH631, PH633A or PH634A. Slightly elevated methane concentrations of up to 2.5% were detected at PH902 & PH907, which would be anticipated at response zones within shallow mineworkings.

Oxygen

Whilst oxygen is not considered a hazardous gas, CIRIA 665 suggests the replacement or depletion of oxygen to a concentration below 18% v/v in a confined space can pose its own physiological risks. As such IDG consider that oxygen should be assessed where gas monitoring identifies a significant depletion of oxygen, particularly if there is a potential source of other hazardous ground gases, such as shallow mineworkings.

As discussed above, low oxygen concentrations at shallow monitoring well PH631A coincided with unusually high carbon dioxide concentrations and the only occasion when groundwater was detected in the monitoring well, suggesting that carbon dioxide is displacing oxygen.

Oxygen concentrations recorded in shallow PH634A were between 9.9% and 20.5% (average of 15.9%), which is considered to be a depleted level or low concentration. This oxygen deficiency could be associated with oxidisation of a shallow coal seam (a seam is recorded <2.0m depth below the base of the response zone in PH634A), shallow mineworkings or microbial processes occurring within

groundwater collecting in the monitoring well. In the absence of methane, it is most likely that the low oxygen is related to oxidation of coal similar to PH631. It is noted however that the proportions of carbon dioxide and oxygen suggest that another undetectable gas (i.e. nitrogen) may be present.

The oxygen concentrations detected in shallow PH633A were 18.6% and 18.8%, i.e. not depleted.

Oxygen concentrations at PH902 and PH907 with response zones in the shallow workings ranged between 0.1 – 2.6% at PH902 & PH907. The consistently low oxygen concentrations detected at PH902 & PH907 corresponding with the mineworkings are generally consistent with methane and carbon dioxide concentrations, although the proportions suggest another undetected gas (i.e. nitrogen) is present.

Borehole Flows

No steady positive flow rates were detected (ND) at the shallow monitoring wells PH631, PH633A or PH634A during the monitoring programme. However, peak positive flows rates were recorded ranging from 1.5 litres/hour to 8.5 litres/hour, although these diminished to 0.0 litres/hr (or the 'limit of detection') within 2 to 180 seconds. The peak flows are considered attributable to either rising or falling groundwater levels or recent changes in atmospheric pressure creating a pressure gradient in the well. A negative flow of -4.4l/hr was temporarily detected at PH631 which diminished to 0.0l/hr after 5s indicative of a fall in temporary groundwater level within the response zone.

Positive steady flow rates of between 0.0l/hr & 8.0l/hr were recorded on four occasions at the deep monitoring wells PH902 & PH907. However, steady negative flow rates of up to 20.0l/hr were also recorded on three occasions.

The highest positive flow rate was obtained during a period of low atmospheric pressure of 965mB on 7TH December 2021. However, the lowest negative flow rate was also recorded during a period of extremely low atmospheric pressure of 966mB on 18th February 2022, which indicates some factor other than atmospheric pressure influences flow within the abandoned mineworkings. The most likely influence is tidal, given the site's geographical location.

In order to complete the gas risk assessment calculations in accordance with CIRIA, a 'limit of detection' positive flow value of 0.1 litres/hr is assigned to each borehole where a steady flow has not been detected.

Soil-Gas Regime and Model

The gas monitoring results and the probable source(s) responsible for generating the gas have been considered as part of a soil-gas regime and model. A summary of this is presented in the following table.

Monitoring Well	Elevated Ground Gas Concentrations (>1% CH ₄ , >5% CO ₂)	Depleted Oxygen	Probable Source(s)
PH631	Elevated	Slightly depleted	Oxidation of shallow coal seam
PH633A	Not elevated	Not depleted	-
PH634A	Not elevated	Depleted	Oxidation of shallow coal seam
PH902	Slightly elevated	Depleted	Shallow Mineworkings
PH902	Slightly elevated	Depleted	Shallow Mineworkings

While it remains possible that depleted oxygen concentrations detected in PH631 and slightly depleted concentrations in PH634A could be associated with shallow mine workings, evidence of mine workings has only been encountered in the Slaty Coal seam, whilst the response zone in PH631 targets a coal seam which is not indicated to have been worked. On this basis, the detected low oxygen concentrations and temporarily high carbon dioxide concentrations within PH631 and PH634A are more likely to be associated with oxidisation of coal, as neither methane nor significant borehole flows have been concurrently detected.

Monitoring wells at PH902 and PH907 are both installed with response zones solely within abandoned shallow mineworkings within the Slaty Coal seam. The results demonstrate that slightly elevated concentrations of methane and carbon dioxide, associated with depleted oxygen are present within the abandoned shallow mineworkings. The gas regime in the mineworkings is probably affected by tidal influence and this can result in pumping and consequently both positive and negative gas flow within the abandoned workings.

The untreated on-site mine shaft 271515-008 and offsite shafts (Banks Pit, Baxter Pit circa 20-25m to the north and 271515-007, circa 20-30m to the south) represent potential migration pathways for hazardous gases associated with deeper mineworkings, although treatment and capping of 271515-008 to enable development will eliminate any significant risk from this direct source/pathway to the development.

Site Classification

The site has been classified in accordance with the guidance presented in BS8485:2015. The following table is reproduced from Table 2 of BS8485 and shows the GSV and concentration thresholds for site classification. This has been used as the basis for classifying and zoning the site.

Characteristic Situation	Hazard Potential	Characteristic GSV (l/hr)	Additional Factors
CS1	Very low	<0.07	Typically <1% methane concentration and <5% carbon dioxide concentration (otherwise consider an increase to CS2)
CS2	Low	0.07 to <0.7	Typical measured flow rate <70 L/h (otherwise consider an increase to CS3)
CS3	Moderate	0.7 to <3.5	-
CS4	Moderate to high	3.5 to <15	-
CS5	High	15 to <70	-
CS6	Very high	>70	-

In the absence of significant flow rates, the resultant Q_{HG} calculations for methane and carbon dioxide detected at the shallow monitoring wells PH631, PH633A & PH634A are low, and on the basis of the Q_{HG} alone would indicate all of the site could be classified as 'CS1'. However, Q_{HG} calculations for methane and carbon dioxide detected at the deep monitoring wells PH902 & PH907 indicate the site should be classified as CS2. While it is noted that the results are based upon direct measurement of gases generated within the shallow mineworkings and that there is no evidence for gases to be migrating to surface, there is evidence that the gas source is subject to pumping. Given that there is no geotechnical requirement to treat the shallow mineworkings and there remains potential for gases to migrate to surface via unrecorded shafts or adits, it is considered prudent to classify plots within the eastern half of the site and plots within a radius of 25m of shaft 271515-008 and 279515-002 (Banks Pit offsite) as CS2. Offsite shafts 297515-003 (Baxter Pit) and 297515-007 are not indicated to influence plots not already within the CS2 zone.

Plots within CS2 classification zone(s) are depicted on Drawing reference 4046-G-D076 Rev A in Appendix A.

Conclusions and Recommendations

The above detailed assessment of data, and consideration of the site model and ground gas regime has enabled a refinement of the recommendations for the development in respect of the potential risk posed by hazardous ground gas, and the gas protection measures required to mitigate the risk to properties and end-users of the proposed development.

In accordance with BS8485:2015, results indicate that the east of the site where abandoned shallow mineworkings have been proven within 25m of the surface and (and advice presented in CL:AIRE Technical Note 2020), plots within 25m of shaft 271515-008 and offsite shaft 297515-002 should be given a classification of 'Characteristic Situation 2' (CS2). The remainder of the site should remain CS1.

It is possible that site preparatory works will encounter unrecorded shafts or adits associated with shallow mineworkings. Further assessment of the risk represented by these shafts should be undertaken, although subject to treatment (grouting and capping) a 25m radius CS2 classification would be prudent. This could present logistical issues for Story Homes if shafts were to be encountered within the influencing radius of properties either under construction or where construction is complete and could require retro-fitting of ground gas protection measures. Consequently Story Homes may consider it prudent to install ground gas protection measures in accordance with CS2 in all properties.

The site is not indicated to be at risk from Radon gas. Therefore, Radon gas protective measures are not required.

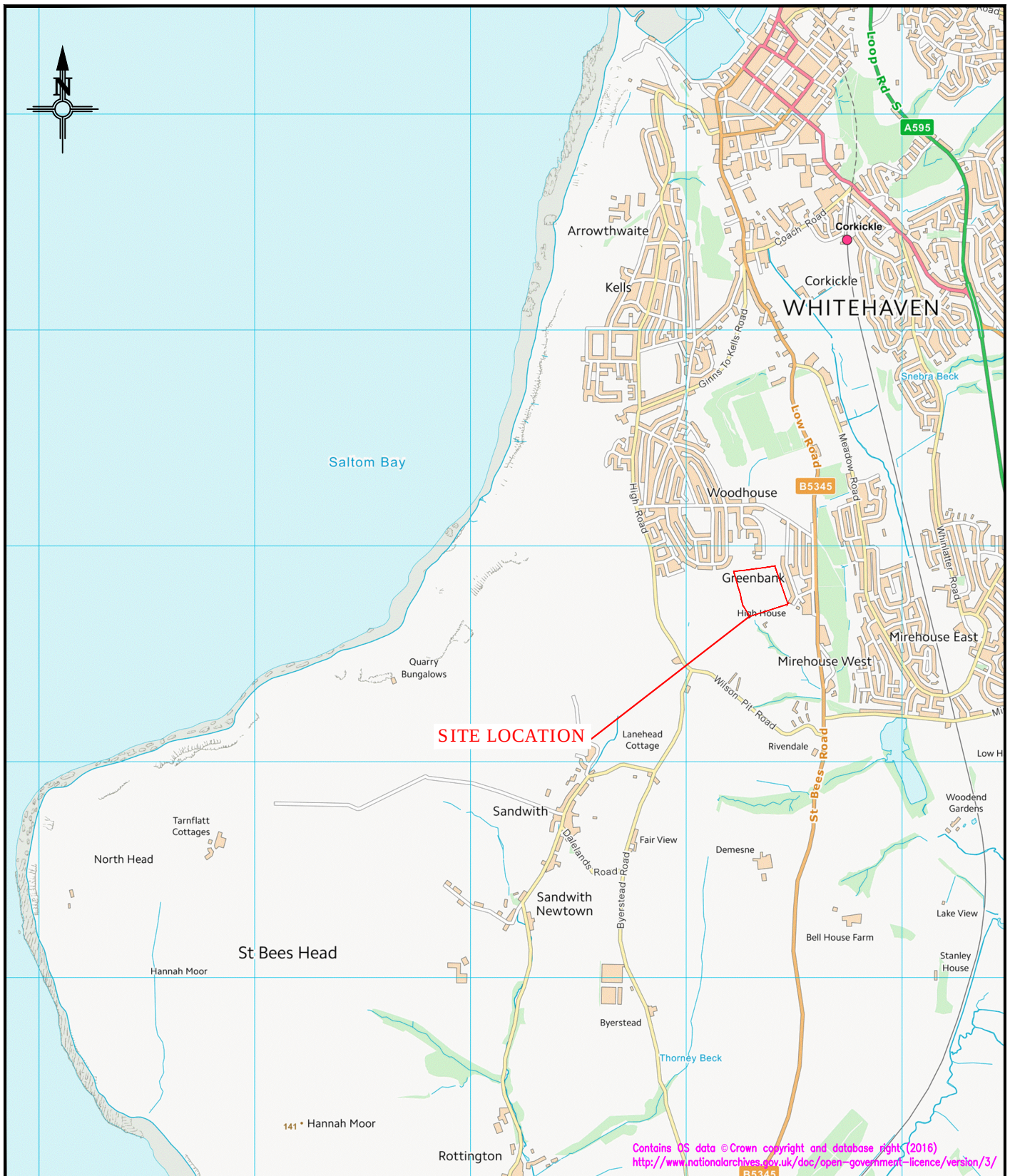
We trust you find the above information satisfactory, however, should you require anything further please do not hesitate to contact us.

Yours sincerely,

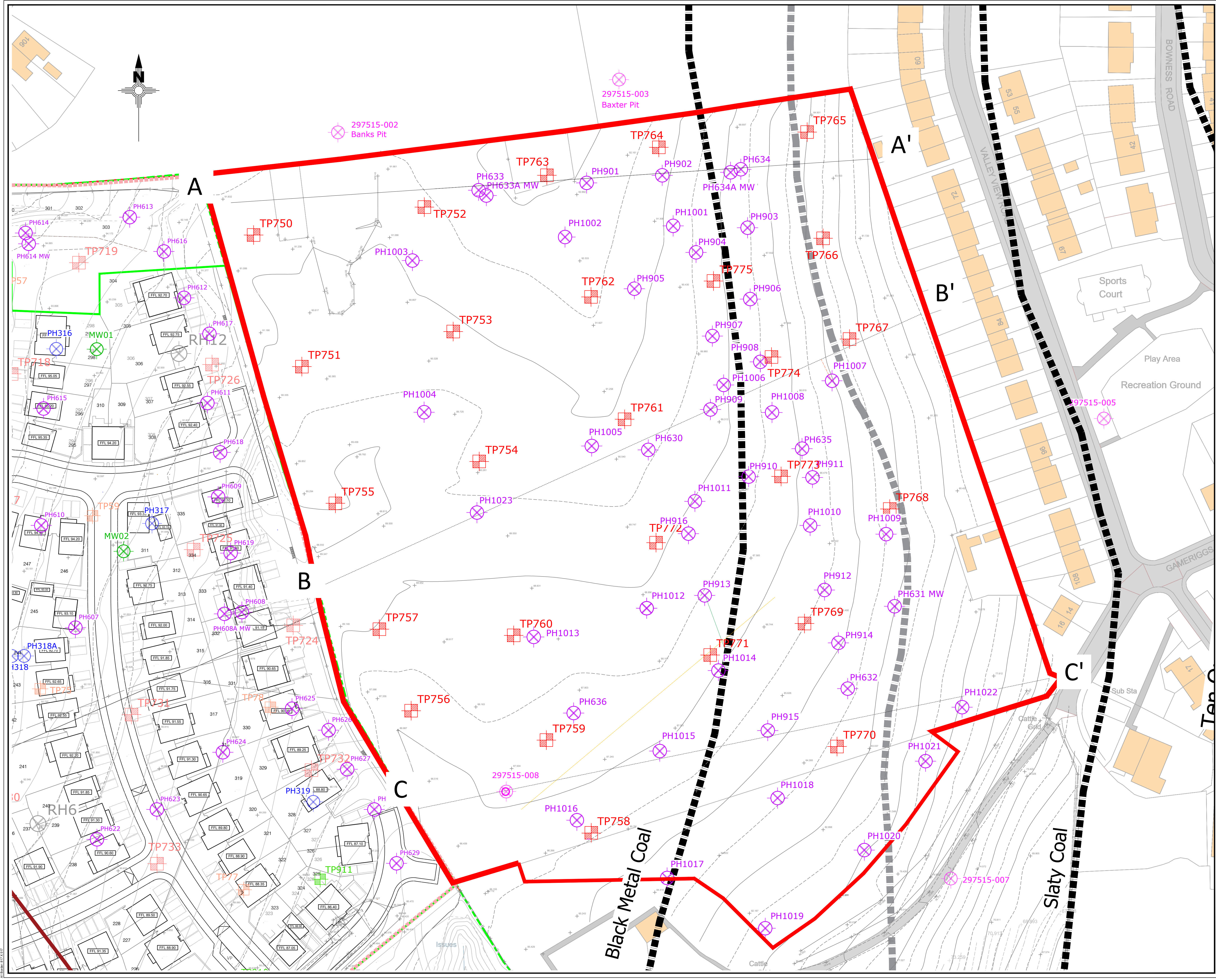
Nick Ward BSc (Hons), FGS
For and on behalf of
ID Geoenvironmental Limited

Enc. *Appendix A* – Drawings
***Appendix B* – Exploratory Hole Records.**
***Appendix C* – Calibration certificates**
***Appendix D* – Gas Monitoring Results**

APPENDIX A



 iGeo iD GeoEnvironmental Limited ☒ North West & Midlands: Caledonian House Tatton Street Knutsford, Cheshire WA16 6AG Tel: 01565 755557 Fax: 01565 740263 ☐ North East & Yorkshire: The Stables, Aske Hall Aske, Richmond Yorkshire, DL10 5HG Tel: 01748 889015 Fax: 01565 740263 iD GeoEnvironmental Consulting Engineers		CLIENT		Story Homes	
		JOB TITLE		Phase 4, Edgehill Park, Whitehaven	
		DRAWING TITLE		Site Location Plan	
DRAWN BY	SIGNATURE	DATE	STATUS		
NW		5-10-20	FINAL		
APPROVED	SIGNATURE	DATE	SCALE	DRG No.	
BRB		5-10-20	1:25,000@A4	4046-G-D038	



The Employer must not amend any drawing, design or other intellectual property produced by IDG, without permission in writing from IDG in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, IDG shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or other intellectual property.

KEY

- Phase 4 Boundary
- PH1000 IDG Probehole 2022
- PH900 IDG Probehole 2021
- PH600 IDG Probehole 2020
- TP750- IDG Trial Pit 2021
- PH300 IDG Probehole Dec 2016
- A-A' Geological Cross Section (Drawing 4046-G-D054 Rev A)
- BGS Inferred Coal Outcrop
- IDG Inferred Un-Named Coal Outcrop
- CA Recorded Mine Shaft

Revision	Description	Date
F	Final PH1000 positions depicted.	28-10-22
E	Proposed PH1000 series depicted.	19-12-21
D	Geological Section A-A', B-B' & C-C'	15-12-21
C	Final Exploratory Hole Positions	29-9-21
B	Revised Proposed RH NO. & Positions	5-7-21
A	Supplementary Probeholes & Trial Pits	6-6-20

Revision **Description** **Date**

CLIENT

Story Homes

JOB TITLE

Phase 4 Edgehill Park, Whitehaven

DRAWING TITLE

Exploratory Hole Location Plan

STATUS

FINAL

DRAWN BY	SIGNATURE	DATE
NW		3-10-20

APPROVED	SIGNATURE	DATE
BRB		5-10-20

SCALE: 1:500@A1

DWG NO: 4046-G-D040

iGeo
ID GeoEnvironmental Limited

North West & Midlands:
Caledonian House
Tatton Street
Knutsford, Cheshire
WA16 6AG
Tel: 01565 755557
Fax: 01565 740263

North East & Yorkshire:
The Stables, Aske Hall
Aske, Richmond
Yorkshire, DL10 5HG
Tel: 01748 889015
Fax: 01565 740263

The Employer must not amend any drawing, design or other intellectual property produced by IDG, without permission in writing from IDG in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, IDG shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or other intellectual property.

KEY

■ ■ ■ Inferred Coal Seam

A-A' Line of Section
(Drawing No. 4046-G-D040)

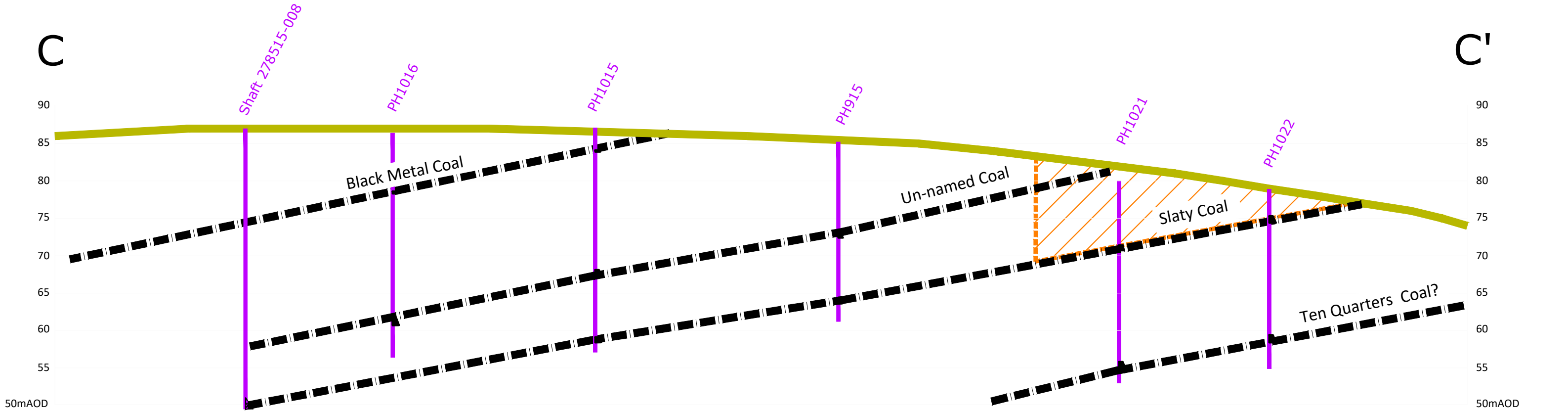
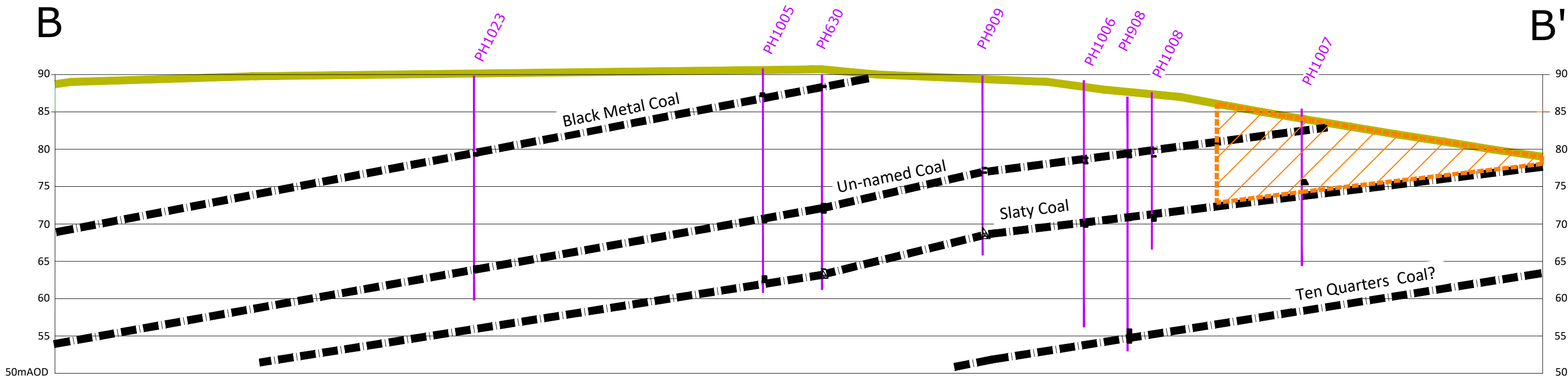
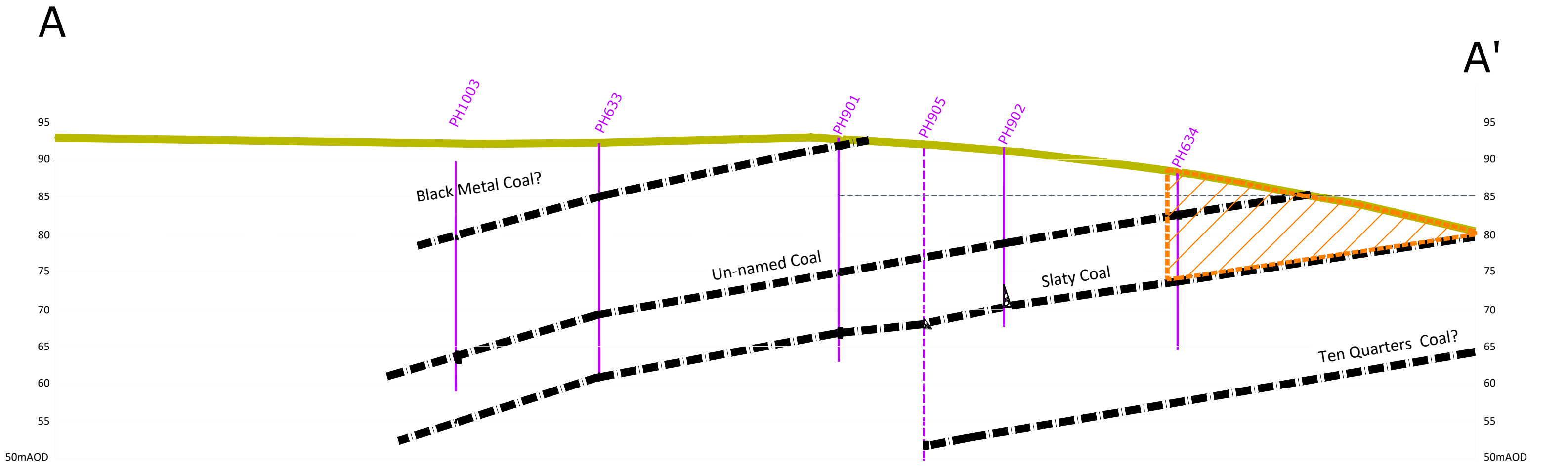
PH6- IDG Probehole 2020

PH9- IDG Probehole 2021

PH10- IDG Probehole 2022

▨ Slaty Coal Seam
Zone of Influence

▤ Probable Shallow Coal
Workings



Revision	Description	Date
A	Revised using PH1000 probeholes	4-11-22



Geo
Structures
Civils

☒ North West & Midlands:
Caledonian House
Tatton Street
Knutsford, Cheshire
WA16 6AG
Tel: 01565 75557
Fax: 01565 740263

☐ North East & Yorkshire:
The Stables, Aske Hall
Aske, Richmond
Yorkshire, DL10 5HG
Tel: 01748 880015
Fax: 01565 740263

iD GeoEnvironmental
Consulting Engineers

CLIENT

Story Homes

JOB TITLE

Edgehill Park Phase 4

DRAWING TITLE

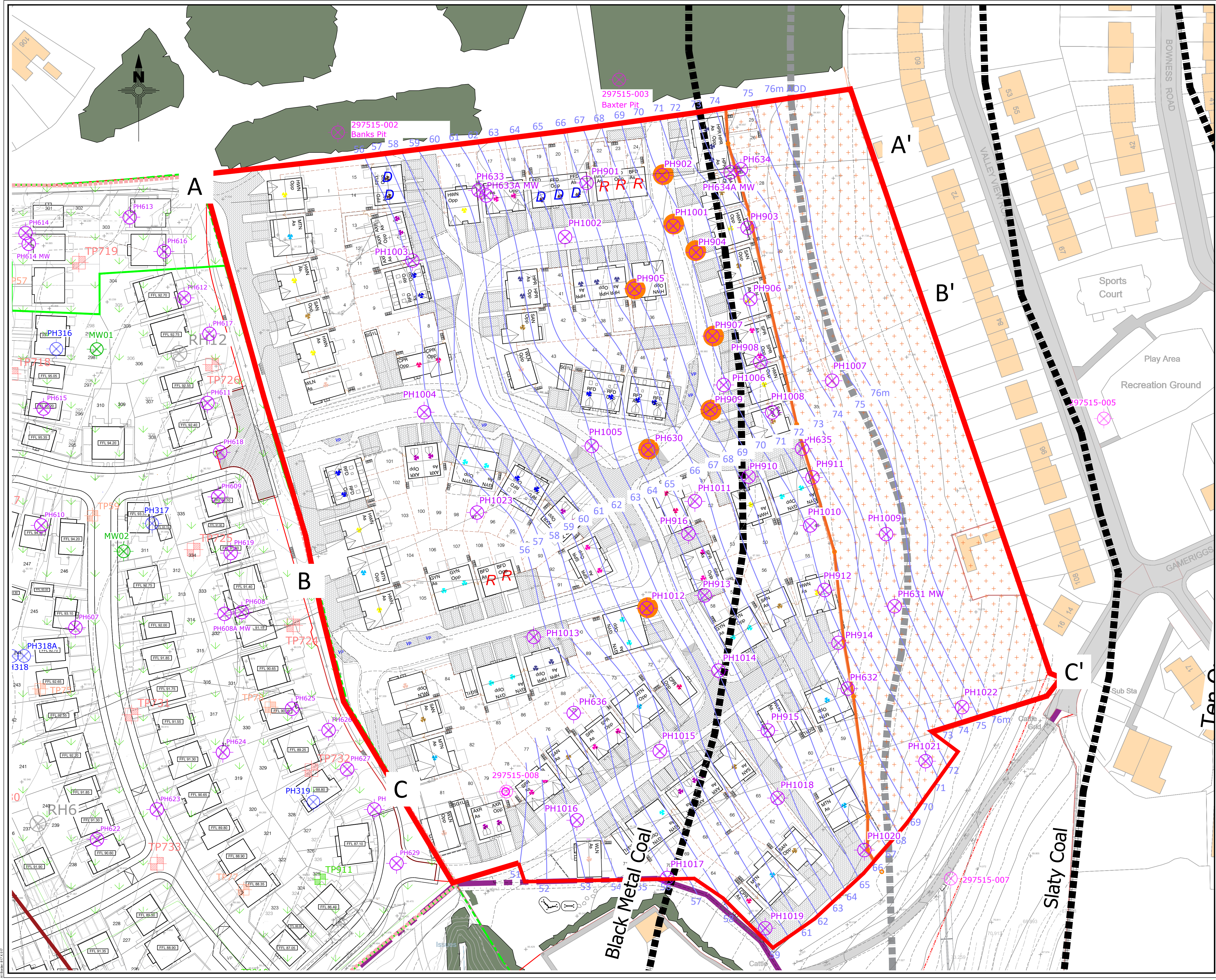
Geological Cross Sections

STATUS

DRAWN BY	SIGNATURE	DATE
NW		23-11-21

APPROVED	SIGNATURE	DATE
BRB		14-12-21

SCALE	DRG No.
1:500@A1	4046-G-D054



The Employer must not amend any drawing, design or other intellectual property produced by IDG, without permission in writing from IDG in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, IDG shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or other intellectual property.

KEY

- Phase 4 Boundary
- IDG Probehole 2022
- IDG Probehole 2021
- IDG Probehole 2020
- Evidence of Abandoned Workings
- Base of Coal Contour (m AOD)
- Shallow Coal Workings Surface Influence (i.e. 10x seam thickness)
- BGS Inferred Coal Outcrop
- IDG Inferred Un-Named Coal Outcrop
- CA Recorded Mine Shaft

Revision	Description	Date
D	Story Homes Layout 66D EHP4 Rev K shown	15-6-22
C	Final PH1000 & Mine Influence Area Positions	14-6-22
B	Anticipated Treatment Area Depicted	17-5-22
A	66D Rev F Layout dated 3-5-22	6-5-22

iGeo
ID GeoEnvironmental Limited

North West & Midlands:
Caledonian House
Tatton Street
Knutsford, Cheshire
WA16 6AG
Tel: 01565 755557
Fax: 01565 740263

North East & Yorkshire:
The Stables, Aske Hall
Aske, Richmond
Yorkshire, DL10 5HG
Tel: 01748 889015
Fax: 01565 740263

CLIENT: Story Homes

JOB TITLE: Phase 4 Edgehill Park, Whitehaven

DRAWING TITLE: Mining Influence Plan

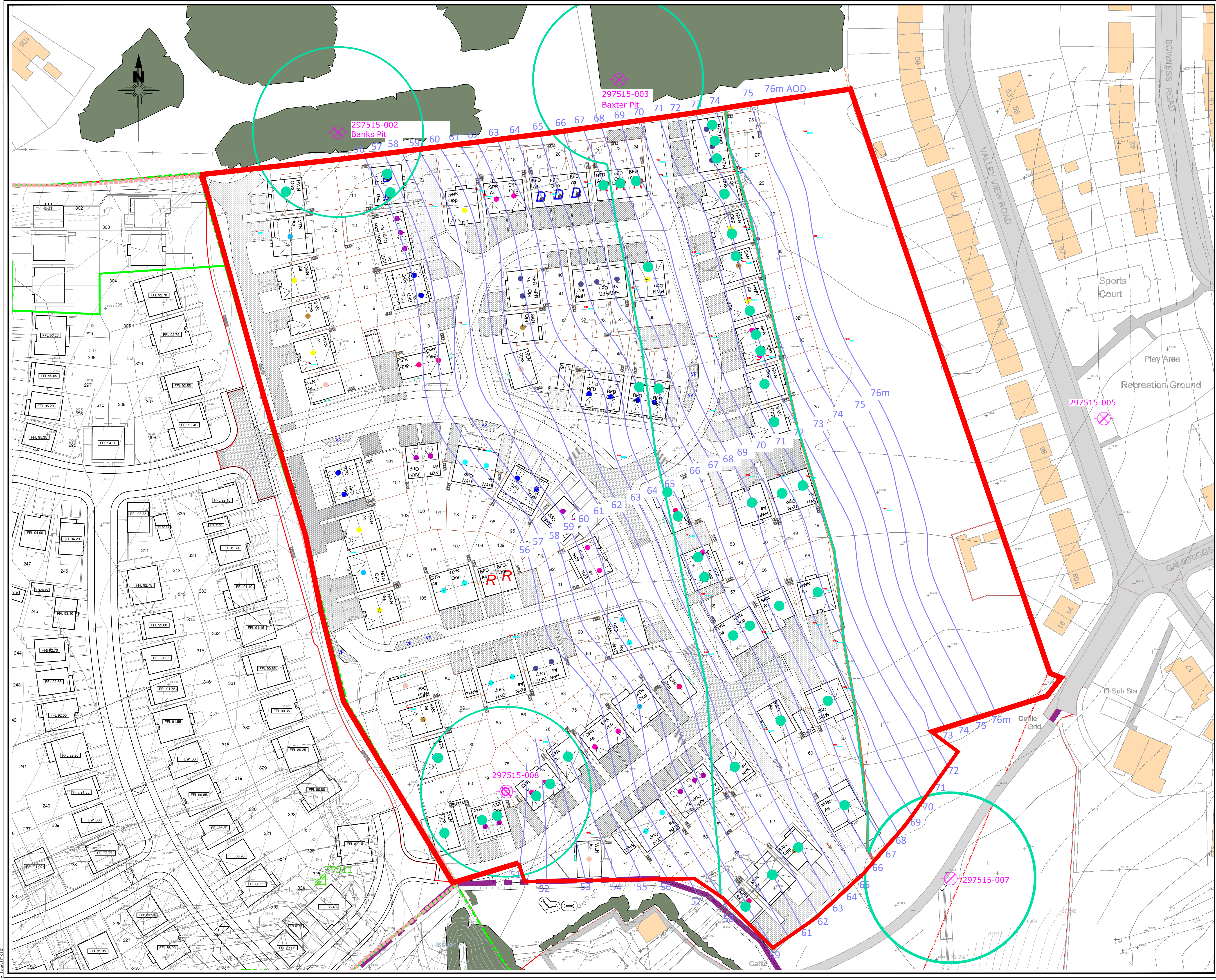
STATUS: Final

DRAWN BY	SIGNATURE	DATE
NW		26-10-21

APPROVED BY	SIGNATURE	DATE
BRB		15-12-21

SCALE: 1:500@A1

DWG No: 4046-G-D055



The Employer must not amend any drawing, design or other intellectual property produced by IDG, without permission in writing from IDG in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, IDG shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or other intellectual property.

KEY

- Phase 4 Boundary
- Surface Within 25m of Slaty Coal Seam
- 25m Radius of Former Mine Shaft
- CS2 Gas Protection Measures Required (subject to final site levels)
- CA Recorded Mine Shaft
- Slaty Seam Structure Contours (m AOD)

A	25m offsite shaft radius edited	15-11-22
Revision	Description	Date

ID Geo
ID GeoEnvironmental Limited

☒ North West & Midlands:
Caledonian House
Tatton Street
Knutsford, Cheshire
WA16 6AG
Tel: 01565 755557
Fax: 01565 740263

☐ North East & Yorkshire:
The Stables, Aske Hall
Aske, Richmond
Yorkshire, DL10 5HG
Tel: 01748 889015
Fax: 01565 740263

CLIENT

Story Homes

JOB TITLE

Phase 4 Edgehill Park,
Whitehaven

DRAWING TITLE

Characteristic Situation 2 Ground
Gas protection Measures

STATUS		
FINAL		
DRAWN BY	SIGNATURE	DATE
NW		4-11-22
APPROVED	SIGNATURE	DATE
BRB		4-11-22
SCALE	DRG No.	
1:500@A1	4046-G-D076	



APPENDIX B

Depth (m)	Type	Test Result	Level	Legend	Depth (m)	Description	Water	Standpipe
			82.50	0.50		Turf over brown silty sandy gravelly CLAY. (MIDDLE COAL MEASURES)		
			80.60	2.40		Yellow-brown SILTSTONE and MUDSTONE laminations. (MIDDLE COAL MEASURES)		
			79.40	3.60		Grey MUDSTONE and SILTSTONE laminations. (MIDDLE COAL MEASURES)		
			78.60	4.40		Black organic MUDSTONE with coal traces. (MIDDLE COAL MEASURES)		
			78.50	4.50		Grey silty MUDSTONE. (MIDDLE COAL MEASURES) End Of Borehole At 4.50 m		

KEY

D - Disturbed Sample
 B - Bulk Sample
 U - Undisturbed
 W - Water Sample
 S - Standard Penetration Test
 C - Cone Penetration Test
 N - Penetration Test 'N' Value
 V - Hand Shear Vane kPa
 ▽ - Groundwater Strike
 ▼ - Groundwater Level

REMARKS

No Groundwater Encountered

Scale: 1:30

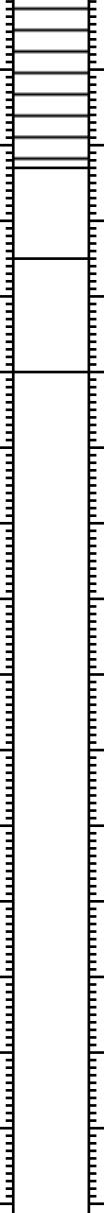
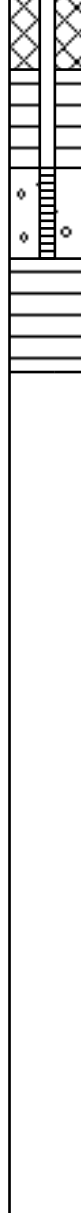
Water Strikes

Date	Strike	Level	Minutes	Casing	Sealed
Daily Log Of Depths			Chiselling		
Date	Casing	Water	From	To	Hours

 iD GeoEnvironmental Limited			Project Title: Rhodia, Whitehaven				PH633A																																																	
			Project Number: 4046		Client: Story Homes					Sheet 1 Of 1																																														
			GL (mAOD): 92.00		N Coord: 515877		E Coord: 297310																																																	
Date: 11/09/2020			Method: Casagrande C6		Driller:		Logged By: NW																																																	
Depth (m)	Type	Test Result	Level	Legend	Depth (m)	Description	Water	Standpipe																																																
			91.20	0.80		Turf over brown silty sandy gravelly CLAY. (MIDDLE COAL MEASURES)																																																		
			89.00	3.00		Yellow-brown weathered silty MUDSTONE. (MIDDLE COAL MEASURES)																																																		
						End Of Borehole At 3.00 m																																																		
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa ▽ - Groundwater Strike ▼ - Groundwater Level			REMARKS No Groundwater Encountered Scale: 1:30			Water Strikes <table border="1"> <thead> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Sealed</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">Daily Log Of Depths</th> <th colspan="3">Chiselling</th> </tr> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Hours</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>			Date	Strike	Level	Minutes	Casing	Sealed																			Daily Log Of Depths			Chiselling			Date	Casing	Water	From	To	Hours												
Date	Strike	Level	Minutes	Casing	Sealed																																																			
Daily Log Of Depths			Chiselling																																																					
Date	Casing	Water	From	To	Hours																																																			

 iGeo iD GeoEnvironmental Limited						Project Title: Rhodia, Whitehaven				PH902							
						Project Number: 4046		Client: Story Homes						Sheet 1 Of 2			
						GL (mAOD): 91.67		N Coord: 515889		E Coord: 297379							
Date: 01/09/2021						Method: Casagrande C6		Driller: GDC		Logged By: NW							
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description				Water	Standpipe			
						91.37		0.30	TOPSOIL : Turf over brown silty sandy LOAM. (TOPSOIL)								
						90.37		1.30	Yellow-brown silty CLAY. Interpreted to be weathered MUDSTONE. (MIDDLE COAL MEASURES)								
									Grey and dark grey bands of silty MUDSTONE. (MIDDLE COAL MEASURES)								
									COAL. (MIDDLE COAL MEASURES)								
						79.27		12.40	Grey MUDSTONE. (MIDDLE COAL MEASURES)								
						79.17		12.50									
						78.67		13.00	COAL. (MIDDLE COAL MEASURES)								
						78.57		13.10									
									Grey MUDSTONE. (MIDDLE COAL MEASURES)								
									Borehole Continues								
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Air Mist Scale: 1:100						Water Strikes					
												Date	Strike	Level	Minutes	Casing	Remarks
Daily Log Of Depths						Flushing Medium											
						Date	Casing	Water	From	To	Type						

Printed By GeoLogs (www.GeoLogs.com)

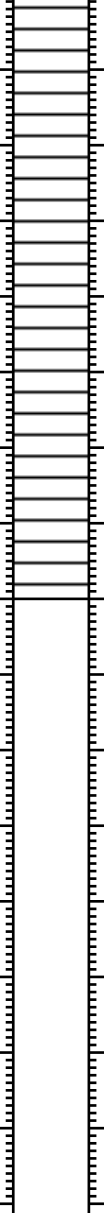
 iD GeoEnvironmental Limited		Project Title: Rhodia, Whitehaven						PH907																																																			
		Project Number: 4046			Client: Story Homes							Sheet 2 Of 2																																															
		GL (mAOD): 89.67			N Coord: 515847			E Coord: 297388																																																			
Date: 02/09/2021		Method: Casagrande C6			Driller: GDC			Logged By: NW																																																			
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																																
						71.37 70.17 68.67		18.30 19.50 21.00	Grey MUDSTONE. (MIDDLE COAL MEASURES) Broken ground accompanied by loss of returns - probable mineworkings. (PROBABLE WORKINGS) Solid drilling - no returns. (MIDDLE COAL MEASURES) End Of Borehole At 21.00 m																																																		
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Air Mist Scale: 1:100						Water Strikes <table border="1"> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> Daily Log Of Depths Flushing Medium <table border="1"> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>						Date	Strike	Level	Minutes	Casing	Remarks																			Date	Casing	Water	From	To	Type												
Date	Strike	Level	Minutes	Casing	Remarks																																																						
Date	Casing	Water	From	To	Type																																																						

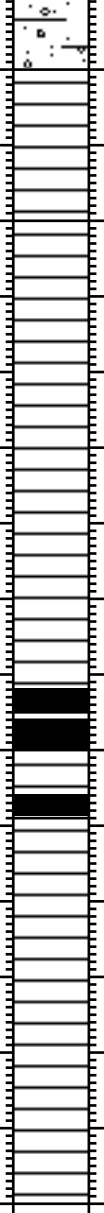
 iGeo iD GeoEnvironmental Limited		Project Title: Rhodia, Whitehaven						PH630																																																											
		Project Number: 4046			Client: Story Homes			Sheet 1 Of 2																																																											
		GL (mAOD): 90.50			N Coord: 515681			E Coord: 297372																																																											
Date: 10/09/2020		Method:			Driller: GDC			Logged By: NW																																																											
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																																								
						89.00 88.70 88.50 88.00 84.00 75.70 74.70		1.50 1.80 2.00 2.50 6.50 14.80 15.80	Turf over brown silty sandy gravelly CLAY. (MIDDLE COAL MEASURES) Grey silty MUDSTONE. (MIDDLE COAL MEASURES) COAL. (MIDDLE COAL MEASURES) Grey silty MUDSTONE. (MIDDLE COAL MEASURES) Yellow-brown SILTSTONE with grey MUDSTONE laminations (MIDDLE COAL MEASURES) Grey MUDSTONE. (MIDDLE COAL MEASURES) Black MUDSTONE with COAL traces. (MIDDLE COAL MEASURES) Grey silty MUDSTONE. (MIDDLE COAL MEASURES) Borehole Continues																																																										
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa ▽ - Groundwater Strike ▼ - Groundwater Level						REMARKS No Groundwater Encountered Scale: 1:100						Water Strikes <table border="1"> <thead> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">Daily Log Of Depths</th> <th colspan="3">Flushing Medium</th> </tr> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>		Date	Strike	Level	Minutes	Casing	Remarks																									Daily Log Of Depths			Flushing Medium			Date	Casing	Water	From	To	Type												
Date	Strike	Level	Minutes	Casing	Remarks																																																														
Daily Log Of Depths			Flushing Medium																																																																
Date	Casing	Water	From	To	Type																																																														

 iD GeoEnvironmental Limited		Project Title: Rhodia, Whitehaven						PH631																																			
		Project Number: 4046			Client: Story Homes							Sheet 1 Of 1																															
		GL (mAOD): 83.00			N Coord: 515756			E Coord: 297444																																			
Date: 10/09/2020		Method: Casagrande C6			Driller: GDC			Logged By: NW																																			
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																
						82.50		0.50	Turf over brown silty sandy gravelly CLAY. (MIDDLE COAL MEASURES)																																		
						80.60		2.40	Yellow-brown SILTSTONE and MUDSTONE laminations. (MIDDLE COAL MEASURES)																																		
						79.40		3.60	Grey MUDSTONE and SILTSTONE laminations. (MIDDLE COAL MEASURES)																																		
						78.60		4.40	Black organic MUDSTONE with coal traces. (MIDDLE COAL MEASURES)																																		
						78.50		4.50	Grey silty MUDSTONE. (MIDDLE COAL MEASURES)																																		
									End Of Borehole At 4.50 m																																		
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Scale: 1:100						Water Strikes <table border="1"> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>		Date	Strike	Level	Minutes	Casing	Remarks																								
Date	Strike	Level	Minutes	Casing	Remarks																																						
						Daily Log Of Depths <table border="1"> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>						Date	Casing	Water	From	To	Type																										
Date	Casing	Water	From	To	Type																																						

 iD GeoEnvironmental Limited		Project Title: Rhodia, Whitehaven						PH633																																																															
		Project Number: 4046			Client: Story Homes							Sheet 1 Of 3																																																											
		GL (mAOD): 92.00			N Coord: 515879			E Coord: 297309																																																															
Date: 11/09/2020		Method: Casagrande C6			Driller:			Logged By: NW																																																															
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																																												
						91.20 89.00 85.20 84.70 84.30		0.80 3.00 6.80 7.30 7.70	Turf over brown silty sandy gravelly CLAY. (MIDDLE COAL MEASURES) Yellow-brown weathered silty MUDSTONE. (MIDDLE COAL MEASURES) Grey silty MUDSTONE. (MIDDLE COAL MEASURES) Black organic MUDSTONE. (MIDDLE COAL MEASURES) COAL. (MIDDLE COAL MEASURES) Grey silty MUDSTONE and SILTSTONE laminations. (MIDDLE COAL MEASURES)																																																														
									Borehole Continues																																																														
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS Scale: 1:100						<table border="1"> <tr> <th colspan="6">Water Strikes</th> </tr> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> <tr> <td>11/09/2020</td> <td>13.5</td> <td></td> <td></td> <td></td> <td>Slight</td> </tr> <tr> <td>11/09/2020</td> <td>19</td> <td></td> <td></td> <td></td> <td>Moderate</td> </tr> <tr> <td colspan="6"> </td> </tr> <tr> <th colspan="3">Daily Log Of Depths</th> <th colspan="3">Flushing Medium</th> </tr> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>						Water Strikes						Date	Strike	Level	Minutes	Casing	Remarks	11/09/2020	13.5				Slight	11/09/2020	19				Moderate							Daily Log Of Depths			Flushing Medium			Date	Casing	Water	From	To	Type												
Water Strikes																																																																							
Date	Strike	Level	Minutes	Casing	Remarks																																																																		
11/09/2020	13.5				Slight																																																																		
11/09/2020	19				Moderate																																																																		
Daily Log Of Depths			Flushing Medium																																																																				
Date	Casing	Water	From	To	Type																																																																		

Printed By GeoLogs (www.GeoLogs.com)

 iD GeoEnvironmental Limited				Project Title: Rhodia, Whitehaven						PH634				
				Project Number: 4046			Client: Story Homes							Sheet 2 Of 2
				GL (mAOD): 88.52			N Coord: 515890			E Coord: 297403				
Date: 11/09/2020				Method: Casagrande C6			Driller:			Logged By: NW				
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description				Water	Standpipe
						64.52 24.00		Grey silty MUDSTONE with SILTSTONE laminations. (MIDDLE COAL MEASURES)						
									End Of Borehole At 24.00 m					
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level				REMARKS Scale: 1:100					Water Strikes					
									Date	Strike	Level	Minutes	Casing	Remarks
									15/09/2020	0				
									Daily Log Of Depths				Flushing Medium	
									Date	Casing	Water	From	To	Type

 iD GeoEnvironmental Limited		Project Title: Rhodia, Whitehaven						PH635																																																											
		Project Number: 4046			Client: Story Homes							Sheet 1 Of 2																																																							
		GL (mAOD): 86.90			N Coord: 515803			E Coord: 297418																																																											
Date: 11/09/2020		Method:			Driller: GDC			Logged By: NW																																																											
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																																								
						85.90 83.90 77.70 77.40 77.30 76.90 76.30 76.00		1.00 3.00 9.20 9.50 9.60 10.00 10.60 10.90	Turf over brown silty sandy gravelly CLAY. (MIDDLE COAL MEASURES) Yellow-brown weathered silty MUDSTONE. (MIDDLE COAL MEASURES) Grey silty MUDSTONE. (MIDDLE COAL MEASURES) COAL. (MIDDLE COAL MEASURES) Black organic MUDSTONE. (MIDDLE COAL MEASURES) COAL. (MIDDLE COAL MEASURES) Black organic MUDSTONE with COAL traces. (MIDDLE COAL MEASURES) COAL (MIDDLE COAL MEASURES) Grey silty MUDSTONE with SILTSTONE laminations. (MIDDLE COAL MEASURES) Borehole Continues																																																										
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa ▽ - Groundwater Strike ▼ - Groundwater Level						REMARKS No Groundwater Encountered Scale: 1:100						Water Strikes <table border="1"> <thead> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">Daily Log Of Depths</th> <th colspan="3">Flushing Medium</th> </tr> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>		Date	Strike	Level	Minutes	Casing	Remarks																									Daily Log Of Depths			Flushing Medium			Date	Casing	Water	From	To	Type												
Date	Strike	Level	Minutes	Casing	Remarks																																																														
Daily Log Of Depths			Flushing Medium																																																																
Date	Casing	Water	From	To	Type																																																														

 iD GeoEnvironmental Limited		Project Title: Rhodia, Whitehaven						PH636																																																							
		Project Number: 4046			Client: Story Homes			Sheet 1 Of 2																																																							
		GL (mAOD): 87.80			N Coord: 515724			E Coord: 297350																																																							
Date: 11/09/2020		Method: Casagrande C6			Driller: GDC			Logged By: NW																																																							
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																																				
						86.80 84.80 78.60 78.30 78.20 77.70	 	1.00 3.00 9.20 9.50 9.60 10.10	Turf over brown silty sandy gravelly CLAY. (MIDDLE COAL MEASURES) Yellow-brown weathered silty MUDSTONE. (MIDDLE COAL MEASURES) Grey silty MUDSTONE. (MIDDLE COAL MEASURES) COAL. (MIDDLE COAL MEASURES) Black organic MUDSTONE. (MIDDLE COAL MEASURES) COAL. (MIDDLE COAL MEASURES) Grey silty MUDSTONE with SILTSTONE laminations. (MIDDLE COAL MEASURES) Borehole Continues																																																						
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS Scale: 1:100						Water Strikes <table border="1"> <thead> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>11/09/2020</td> <td>24</td> <td></td> <td></td> <td></td> <td>Moderate</td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> Daily Log Of Depths <table border="1"> <thead> <tr> <th colspan="4">Flushing Medium</th> </tr> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>						Date	Strike	Level	Minutes	Casing	Remarks	11/09/2020	24				Moderate													Flushing Medium				Date	Casing	Water	From	To	Type												
Date	Strike	Level	Minutes	Casing	Remarks																																																										
11/09/2020	24				Moderate																																																										
Flushing Medium																																																															
Date	Casing	Water	From	To	Type																																																										

 iD GeoEnvironmental Limited						Project Title: Rhodia, Whitehaven				PH901							
						Project Number: 4046		Client: Story Homes						Sheet 1 Of 2			
						GL (mAOD): 92.95		N Coord: 515681		E Coord: 297372							
Date: 01/09/2021						Method:		Driller: GDC		Logged By: NW							
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe						
						92.65		0.30	Turf over brown silty sandy LOAM. (MIDDLE COAL MEASURES)								
						91.95		1.00	Yellow-brown clay interpreted to be weathered MUDSTONE. (MIDDLE COAL MEASURES)								
						91.45		1.50	COAL. (MIDDLE COAL MEASURES)								
						89.95		3.00	Grey silty MUDSTONE. (MIDDLE COAL MEASURES)								
						86.95		6.00	Yellow-brown SILTSTONE with grey MUDSTONE laminations (MIDDLE COAL MEASURES)								
						78.95		14.00	Grey MUDSTONE. (MIDDLE COAL MEASURES)								
									Grey-black MUDSTONE recovered as fine to medium shale. (MIDDLE COAL MEASURES)								
									Borehole Continues								
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa ▽ - Groundwater Strike ▼ - Groundwater Level						REMARKS No Groundwater Encountered Scale: 1:100						Water Strikes					
												Date	Strike	Level	Minutes	Casing	Remarks
												Daily Log Of Depths				Flushing Medium	
												Date	Casing	Water	From	To	Type

 iD GeoEnvironmental Limited						Project Title: Rhodia, Whitehaven				PH901													
						Project Number: 4046		Client: Story Homes						Sheet 2 Of 2									
						GL (mAOD): 92.95		N Coord: 515681		E Coord: 297372													
Date: 01/09/2021						Method:		Driller: GDC		Logged By: NW													
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe												
						75.95 74.95 74.65 71.95 67.45 66.15 65.45 64.15 62.95		17.00 18.00 18.30 21.00 25.50 26.80 27.50 28.80 30.00	Grey-black MUDSTONE recovered as fine to medium shale. (MIDDLE COAL MEASURES) Black MUDSTONE with coal traces. (MIDDLE COAL MEASURES) COAL. (MIDDLE COAL MEASURES) Grey-back MUDSTONE. (MIDDLE COAL MEASURES) Grey MUDSTONE and SILTSTONE laminations. (MIDDLE COAL MEASURES) COAL. (MIDDLE COAL MEASURES) Grey MUDSTONE. (MIDDLE COAL MEASURES) Hard grey SILTSTONE with MUDSTONE (MIDDLE COAL MEASURES) End Of Borehole At 28.80 m														
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Scale: 1:100						Water Strikes											
												Date	Strike	Level	Minutes	Casing	Remarks						
												Daily Log Of Depths						Flushing Medium					
												Date	Casing	Water	From	To	Type						

 iD GeoEnvironmental Limited			Project Title: Rhodia, Whitehaven						PH902																																																			
			Project Number: 4046			Client: Story Homes							Sheet 2 Of 2																																															
			GL (mAOD): 91.67			N Coord: 515889			E Coord: 297379																																																			
Date: 01/09/2021			Method: Casagrande C6			Driller: GDC			Logged By: NW																																																			
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																																	
						73.27		18.40	Grey MUDSTONE. (MIDDLE COAL MEASURES)																																																			
						70.27		21.40	Broken Ground & loss of flush - Probable mineworkings (PROBABLE WORKINGS)																																																			
						67.67		24.00	Solid drilling with no returns. (MIDDLE COAL MEASURES)																																																			
									End Of Borehole At 24.00 m																																																			
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa ▽ - Groundwater Strike ▼ - Groundwater Level			REMARKS No Groundwater Encountered Air Mist Scale: 1:100						Water Strikes <table border="1"> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> <table border="1"> <tr> <th colspan="3">Daily Log Of Depths</th> <th colspan="3">Flushing Medium</th> </tr> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>				Date	Strike	Level	Minutes	Casing	Remarks																			Daily Log Of Depths			Flushing Medium			Date	Casing	Water	From	To	Type												
Date	Strike	Level	Minutes	Casing	Remarks																																																							
Daily Log Of Depths			Flushing Medium																																																									
Date	Casing	Water	From	To	Type																																																							

 iGeo iD GeoEnvironmental Limited		Project Title: Rhodia, Whitehaven						PH903									
		Project Number: 4046			Client: Story Homes			Sheet 1 Of 2									
		GL (mAOD): 88.20			N Coord: 515872			E Coord: 297407									
Date: 01/09/2021		Method: Casagrande C6			Driller: GDC			Logged By: NW									
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe						
						87.90		0.30	TOPSOIL : Turf over brown silty sandy LOAM. (TOPSOIL)								
						86.90		1.30	Yellow-brown silty CLAY. Interpreted to be weathered MUDSTONE. (MIDDLE COAL MEASURES)								
									Grey silty MUDSTONE. (MIDDLE COAL MEASURES)								
						81.70		6.50	COAL. (MIDDLE COAL MEASURES)								
						81.60		6.60	Grey MUDSTONE. (MIDDLE COAL MEASURES)								
						73.20		15.00	COAL. (MIDDLE COAL MEASURES)								
						72.70		15.50	Grey SILTSTONE with mudstone laminations. (MIDDLE COAL MEASURES)								
									Borehole Continues								
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Air Mist Scale: 1:100						Water Strikes					
												Date	Strike	Level	Minutes	Casing	Remarks
						Daily Log Of Depths						Flushing Medium					
						Date	Casing	Water	From	To	Type						

 iGeo iD GeoEnvironmental Limited		Project Title: Rhodia, Whitehaven						PH904			
		Project Number: 4046			Client: Story Homes			Sheet 1 Of 2			
		GL (mAOD): 90.00			N Coord: 515862			E Coord: 297389			
Date: 01/09/2021		Method: Casagrande C6			Driller: GDC			Logged By: NW			
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe
						89.70		0.30	TOPSOIL : Turf over brown silty sandy LOAM. (TOPSOIL)		
						88.70		1.30	Yellow-brown silty CLAY. Interpreted to be weathered MUDSTONE. (MIDDLE COAL MEASURES)		
									Grey and dark grey bands of silty MUDSTONE. (MIDDLE COAL MEASURES)		
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											

Printed By GeoLogs (www.GeoLogs.com)

Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe
						87.94		0.30	TOPSOIL : Turf over brown silty sandy LOAM. (TOPSOIL)		
						86.74		1.50	Yellow-brown silty CLAY. Interpreted to be weathered MUDSTONE. (MIDDLE COAL MEASURES)		
									Grey and dark grey bands of silty MUDSTONE. (MIDDLE COAL MEASURES)		
						81.74		6.50			
						81.64		6.60	Dark grey-black MUDSTONE with COAL traces. (MIDDLE COAL MEASURES)		
						80.84		7.40	Grey MUDSTONE. (MIDDLE COAL MEASURES)		
						80.74		7.50	COAL. (MIDDLE COAL MEASURES)		
									Grey MUDSTONE. (MIDDLE COAL MEASURES)		
						72.74		15.50	COAL. (MIDDLE COAL MEASURES)		
									Borehole Continues		

KEY

D - Disturbed Sample
 B - Bulk Sample
 U - Undisturbed
 W - Water Sample
 S - Standard Penetration Test
 C - Cone Penetration Test
 N - Penetration Test 'N' Value
 V - Hand Shear Vane kPa
 - Groundwater Strike
 - Groundwater Level

REMARKS

No Groundwater Encountered
Air Mist

Scale: 1:100

Water Strikes

Date	Strike	Level	Minutes	Casing	Remarks

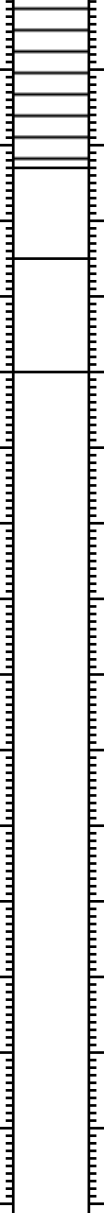
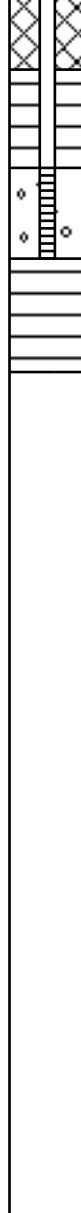
Daily Log Of Depths

Flushing Medium

Date	Casing	Water	From	To	Type

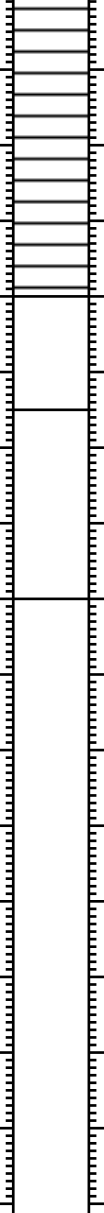
 iGeo iD GeoEnvironmental Limited			Project Title: Rhodia, Whitehaven						PH906																																													
			Project Number: 4046			Client: Story Homes			Sheet 2 Of 2																																													
			GL (mAOD): 88.24			N Coord: 515847			E Coord: 297409																																													
Date: 01/09/2021			Method: Casagrande C6			Driller: GDC			Logged By: NW																																													
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																											
						72.14		16.10	COAL. (MIDDLE COAL MEASURES) Grey MUDSTONE with SILTSTONE laminations. (MIDDLE COAL MEASURES)																																													
						64.24		24.00																																														
						64.24		24.00	End Of Borehole At 24.00 m																																													
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa ▽ - Groundwater Strike ▼ - Groundwater Level			REMARKS No Groundwater Encountered Air Mist Scale: 1:100						Water Strikes <table border="1"> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> Daily Log Of Depths <table border="1"> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>				Date	Strike	Level	Minutes	Casing	Remarks																			Date	Casing	Water	From	To	Type												
Date	Strike	Level	Minutes	Casing	Remarks																																																	
Date	Casing	Water	From	To	Type																																																	

Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe
						89.37		0.30	TOPSOIL : Turf over brown silty sandy LOAM. (TOPSOIL)		
						88.17		1.50	Yellow-brown silty CLAY. Interpreted to be weathered MUDSTONE. (MIDDLE COAL MEASURES)		
						86.17		3.50	Grey silty MUDSTONE. (MIDDLE COAL MEASURES)		
									Dark grey-black MUDSTONE. (MIDDLE COAL MEASURES)		
											
											
											
											
											
						79.67		10.00			
						79.47		10.20	Dark grey-black MUDSTONE with COAL traces. (MIDDLE COAL MEASURES)		
						78.87		10.80	Grey MUDSTONE (MIDDLE COAL MEASURES)		
						78.77		10.90	COAL. (MIDDLE COAL MEASURES)		
									Grey MUDSTONE. (MIDDLE COAL MEASURES)		
											
									Borehole Continues		

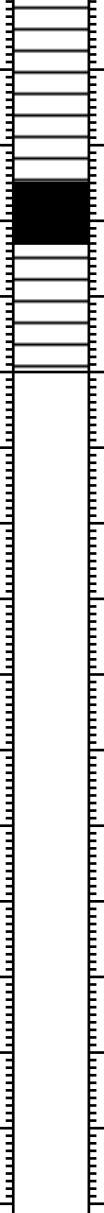
 iD GeoEnvironmental Limited		Project Title: Rhodia, Whitehaven						PH907																																																			
		Project Number: 4046			Client: Story Homes							Sheet 2 Of 2																																															
		GL (mAOD): 89.67			N Coord: 515847			E Coord: 297388																																																			
Date: 02/09/2021		Method: Casagrande C6			Driller: GDC			Logged By: NW																																																			
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																																
						71.37 70.17 68.67		18.30 19.50 21.00	Grey MUDSTONE. (MIDDLE COAL MEASURES) Broken ground accompanied by loss of returns - probable mineworkings. (PROBABLE WORKINGS) Solid drilling - no returns. (MIDDLE COAL MEASURES) End Of Borehole At 21.00 m																																																		
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Air Mist Scale: 1:100						Water Strikes <table border="1"> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> Daily Log Of Depths Flushing Medium <table border="1"> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>						Date	Strike	Level	Minutes	Casing	Remarks																			Date	Casing	Water	From	To	Type												
Date	Strike	Level	Minutes	Casing	Remarks																																																						
Date	Casing	Water	From	To	Type																																																						

 iGeo iD GeoEnvironmental Limited			Project Title: Rhodia, Whitehaven						PH908														
			Project Number: 4046			Client: Story Homes							Sheet 2 Of 3										
			GL (mAOD): 87.00			N Coord: 515821			E Coord: 297414														
Date: 02/09/2021			Method: Casagrande C6			Driller: GDC			Logged By: NW														
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description			Water	Standpipe										
						70.40		16.60	COAL (MIDDLE COAL MEASURES) Grey MUDSTONE with SILTSTONE laminations (MIDDLE COAL MEASURES)														
						55.90		31.10	COAL. (MIDDLE COAL MEASURES)														
									Borehole Continues														
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Air Mist Scale: 1:100						Water Strikes											
												Date	Strike	Level	Minutes	Casing	Remarks						
												Daily Log Of Depths						Flushing Medium					
												Date	Casing	Water	From	To	Type						

 iD GeoEnvironmental Limited						Project Title: Rhodia, Whitehaven				PH909					
						Project Number: 4046		Client: Story Homes						Sheet 1 Of 2	
						GL (mAOD): 89.85		N Coord: 515810		E Coord: 297393					
Date: 02/09/2021						Method: Casagrande C6		Driller: GDC		Logged By: NW					
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description				Water	Standpipe	
						89.55		0.30	TOPSOIL : Turf over brown silty sandy LOAM. (TOPSOIL)						
						88.35		1.50	Yellow-brown silty CLAY. Interpreted to be weathered MUDSTONE. (MIDDLE COAL MEASURES)						
						86.35		3.50	Grey silty MUDSTONE. (MIDDLE COAL MEASURES)						
									Dark grey-black MUDSTONE. (MIDDLE COAL MEASURES)						
									Dark grey-black MUDSTONE with COAL traces. (MIDDLE COAL MEASURES)						
									Grey MUDSTONE (MIDDLE COAL MEASURES)						
									COAL. (MIDDLE COAL MEASURES)						
									Grey MUDSTONE. (MIDDLE COAL MEASURES)						
									Borehole Continues						
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Air Mist Scale: 1:100				Water Strikes					
										Date	Strike	Level	Minutes	Casing	Remarks
						Daily Log Of Depths				Flushing Medium					
						Date	Casing	Water	From	To	Type				

 iD GeoEnvironmental Limited			Project Title: Rhodia, Whitehaven						PH909																																																					
			Project Number: 4046			Client: Story Homes							Sheet 2 Of 2																																																	
			GL (mAOD): 89.85			N Coord: 515810			E Coord: 297393																																																					
Date: 02/09/2021			Method: Casagrande C6			Driller: GDC			Logged By: NW																																																					
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description			Water	Standpipe																																																	
						69.85 68.35 65.85		20.00 21.50 24.00	Grey MUDSTONE. (MIDDLE COAL MEASURES) Broken/soft ground accompanied by partial loss of returns comprising mudstone with coal traces - probable backfilled mineworkings. (PROBABLE WORKINGS) Solid drilling - partial returns comprising grey mudstone with coal traces (PROBABLE WORKINGS) End Of Borehole At 24.00 m																																																					
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level			REMARKS No Groundwater Encountered Air Mist Scale: 1:100						Water Strikes <table border="1"> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> <table border="1"> <tr> <th colspan="3">Daily Log Of Depths</th> <th colspan="3">Flushing Medium</th> </tr> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>						Date	Strike	Level	Minutes	Casing	Remarks																			Daily Log Of Depths			Flushing Medium			Date	Casing	Water	From	To	Type												
Date	Strike	Level	Minutes	Casing	Remarks																																																									
Daily Log Of Depths			Flushing Medium																																																											
Date	Casing	Water	From	To	Type																																																									

Printed By GeoLogs (www.GeoLogs.com)

 iD GeoEnvironmental Limited			Project Title: Rhodia, Whitehaven						PH910																																																																	
			Project Number: 4046			Client: Story Homes							Sheet 2 Of 2																																																													
			GL (mAOD): 88.30			N Coord: 515821			E Coord: 297394																																																																	
Date: 02/09/2021			Method: Casagrande C6			Driller: GDC			Logged By: NW																																																																	
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description			Water	Standpipe																																																													
						69.80 69.00 67.30		18.50 19.30 21.00	Grey MUDSTONE. (MIDDLE COAL MEASURES) COAL. (MIDDLE COAL MEASURES) Grey MUDSTONE with SILTSTONE laminations. (MIDDLE COAL MEASURES) End Of Borehole At 21.00 m																																																																	
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level			REMARKS No Groundwater Encountered Air Mist Scale: 1:100						<table border="1"> <tr> <th colspan="6">Water Strikes</th> </tr> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr> <th colspan="3">Daily Log Of Depths</th> <th colspan="3">Flushing Medium</th> </tr> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>						Water Strikes						Date	Strike	Level	Minutes	Casing	Remarks																									Daily Log Of Depths			Flushing Medium			Date	Casing	Water	From	To	Type												
Water Strikes																																																																										
Date	Strike	Level	Minutes	Casing	Remarks																																																																					
Daily Log Of Depths			Flushing Medium																																																																							
Date	Casing	Water	From	To	Type																																																																					

 iD GeoEnvironmental Limited		Project Title: Rhodia, Whitehaven						PH911																											
		Project Number: 4046			Client: Story Homes							Sheet 1 Of 2																							
		GL (mAOD): 86.72			N Coord: 515780			E Coord: 297414																											
Date: 02/09/2021		Method: Casagrande C6			Driller: GDC			Logged By: NW																											
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																								
						86.42		0.30	TOPSOIL : Turf over brown silty sandy LOAM. (TOPSOIL)																										
						85.72		1.00	Yellow-brown silty CLAY. Interpreted to be weathered MUDSTONE. (MIDDLE COAL MEASURES)																										
						83.22		3.50	Yellow-brown muddy SANDSTONE (MIDDLE COAL MEASURES)																										
						80.82		5.90	Grey and dark grey bands of silty MUDSTONE. (MIDDLE COAL MEASURES)																										
						80.72		6.00	Dark grey-black MUDSTONE with COAL traces. (MIDDLE COAL MEASURES)																										
						80.22		6.50	Grey MUDSTONE. (MIDDLE COAL MEASURES)																										
						80.12		6.60	COAL. (MIDDLE COAL MEASURES)																										
						72.02		14.70	Grey MUDSTONE. (MIDDLE COAL MEASURES)																										
						71.32		15.40	COAL. (MIDDLE COAL MEASURES)																										
									Grey MUDSTONE with SILTSTONE laminations. (MIDDLE COAL MEASURES)																										
									Borehole Continues																										
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Air Mist Scale: 1:100						Water Strikes																							
												<table border="1"> <thead> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>						Date	Strike	Level	Minutes	Casing	Remarks												
Date	Strike	Level	Minutes	Casing	Remarks																														
						Daily Log Of Depths						Flushing Medium																							
												<table border="1"> <thead> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>						Date	Casing	Water	From	To	Type												
Date	Casing	Water	From	To	Type																														

 iD GeoEnvironmental Limited				Project Title: Rhodia, Whitehaven						PH912			
				Project Number: 4046			Client: Story Homes						
				GL (mAOD): 86.15			N Coord: 515759			E Coord: 297410			
Date: 02/09/2021				Method: Casagrande C6			Driller: GDC			Logged By: NW			
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description			Water	Standpipe
						55.85		30.30	Grey MUDSTONE. (MIDDLE COAL MEASURES)				
						54.15		32.00	COAL. (MIDDLE COAL MEASURES)				
									Borehole Continues				
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa ▽ - Groundwater Strike ▼ - Groundwater Level				REMARKS No Groundwater Encountered Air Mist Scale: 1:100				Water Strikes					
								Date	Strike	Level	Minutes	Casing	Remarks
								Daily Log Of Depths			Flushing Medium		
								Date	Casing	Water	From	To	Type

 iD GeoEnvironmental Limited		Project Title: Rhodia, Whitehaven					PH913	
		Project Number: 4046		Client: Story Homes		Sheet 1 Of 2		
		GL (mAOD): 88.30		N Coord: 515749		E Coord: 297387		
Date: 03/09/2021		Method: Casagrande C6		Driller: GDC		Logged By: NW		

Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe
						88.00		0.30	TOPSOIL : Turf over brown silty sandy LOAM. (TOPSOIL)		
						87.30		1.00	Yellow-brown silty CLAY. Interpreted to be weathered MUDSTONE. (MIDDLE COAL MEASURES)		
									Yellow-brown muddy SANDSTONE (MIDDLE COAL MEASURES)		
						81.80		6.50	Grey and dark grey bands of silty MUDSTONE. (MIDDLE COAL MEASURES)		
						77.60		10.70	Dark grey-black MUDSTONE with COAL traces. (MIDDLE COAL MEASURES)		
						77.40		10.90	Grey MUDSTONE. (MIDDLE COAL MEASURES)		
						76.50		11.80	COAL. (MIDDLE COAL MEASURES)		
						76.40		11.90	Grey MUDSTONE. (MIDDLE COAL MEASURES)		
									Borehole Continues		

KEY
D - Disturbed Sample
B - Bulk Sample
U - Undisturbed
W - Water Sample
S - Standard Penetration Test
C - Cone Penetration Test
N - Penetration Test 'N' Value
V - Hand Shear Vane kPa
 - Groundwater Strike
 - Groundwater Level

REMARKS
No Groundwater Encountered
Air Mist

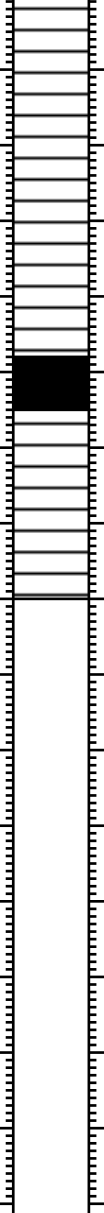
Scale: 1:100

Water Strikes					
Date	Strike	Level	Minutes	Casing	Remarks

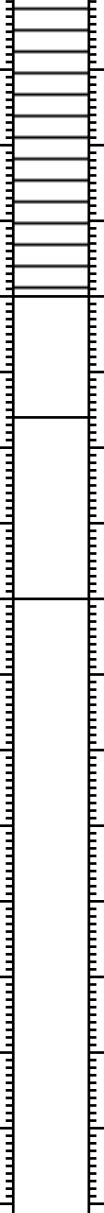
Daily Log Of Depths			Flushing Medium		
Date	Casing	Water	From	To	Type

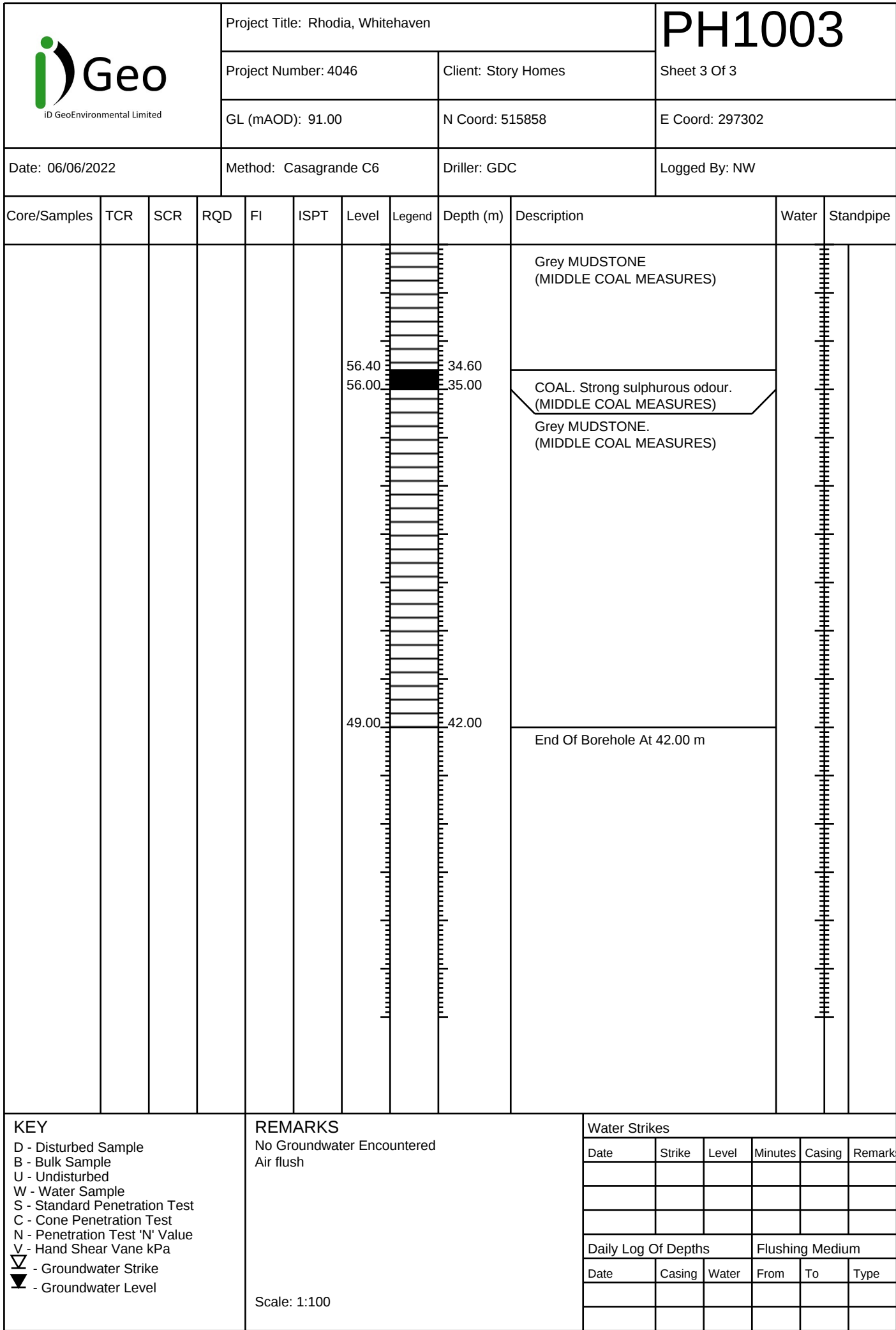
 iD GeoEnvironmental Limited			Project Title: Rhodia, Whitehaven						PH913																																																			
			Project Number: 4046			Client: Story Homes							Sheet 2 Of 2																																															
			GL (mAOD): 88.30			N Coord: 515749			E Coord: 297387																																																			
Date: 03/09/2021			Method: Casagrande C6			Driller: GDC			Logged By: NW																																																			
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																																	
						68.80 68.00 64.30	   	19.50 20.30 24.00	Grey MUDSTONE. (MIDDLE COAL MEASURES) COAL. (MIDDLE COAL MEASURES) Grey MUDSTONE with SILTSTONE laminations. (MIDDLE COAL MEASURES) End Of Borehole At 24.00 m																																																			
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level			REMARKS No Groundwater Encountered Air Mist Scale: 1:100						Water Strikes <table border="1"> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> <table border="1"> <tr> <th colspan="3">Daily Log Of Depths</th> <th colspan="3">Flushing Medium</th> </tr> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>				Date	Strike	Level	Minutes	Casing	Remarks																			Daily Log Of Depths			Flushing Medium			Date	Casing	Water	From	To	Type												
Date	Strike	Level	Minutes	Casing	Remarks																																																							
Daily Log Of Depths			Flushing Medium																																																									
Date	Casing	Water	From	To	Type																																																							

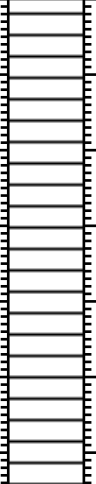
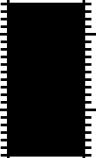
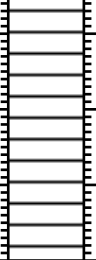
 iD GeoEnvironmental Limited						Project Title: Rhodia, Whitehaven				PH914				
						Project Number: 4046		Client: Story Homes						Sheet 1 Of 2
						GL (mAOD): 85.20		N Coord: 515739		E Coord: 297417				
Date: 04/09/2021						Method: Casagrande C6		Driller: GDC		Logged By: NW				
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description				Water	Standpipe
						84.90		0.30	TOPSOIL : Turf over brown silty sandy LOAM. (TOPSOIL)					
						84.20		1.00	Yellow-brown silty CLAY. Interpreted to be weathered MUDSTONE. (MIDDLE COAL MEASURES)					
									Grey and dark grey bands of silty MUDSTONE. (MIDDLE COAL MEASURES)					
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														
														

 iD GeoEnvironmental Limited			Project Title: Rhodia, Whitehaven						PH915																																																						
			Project Number: 4046			Client: Story Homes							Sheet 2 Of 2																																																		
			GL (mAOD): 85.50			N Coord: 515718			E Coord: 297382																																																						
Date: 04/09/2021			Method: Casagrande C6			Driller: GDC			Logged By: NW																																																						
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description			Water	Standpipe																																																		
						64.70 64.00 61.50		20.80 21.50 24.00	Grey MUDSTONE. (MIDDLE COAL MEASURES) COAL. (MIDDLE COAL MEASURES) Grey MUDSTONE with SILTSTONE laminations. (MIDDLE COAL MEASURES) End Of Borehole At 24.00 m																																																						
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Air Mist Scale: 1:100						Water Strikes <table border="1"> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> <table border="1"> <tr> <th colspan="3">Daily Log Of Depths</th> <th colspan="3">Flushing Medium</th> </tr> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>				Date	Strike	Level	Minutes	Casing	Remarks																			Daily Log Of Depths			Flushing Medium			Date	Casing	Water	From	To	Type												
Date	Strike	Level	Minutes	Casing	Remarks																																																										
Daily Log Of Depths			Flushing Medium																																																												
Date	Casing	Water	From	To	Type																																																										

 iD GeoEnvironmental Limited						Project Title: Rhodia, Whitehaven				PH916																									
						Project Number: 4046		Client: Story Homes						Sheet 1 Of 2																					
						GL (mAOD): 89.25		N Coord: 515770		E Coord: 297370																									
Date: 04/09/2021						Method: Casagrande C6		Driller: GDC		Logged By: NW																									
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																								
						88.95		0.30	TOPSOIL : Turf over brown silty sandy LOAM. (TOPSOIL)																										
						87.95		1.30	Yellow-brown silty CLAY. Interpreted to be weathered MUDSTONE. (MIDDLE COAL MEASURES)																										
									Grey and dark grey bands of silty MUDSTONE. (MIDDLE COAL MEASURES)																										
																																			
																																			
																																			
																																			
																																			
																																			
																																			
																																			
																																			
																																			
																																			
																																			
																																			
																																			
																																			
																																			
																																			
																																			
																																			
																																			
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Air Mist Scale: 1:100						Borehole Water Strikes Continues																							
												<table border="1"> <thead> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>						Date	Strike	Level	Minutes	Casing	Remarks												
Date	Strike	Level	Minutes	Casing	Remarks																														
												Daily Log Of Depths Flushing Medium																							
												<table border="1"> <thead> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>						Date	Casing	Water	From	To	Type												
Date	Casing	Water	From	To	Type																														

 iD GeoEnvironmental Limited				Project Title: Rhodia, Whitehaven					PH1001																																			
				Project Number: 4046			Client: Story Homes		Sheet 2 Of 2																																			
				GL (mAOD): 90.80			N Coord: 515868		E Coord: 297379																																			
Date: 06/06/2022				Method: Casagrande C6			Driller: GDC		Logged By: NW																																			
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description			Water	Standpipe																															
						70.80		20.00	Grey MUDSTONE. (MIDDLE COAL MEASURES)																																			
						69.20		21.60	Broken Ground & loss of flush - Probable mineworkings (PROBABLE WORKINGS)																																			
						66.80		24.00	Solid drilling with no returns. (MIDDLE COAL MEASURES)																																			
						End Of Borehole At 24.00 m																																						
KEY				REMARKS					Water Strikes																																			
D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level				No Groundwater Encountered Air					<table><tr><td>Date</td><td>Strike</td><td>Level</td><td>Minutes</td><td>Casing</td><td>Remarks</td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>						Date	Strike	Level	Minutes	Casing	Remarks																								
									Date	Strike	Level	Minutes	Casing	Remarks																														
Daily Log Of Depths						Flushing Medium																																						
Date	Casing	Water	From	To	Type																																							
Scale: 1:100																																												



 iD GeoEnvironmental Limited			Project Title: Rhodia, Whitehaven						PH1004																																																			
			Project Number: 4046			Client: Story Homes			Sheet 2 Of 2																																																			
			GL (mAOD): 89.60			N Coord: 515813			E Coord: 297306																																																			
Date: 07/06/2022			Method: Casagrande C6			Driller: GDC			Logged By: NW																																																			
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																																	
						67.00 65.00 63.10 59.60	   	22.60 24.60 26.50 30.00	Grey MUDSTONE. (MIDDLE COAL MEASURES) Soft black clayey organic MUDSTONE. (MIDDLE COAL MEASURES) Black MUDSTONE with coal traces. (MIDDLE COAL MEASURES) Grey MUDSTONE. (MIDDLE COAL MEASURES) End Of Borehole At 30.00 m																																																			
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level			REMARKS No Groundwater Encountered Air flush Scale: 1:100					Water Strikes <table border="1"> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> <table border="1"> <tr> <th colspan="3">Daily Log Of Depths</th> <th colspan="3">Flushing Medium</th> </tr> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>					Date	Strike	Level	Minutes	Casing	Remarks																			Daily Log Of Depths			Flushing Medium			Date	Casing	Water	From	To	Type												
Date	Strike	Level	Minutes	Casing	Remarks																																																							
Daily Log Of Depths			Flushing Medium																																																									
Date	Casing	Water	From	To	Type																																																							

 iD GeoEnvironmental Limited						Project Title: Rhodia, Whitehaven				PH1005							
						Project Number: 4046		Client: Story Homes						Sheet 1 Of 2			
						GL (mAOD): 90.80		N Coord: 515803		E Coord: 297355							
Date: 06/06/2022						Method: Casagrande C6		Driller: GDC		Logged By: NW							
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description				Water	Standpipe			
						90.60		0.20	TOPSOIL: Dark brown clayey silty sandy loam. (TOPSOIL)								
						89.90		0.90	Yellow brown silty sandy CLAY. Interpreted to be highly weathered mudstone bedrock. (WEATHERED PENNINE MIDDLE COAL MEASURES)								
						88.80		2.00	Weathered yellow-brown MUDSTONE. (WEATHERED PENNINE MIDDLE COAL MEASURES)								
						88.00		2.80	Grey MUDSTONE (MIDDLE COAL MEASURES)								
						87.50		3.30	Soft black organic MUDSTONE. (MIDDLE COAL MEASURES)								
						87.20		3.60	COAL. (MIDDLE COAL MEASURES)								
									Grey MUDSTONE with siltstone laminations. (MIDDLE COAL MEASURES)								
									Borehole Continues								
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Air flush Scale: 1:100						Water Strikes					
												Date	Strike	Level	Minutes	Casing	Remarks
												Daily Log Of Depths				Flushing Medium	
												Date	Casing	Water	From	To	Type

						Project Title: Rhodia, Whitehaven				PH1007							
						Project Number: 4046		Client: Story Homes						Sheet 1 Of 2			
						GL (mAOD): 85.40		N Coord: 515823		E Coord: 297425							
Date: 07/06/2022						Method: Casagrande C6		Driller: GDC		Logged By: NW							
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description				Water	Standpipe			
						85.20		0.20	TOPSOIL : Turf over brown silty sandy LOAM. (TOPSOIL)								
						84.10		1.30	Soft pale brown silty CLAY with abundant coal traces interpreted to be highly weathered MUDSTONE bedrock (possible thin coal seam at outcrop). (MIDDLE COAL MEASURES)								
						81.90		3.50	Grey MUDSTONE. (MIDDLE COAL MEASURES) Black MUDSTONE. (MIDDLE COAL MEASURES)								
						75.90		9.50	Dark grey/black MUDSTONE recovered as fine tabular shale. (MIDDLE COAL MEASURES) COAL. (MIDDLE COAL MEASURES) Grey MUDSTONE. (MIDDLE COAL MEASURES)								
						75.70		9.70									
						75.30		10.10									
									Borehole Continues								
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Water Flush Scale: 1:100						Water Strikes					
												Date	Strike	Level	Minutes	Casing	Remarks
												Daily Log Of Depths				Flushing Medium	
												Date	Casing	Water	From	To	Type

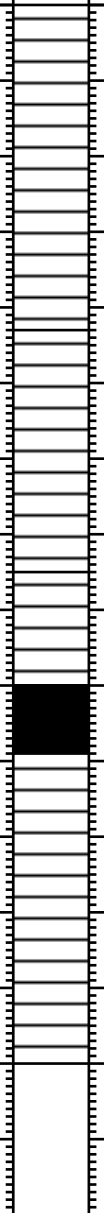
 iD GeoEnvironmental Limited						Project Title: Rhodia, Whitehaven				PH1008							
						Project Number: 4046		Client: Story Homes						Sheet 1 Of 2			
						GL (mAOD): 87.60		N Coord: 515813		E Coord: 297408							
Date: 06/06/2022						Method: Casagrande C6		Driller: GDC		Logged By: NW							
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description				Water	Standpipe			
						87.30		0.30	TOPSOIL : Turf over brown silty sandy LOAM. (TOPSOIL)								
						85.60		2.00	Yellow-brown silty CLAY. Interpreted to be weathered MUDSTONE. (MIDDLE COAL MEASURES)								
						83.10		4.50	Grey MUDSTONE. (MIDDLE COAL MEASURES)								
						80.10		7.50	Dark grey/black MUDSTONE recovered as fine tabular shale gravel. (MIDDLE COAL MEASURES)								
						79.90		7.70	COAL. (MIDDLE COAL MEASURES)								
						79.30		8.30	Grey MUDSTONE. (MIDDLE COAL MEASURES)								
						79.10		8.50	COAL. (MIDDLE COAL MEASURES)								
									Grey MUDSTONE with siltstone laminations. (MIDDLE COAL MEASURES)								
									Borehole Continues								
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Air Scale: 1:100						Water Strikes					
												Date	Strike	Level	Minutes	Casing	Remarks
												Daily Log Of Depths				Flushing Medium	
												Date	Casing	Water	From	To	Type

 iD GeoEnvironmental Limited		Project Title: Rhodia, Whitehaven						PH1009									
		Project Number: 4046			Client: Story Homes			Sheet 1 Of 2									
		GL (mAOD): 84.00			N Coord: 515777			E Coord: 297425									
Date: 07/06/2022		Method: Casagrande C6			Driller: GDC			Logged By: NW									
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe						
						83.80		0.20	TOPSOIL : Turf over brown silty sandy LOAM. (TOPSOIL)								
						82.00		2.00	Weathered yellow-brown MUDSTONE. (MIDDLE COAL MEASURES)								
						79.50		4.50	Grey MUDSTONE. (MIDDLE COAL MEASURES)								
						79.00		5.00	Dark grey/black MUDSTONE recovered as fine tabular shale. (MIDDLE COAL MEASURES)								
						78.80		5.20	COAL. (MIDDLE COAL MEASURES)								
						78.20		5.80	Black MUDSTONE. (MIDDLE COAL MEASURES)								
						75.70		8.30	Grey MUDSTONE. (MIDDLE COAL MEASURES)								
						75.00		9.00	Black MUDSTONE with COAL traces. (MIDDLE COAL MEASURES)								
						74.80		9.20	COAL. (MIDDLE COAL MEASURES)								
									Grey MUDSTONE. (MIDDLE COAL MEASURES)								
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Water Flush Scale: 1:100						Water Strikes					
												Date	Strike	Level	Minutes	Casing	Remarks
						Daily Log Of Depths											
						Date	Casing	Water	From	To	Type						

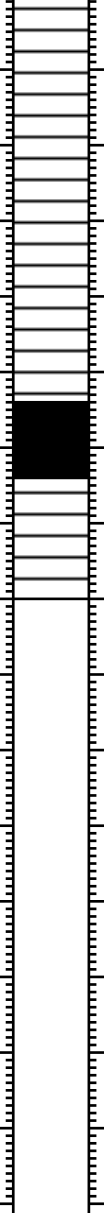
 iD GeoEnvironmental Limited		Project Title: Rhodia, Whitehaven						PH1010									
		Project Number: 4046			Client: Story Homes							Sheet 2 Of 2					
		GL (mAOD): 86.80			N Coord: 515780			E Coord: 297420									
Date: 07/06/2022		Method: Casagrande C6			Driller: GDC			Logged By: NW									
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe						
						70.30		16.50	COAL. (MIDDLE COAL MEASURES)								
									Grey MUDSTONE. (MIDDLE COAL MEASURES)								
						60.80		26.00									
						60.40		26.40	Dark grey/black MUDSTONE. (MIDDLE COAL MEASURES)								
									Grey MUDSTONE. (MIDDLE COAL MEASURES)								
						56.80		30.00									
									End Of Borehole At 30.00 m								
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa ▽ - Groundwater Strike ▼ - Groundwater Level						REMARKS No Groundwater Encountered Air flush Scale: 1:100						Water Strikes					
												Date	Strike	Level	Minutes	Casing	Remarks
												Daily Log Of Depths				Flushing Medium	
												Date	Casing	Water	From	To	Type

 iD GeoEnvironmental Limited			Project Title: Rhodia, Whitehaven						PH1013																																																		
			Project Number: 4046			Client: Story Homes			Sheet 2 Of 2																																																		
			GL (mAOD): 88.30			N Coord: 515747			E Coord: 297338																																																		
Date: 06/06/2022			Method: Casagrande C6			Driller: GDC			Logged By: NW																																																		
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																																
						66.00 62.30 61.30 58.30	   	22.30 26.00 27.00 30.00	Grey MUDSTONE with siltstone laminations. (MIDDLE COAL MEASURES) Black organic MUDSTONE. (MIDDLE COAL MEASURES) COAL. (MIDDLE COAL MEASURES) Dark grey/black MUDSTONE recovered as fine tabular shale gravel. (MIDDLE COAL MEASURES) End Of Borehole At 30.00 m																																																		
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Air flush Scale: 1:100						Water Strikes <table border="1"> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> Daily Log Of Depths Flushing Medium <table border="1"> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>						Date	Strike	Level	Minutes	Casing	Remarks																			Date	Casing	Water	From	To	Type												
Date	Strike	Level	Minutes	Casing	Remarks																																																						
Date	Casing	Water	From	To	Type																																																						

 iD GeoEnvironmental Limited			Project Title: Rhodia, Whitehaven						PH1015																																													
			Project Number: 4046			Client: Story Homes			Sheet 2 Of 2																																													
			GL (mAOD): 87.10			N Coord: 515713			E Coord: 297375																																													
Date: 07/06/2022			Method: Casagrande C6			Driller: GDC			Logged By: NW																																													
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																											
						68.10 19.00 67.10 20.00 59.10 28.00 58.40 28.70 57.10 30.00	Dark grey/black MUDSTONE recovered as fine tabular shale gravel. (MIDDLE COAL MEASURES) COAL with thin black Mudstone laminations. (MIDDLE COAL MEASURES) Grey MUDSTONE with siltstone laminations. (MIDDLE COAL MEASURES) COAL (wet) (MIDDLE COAL MEASURES) Grey MUDSTONE (dry) (MIDDLE COAL MEASURES) End Of Borehole At 30.00 m																																															
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa ▽ - Groundwater Strike ▼ - Groundwater Level			REMARKS No Groundwater Encountered Air flush Scale: 1:100					Water Strikes <table border="1"> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> Daily Log Of Depths <table border="1"> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>					Date	Strike	Level	Minutes	Casing	Remarks																			Date	Casing	Water	From	To	Type												
Date	Strike	Level	Minutes	Casing	Remarks																																																	
Date	Casing	Water	From	To	Type																																																	

 iGeo iD GeoEnvironmental Limited				Project Title: Rhodia, Whitehaven					PH1016				
				Project Number: 4046			Client: Story Homes		Sheet 2 Of 2				
				GL (mAOD): 86.40			N Coord: 515693		E Coord: 297351				
Date: 06/06/2022				Method: Casagrande C6			Driller: GDC		Logged By: NW				
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe		
						66.10 62.90 61.40 60.50 56.40		20.30 23.50 25.00 25.90 30.00	Grey MUDSTONE with siltstone laminations. (MIDDLE COAL MEASURES) Dark grey/black MUDSTONE recovered as fine tabular shale gravel. (MIDDLE COAL MEASURES) Grey MUDSTONE with siltstone laminations. (MIDDLE COAL MEASURES) COAL. (MIDDLE COAL MEASURES) Grey MUDSTONE with siltstone laminations. (MIDDLE COAL MEASURES) End Of Borehole At 30.00 m				
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level				REMARKS No Groundwater Encountered Air flush Scale: 1:100				Water Strikes					
								Date	Strike	Level	Minutes	Casing	Remarks
				Daily Log Of Depths				Flushing Medium					
				Date	Casing	Water	From	To	Type				

 iD GeoEnvironmental Limited						Project Title: Rhodia, Whitehaven				PH1018							
						Project Number: 4046		Client: Story Homes						Sheet 1 Of 3			
						GL (mAOD): 84.20		N Coord: 515700		E Coord: 297410							
Date: 07/06/2022						Method: Casagrande C6		Driller: GDC		Logged By: NW							
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description				Water	Standpipe			
						84.00		0.20	TOPSOIL: Dark brown clayey silty sandy loam. (TOPSOIL)								
									Weathered yellow-brown MUDSTONE. (MIDDLE COAL MEASURES)								
						81.50		2.70	Grey MUDSTONE with siltstone laminations. (MIDDLE COAL MEASURES)								
									Dark grey/black MUDSTONE recovered as fine angular shale gravel. (MIDDLE COAL MEASURES)								
						75.20		9.00									
						73.20		11.00	Black organic MUDSTONE. (MIDDLE COAL MEASURES)								
						72.40		11.80	COAL. (MIDDLE COAL MEASURES)								
						72.20		12.00	COAL. (MIDDLE COAL MEASURES)								
						71.70		12.50	Grey MUDSTONE. (MIDDLE COAL MEASURES)								
						71.50		12.70	COAL. (MIDDLE COAL MEASURES)								
									Grey MUDSTONE (MIDDLE COAL MEASURES)								
									Borehole Continues								
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Air flush Scale: 1:100						Water Strikes					
												Date	Strike	Level	Minutes	Casing	Remarks
												Daily Log Of Depths				Flushing Medium	
												Date	Casing	Water	From	To	Type

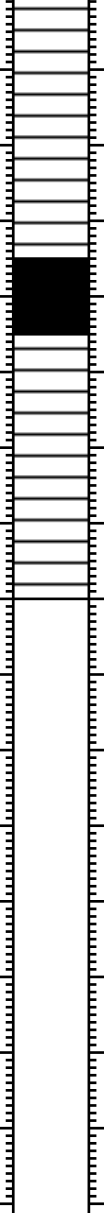
 iD GeoEnvironmental Limited			Project Title: Rhodia, Whitehaven						PH1019																																																								
			Project Number: 4046			Client: Story Homes							Sheet 2 Of 2																																																				
			GL (mAOD): 81.60			N Coord: 515662			E Coord: 297406																																																								
Date: 07/06/2022			Method: Casagrande C6			Driller: GDC			Logged By: NW																																																								
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																																						
						60.20 59.20 57.60		21.40 22.40 24.00	Pale grey MUDSTONE. (MIDDLE COAL MEASURES) 21.00 - 21.40 Damp MUDSTONE. COAL (moist). (MIDDLE COAL MEASURES) Grey MUDSTONE. (MIDDLE COAL MEASURES) End Of Borehole At 24.00 m																																																								
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Water Flush Scale: 1:100						Water Strikes <table border="1"> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> <table border="1"> <tr> <th colspan="4">Daily Log Of Depths</th> <th colspan="2">Flushing Medium</th> </tr> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>						Date	Strike	Level	Minutes	Casing	Remarks																			Daily Log Of Depths				Flushing Medium		Date	Casing	Water	From	To	Type												
Date	Strike	Level	Minutes	Casing	Remarks																																																												
Daily Log Of Depths				Flushing Medium																																																													
Date	Casing	Water	From	To	Type																																																												

 iD GeoEnvironmental Limited		Project Title: Rhodia, Whitehaven						PH1020									
		Project Number: 4046			Client: Story Homes							Sheet 1 Of 2					
		GL (mAOD): 81.70			N Coord: 515685			E Coord: 297436									
Date: 08/06/2022		Method: Casagrande C6			Driller: GDC			Logged By: NW									
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe						
						81.50		0.20	TOPSOIL : Turf over brown silty sandy LOAM. (TOPSOIL)								
						79.70		2.00	Weathered yellow-brown MUDSTONE. (MIDDLE COAL MEASURES)								
						78.80		2.90	Grey MUDSTONE. (MIDDLE COAL MEASURES)								
						78.50		3.20	Black organic MUDSTONE with COAL traces. (MIDDLE COAL MEASURES)								
									Dark grey/black MUDSTONE. (MIDDLE COAL MEASURES)								
						75.70		6.00	COAL. (MIDDLE COAL MEASURES)								
						75.60		6.10	Grey MUDSTONE. (MIDDLE COAL MEASURES)								
						75.20		6.50	COAL. (MIDDLE COAL MEASURES)								
						75.00		6.70	Grey MUDSTONE with thin Siltstone laminations. (MIDDLE COAL MEASURES)								
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
																	
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Water Flush Scale: 1:100						Water Strikes					
												Date	Strike	Level	Minutes	Casing	Remarks
						Daily Log Of Depths											
						Date	Casing	Water	From	To	Type						

 iD GeoEnvironmental Limited				Project Title: Rhodia, Whitehaven					PH1020					
				Project Number: 4046			Client: Story Homes		Sheet 2 Of 2					
				GL (mAOD): 81.70			N Coord: 515685		E Coord: 297436					
Date: 08/06/2022				Method: Casagrande C6			Driller: GDC		Logged By: NW					
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description			Water	Standpipe	
						60.70		21.00	Pale grey MUDSTONE. (MIDDLE COAL MEASURES)					
									End Of Borehole At 21.00 m					
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa ▽ - Groundwater Strike ▼ - Groundwater Level				REMARKS No Groundwater Encountered Water Flush Scale: 1:100					Water Strikes					
									Date	Strike	Level	Minutes	Casing	Remarks
									Daily Log Of Depths			Flushing Medium		
									Date	Casing	Water	From	To	Type

 iD GeoEnvironmental Limited						Project Title: Rhodia, Whitehaven				PH1021							
						Project Number: 4046				Client: Story Homes				Sheet 1 Of 2			
						GL (mAOD): 80.00				N Coord: 515711				E Coord: 297454			
Date: 08/06/2022						Method: Casagrande C6				Driller: GDC				Logged By: NW			
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description						Water	Standpipe	
						79.80		0.20	TOPSOIL : Turf over brown silty sandy LOAM. (TOPSOIL)								
						78.00		2.00	Weathered yellow-brown MUDSTONE. (MIDDLE COAL MEASURES)								
									Grey MUDSTONE. (MIDDLE COAL MEASURES)								
						75.00		5.00	Dark grey/black MUDSTONE recovered as fine tabular shale gravel. (MIDDLE COAL MEASURES)								
						71.40		8.60	COAL with strong sulphurous odour. (MIDDLE COAL MEASURES)								
						70.70		9.30	Grey MUDSTONE. (MIDDLE COAL MEASURES)								
									Borehole Continues								
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Water Flush Scale: 1:100						Water Strikes					
												Date	Strike	Level	Minutes	Casing	Remarks
												Daily Log Of Depths				Flushing Medium	
												Date	Casing	Water	From	To	Type

 iD GeoEnvironmental Limited						Project Title: Rhodia, Whitehaven				PH1022							
						Project Number: 4046				Client: Story Homes				Sheet 1 Of 2			
						GL (mAOD): 78.90				N Coord: 515727				E Coord: 297464			
Date: 07/06/2022						Method: Casagrande C6				Driller: GDC				Logged By: NW			
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description						Water	Standpipe	
						78.70		0.20	TOPSOIL : Turf over brown silty sandy LOAM. (TOPSOIL)								
						76.90		2.00	Weathered yellow-brown MUDSTONE. (MIDDLE COAL MEASURES)								
						75.30		3.60	Grey MUDSTONE. (MIDDLE COAL MEASURES)								
						74.40		4.50	COAL (moist) (MIDDLE COAL MEASURES)								
									Grey MUDSTONE with Siltstone laminations. (MIDDLE COAL MEASURES)								
									Borehole Continues								
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered Water Flush Scale: 1:100						Water Strikes					
												Date	Strike	Level	Minutes	Casing	Remarks
												Daily Log Of Depths			Flushing Medium		
												Date	Casing	Water	From	To	Type

 iD GeoEnvironmental Limited				Project Title: Rhodia, Whitehaven					PH1022								
				Project Number: 4046			Client: Story Homes		Sheet 2 Of 2								
				GL (mAOD): 78.90			N Coord: 515727		E Coord: 297464								
Date: 07/06/2022				Method: Casagrande C6			Driller: GDC		Logged By: NW								
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description			Water	Standpipe				
						59.40		19.50	Grey MUDSTONE with Siltstone laminations. (MIDDLE COAL MEASURES)								
						58.40		20.50	COAL. (MIDDLE COAL MEASURES)								
									Grey MUDSTONE with Siltstone laminations. (MIDDLE COAL MEASURES)								
						54.90		24.00	End Of Borehole At 24.00 m								
KEY				REMARKS					Water Strikes								
D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level				No Groundwater Encountered Water Flush					Date				Strike	Level	Minutes	Casing	Remarks
				Scale: 1:100					Daily Log Of Depths			Flushing Medium					
									Date	Casing	Water	From	To	Type			

 iD GeoEnvironmental Limited				Project Title: Rhodia, Whitehaven					PH1023																																																		
				Project Number: 4046			Client: Story Homes		Sheet 2 Of 2																																																		
				GL (mAOD): 89.80			N Coord: 515784		E Coord: 297321																																																		
Date: 06/06/2022				Method: Casagrande C6			Driller: GDC		Logged By: NW																																																		
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																																
						67.10 64.20 62.80 59.80	   	22.70 25.60 27.00 30.00	Grey MUDSTONE with siltstone laminations. (MIDDLE COAL MEASURES)	Moist black MUDSTONE recovered as fine tabular shale gravel. (MIDDLE COAL MEASURES)	COAL. Damp. (MIDDLE COAL MEASURES)	Wet dark grey/black MUDSTONE recovered as fine angular shale. (MIDDLE COAL MEASURES)	End Of Borehole At 30.00 m																																														
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level				REMARKS No Groundwater Encountered Air flush Scale: 1:100				Water Strikes <table border="1"> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> Daily Log Of Depths Flushing Medium <table border="1"> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>				Date	Strike	Level	Minutes	Casing	Remarks																									Date	Casing	Water	From	To	Type												
Date	Strike	Level	Minutes	Casing	Remarks																																																						
Date	Casing	Water	From	To	Type																																																						

APPENDIX C

CERTIFICATION OF CALIBRATION



Date Of Calibration: 13-Nov-2020

Certificate Number: GA14010_1/26868

Issued by: QED Environmental Systems Ltd.

Customer: ID Geoenvironmental
Caledonian House Tatton Street KNUTSFORD
Cheshire WA16 6AG UNITED KINGDOM

Description: Gas Analyser

Model: GA2000

Serial Number: GA14010

UKAS Accredited results:

Results after adjustment :

Methane (CH ₄)		
Certified Gas (%)	Instrument Reading (%)	Uncertainty (%)
5.0	5.0	0.072
15.0	15.1	0.13
60.0	59.9	0.42

Carbon Dioxide (CO ₂)		
Certified Gas (%)	Instrument Reading (%)	Uncertainty (%)
5.0	4.9	0.074
15.0	14.8	0.13
39.9	39.9	0.29

Oxygen (O ₂)		
Certified Gas (%)	Instrument Reading (%)	Uncertainty (%)
21.4	21.5	0.25

The inwards assessment was carried out 30-Oct-2020.

The maximum adjustment is larger than the inwards assessment uncertainty.

Inwards assessment data is available if requested.

All concentrations are molar.

CH₄, CO₂ readings recorded at : 32.0 °C ± 2.5 °C

O₂ readings recorded at : 22.5 °C ± 2.5 °C

Barometric Pressure : 0998 mbar ± 4 mbar

Method of Test : The analyser is calibrated in a temperature controlled chamber using a series of reference gases, in compliance with procedure LP004.

Instrument has passed calibration as the measurement result is within the specification limit. The specification limit takes into account the measurement uncertainty.

The results relate only to the item calibrated

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Calibration Instance:111 IGC Instance:111

Page 1 of 2 | LP015GIUKAS-2.4

www.qedenv.com +44 (0) 333 800 0088 sales@qedenv.co.uk

QED Environmental Systems Ltd. Cyan Park - Unit 3, Jimmy Hill Way, Coventry, CV2 4QP, UNITED KINGDOM

Registered in England and Wales 1898734

CERTIFICATION OF CALIBRATION



Date Of Calibration: 13-Nov-2020

Certificate Number: GA14010_1/26868

Issued by: QED Environmental Systems Ltd.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Calibrations marked 'Non-UKAS Accredited results' on this certificate have been included for completeness.

Non-UKAS accredited results after adjustment:

Barometer (mbar)	
Reference	Instrument Reading
998	998

Additional Gas Cells		
Gas	Certified Gas (ppm)	Instrument Reading (ppm)
CO	508	508
H ₂ S	261	261

Internal Flow	
Applied (l/hr)	Instrument Reading (l/hr)
5.00	5.04
10.00	10.13

Date of Issue : 16-Nov-2020

Approved by Signatory

Laura McBride

Laboratory Inspection

End of Certificate

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Calibration Instance:111 IGC Instance:111

Page 2 of 2 | LP015GIUKAS-2.4

www.qedenv.com +44 (0) 333 800 0088 sales@qedenv.co.uk

QED Environmental Systems Ltd. Cyan Park - Unit 3, Jimmy Hill Way, Coventry, CV2 4QP, UNITED KINGDOM

Registered in England and Wales 1898734

CERTIFICATION OF CALIBRATION



Date Of Calibration: 30-Nov-2021

Certificate Number: GA14010_2/29370

Issued by: QED Environmental Systems Ltd.

Customer: ID Geoenvironmental
Caledonian House Tatton Street KNUTSFORD
Cheshire WA16 6AG UNITED KINGDOM

Description: Gas Analyser

Model: GA2000

Serial Number: GA14010

UKAS Accredited results:

Results after adjustment :

Methane (CH ₄)		
Certified Gas (%)	Instrument Reading (%)	Uncertainty (%)
5.0	5.1	0.072
14.9	15.1	0.13
59.7	59.6	0.42

Carbon Dioxide (CO ₂)		
Certified Gas (%)	Instrument Reading (%)	Uncertainty (%)
5.0	4.8	0.074
15.1	14.8	0.13
40.3	40.3	0.29

Oxygen (O ₂)		
Certified Gas (%)	Instrument Reading (%)	Uncertainty (%)
21.2	21.2	0.25

The inwards assessment was carried out 20-Oct-2021.

The maximum adjustment is larger than the specification limit.

Inwards assessment data is available if requested.

All concentrations are molar.

CH₄, CO₂ readings recorded at : 31.9 °C ± 2.5 °C

O₂ readings recorded at : 22.9 °C ± 2.5 °C

Barometric Pressure : 1001 mbar ± 4 mbar

Method of Test : The analyser is calibrated in a temperature controlled chamber using a series of reference gases, in compliance with procedure LP004.

Instrument has passed calibration as the measurement result is within the specification limit. The specification limit takes into account the measurement uncertainty.

The results relate only to the item calibrated

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Calibration Instance:114 IGC Instance:112

Page 1 of 2 | LP015GIUKAS-2.5

www.qedenv.com +44 (0) 333 800 0088 sales@qedenv.co.uk

QED Environmental Systems Ltd. Cyan Park - Unit 3, Jimmy Hill Way, Coventry, CV2 4QP, UNITED KINGDOM

Registered in England and Wales 1898734

CERTIFICATION OF CALIBRATION

Date Of Calibration: 30-Nov-2021



Certificate Number: GA14010_2/29370

Issued by: QED Environmental Systems Ltd.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Calibrations marked 'Non-UKAS Accredited results' on this certificate have been included for completeness.

Non-UKAS accredited results after adjustment:

Barometer (mbar)		
Reference	Instrument Reading	
1001	1001	

Additional Gas Cells		
Gas	Certified Gas (ppm)	Instrument Reading (ppm)
CO	509	509
H ₂ S	259	259

Internal Flow	
Applied (l/hr)	Instrument Reading (l/hr)
5	5.1
10	10.1

Date of Issue : 06-Dec-2021

Approved by Signatory

Dawn Hemings

Laboratory Inspection

End of Certificate

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Calibration Instance:114 IGC Instance:112

Page 2 of 2 | LP015GIUKAS-2.5

www.qedenv.com +44 (0) 333 800 0088 sales@qedenv.co.uk

QED Environmental Systems Ltd. Cyan Park - Unit 3, Jimmy Hill Way, Coventry, CV2 4QP, UNITED KINGDOM

Registered in England and Wales 1898734

Instrument Service Report

Unit Type: GA2000	Part Number: GA2K1-E100	Date: 06-Dec-2021	Next Service Due: 30-Nov-2022	Customer Name: ID Geoenvironmental
Serial Number: GA14010				
Actions/Investigation Description		Result	Comments	
Serial Number Check		Yes		
Serial Comms Test		Pass		
Full Automatic Calibration		Pass		
Service history of instrument reviewed		Yes		
Inwards gas check data reviewed		Yes		
Instrument turns on		Pass		
Backlight operates correctly		Yes		
External visual inspection performed		Pass		
Microfibre (inlet port) filter replaced		Yes		
Instrument has latest software		Yes		
Memory cleared (cold start)		Yes		
Internal visual inspection performed		Pass		
PTFE filter replaced		Yes		
Battery over 6 years old and replaced		Retest Passed	Battery replaced	
All screws tightened to correct torque		Yes		
All connectors are secure		Pass		
Check diagnostic channels		Pass		

Instrument Service Report

Unit Type: GA2000	Part Number: GA2K1-E100	Date: 06-Dec-2021	Next Service Due: 30-Nov-2022	Customer Name: ID Geoenvironmental
Serial Number: GA14010				
Actions/Investigation Description		Result	Comments	
Case compression test		Pass		
Impact and stability test		Pass		
Pump flow test		Pass		
Automated instrument pressure system test (leak test)		Pass		
Pump vacuum test and flow fails in main read screen		Pass		
Pressure transducer test(s) as per user operation		Pass		
Final visual inspection on instrument		Pass		
Blanking plugs in place		Yes		
Carry strap pins in place		Yes		
Case assembly closed and screws tightened to correct torque		Yes		
GPS function test		NA		
Internal flow calibrated - refer to results on Calibration Certificate		Pass		
Temperature probe tested		Pass		
Anemometer tested		Pass		
Chemical gas sensors calibrated – refer to Calibration Certificate		Retest Passed		
As Received Chemical Cell Gas Assessment Performed (CAL16)		Yes		
As Received Gas Assessment Performed (CAL01 or CAL02)		Yes		

Instrument Service Report

<u>Unit Type:</u> GA2000	<u>Part Number:</u>	<u>Date:</u>	<u>Next Service Due:</u>	<u>Customer Name:</u>
<u>Serial Number:</u> GA14010	GA2K1-E100	06-Dec-2021	30-Nov-2022	ID Geoenvironmental
Actions/Investigation Description		Result	Comments	
Chemical sensor(s) replacement over 2yrs UK and 21mths overseas.		Yes	CO Cell replaced	
O2 sensor replacement over 3yrs UK, 33mths overseas		Pass		

Customer Comments

Battery does not hold charge

Accessory Test

	Result	Comments
Charger	Pass	Charger output is in spec.
Water Trap	Pass	Replaced PTFE filter. Replaced tubing, Replaced hose barb, Tested ok.

General Comments/Feedback

Instrument Service Report

Unit Type: GA2000	Part Number:	Date:	Next Service Due:	Customer Name:
Serial Number: GA14010	GA2K1-E100	06-Dec-2021	30-Nov-2022	ID Geoenvironmental

Thank you for returning your gas analyser to the QED Service Centre for full service and calibration. We are pleased to inform you that the analyser was received and fully assessed by one of our experienced Service Engineers.

Poor battery - Replaced

Our extensive service was carried out, and any necessary components replaced. The gas analyser has successfully passed all of our rigorous testing and quality checks and has been calibrated using our bespoke, state of the art calibration facility.

For further information about how to get the best use from your instrument please visit our YouTube channel <http://www.youtube.com/GeotechTV> and on our Website <http://www.qedenv.com>

Due to poor battery performance a replacement was necessary.

The CO electrochemical sensor has been replaced due it being over 2 years old in accordance with the manufacturer's recommendations, and also as a proactive measure based on our experience of the typical lifetime of this type of sensor.

If you require any further assistance with your instrument please email our Technical Support Team at technical@qedenv.co.uk or call us on +44 (0) 333 800 0088 (Monday to Thursday 08.30 - 17.00 & Friday 08.30 - 15.30) UK time zone.

Service Details: Service Scheme	☐	Service Engineer:	Calibration Engineer:	Approved By:	Signature:
Standard Service	☒	Ricky Cottrill	Suk Bailey	Dawn Hemings	

APPENDIX D

Visit	Borehole Reference	Monitoring Date	Observations	AOD	Top of Install Zone (m)	Base of Install Zone (m)	Groundwater Level (m)	Response Zone Flooded	Response Zone Material	Atmospheric Pressure - Start (mb)	Atmospheric Pressure - Finish (mb)	Barometric Pressure Trend	PID ppm	CH ₄ Peak %V/V	CH ₄ Steady %V/V	CO ₂ Peak %V/V	CO ₂ Steady %V/V	O ₂ %V/V	CO ppm	H ₂ S ppm	Flow Peak l/hr	Flow Steady l/hr	Q ₁₀ CH ₄ l/hr	Implied CS	Q ₁₀ CO ₂ l/hr	Implied CS	Max Q ₁₀ CH ₄ l/hr	Implied CS	Max Q ₁₀ CO ₂ l/hr	Implied CS	
1	PH631	15/10/2020		83.0	3.00	4.50	DRY	-	Siltstone & mudstone (Middle Coal Measures)	1016	1015	Falling		0.00	0.00	1.1	1.1	18.9	2	2	ND	ND	0.0001	CS1	0.0011	CS1	0.0005	CS1	0.0186	CS1	
2		20/10/2020		83.0	3.00	4.50	DRY	-		980	978	Falling		0.00	0.00	1.7	1.7	17.2	2	ND	ND	ND	0.0001	CS1	0.0017	CS1					
3		13/11/2020		83.0	3.00	4.50	DRY	-		993	992	Falling		0.00	0.00	2.2	2.2	17.9	2	2	ND	ND	ND	0.0001	CS1	0.0022	CS1				
4		27/11/2020		83.0	3.00	4.50	DRY	-		1006	1004	Falling		0.00	0.00	2.2	2.2	18.2	1	1	ND	ND	ND	0.0001	CS1	0.0022	CS1				
5		30/09/2021	Very windy	83.0	3.00	4.50	DRY	-		997	997	Steady		0.50	0.00	7.3	4.0	9.5	0	0	ND	ND	ND	0.0005	CS1	0.004	CS1				
6		01/12/2021	Very windy	83.0	3.00	4.50	DRY	-		991	991	Steady		0.00	0.00	3.9	3.2	11.4	0	ND	ND	ND	0.0001	CS1	0.0032	CS1					
7		07/12/2021	Very windy	83.0	3.00	4.50	DRY	-		967	965	Falling		0.00	0.00	3.1	2.9	12.2	0	1	ND	ND	ND	0.0001	CS1	0.0029	CS1				
8		18/02/2022	Very windy	83.0	3.00	4.50	DRY	-		965	966	Steady		0.00	0.00	2.4	2.4	17.8	0	0	ND	ND	ND	0.0001	CS1	0.0024	CS1				
9		23/03/2022	Dry & sunny	83.0	3.00	4.50	DRY	-		1018	1016	Falling		0.00	0.00	0.6	0.2	20.6	0	0	ND	ND	ND	0.0001	CS1	0.0002	CS1				
10		30/05/2022	Faulty Dipometer	83.0	3.00	4.50	-	-		1000	1000	Steady		0.10	0.00	16.6	16.5	0.1	0	0	ND	ND	ND	0.0001	CS1	0.0165	CS1				
11		08/06/2022	Dry & sunny	83.0	3.00	4.50	3.65	-		995	992	Falling		0.00	0.00	18.7	18.6	0.2	0	0	-4.4	0.0	0.0001	CS1	0.0186	CS1					
12		15/06/2022	Dry & sunny	83.0	3.00	4.50	DRY	-		1009	1009	Steady		0.10	0.10	0.5	0.4	20.9	0	0	ND	ND	ND	0.0001	CS1	0.0004	CS1				
1	PH633A	15/10/2020	Vandalised - no cover/bung.	92.0	2.00	3.00	1.70	FLOODED	Mudstone (Middle Coal Measures)	1016	1015	Falling		0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	0.0001	CS1	0.0023	CS1
2		20/10/2020	Well repaired, gas valve replaced.	92.0	2.00	3.00	DRY	-		980	978	Falling		0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-				
3		13/11/2020	Flow at 1.5 for only 15 secs.	92.0	2.00	3.00	DRY	-		993	992	Falling		0.00	0.00	1.0	1.0	18.6	2	2	1.5	ND	ND	0.0001	CS1	0.001	CS1				
4		27/11/2020	Flow at 5.0 for only 5secs.	92.0	2.00	3.00	DRY	-		1006	1004	Falling		0.00	0.00	0.0	0.0	18.8	3	1	5.0	ND	ND	0.0001	CS1	0.0001	CS1				
5		30/09/2021	Very windy	92.0	2.00	3.00	0.05	FLOODED		997	997	Steady		0.00	0.00	0.0	0.0	19	0	0	0.0	ND	ND	0.0001	CS1	0.0001	CS1				
6		01/12/2021		92.0	2.00	3.00	0.4	FLOODED		991	991	Steady		0.00	0.00	2.3	2.3	19.1	ND	ND	0.1	ND	ND	0.0001	CS1	0.0023	CS1				
7		07/12/2021	Water in pipe after 1min.	92.0	2.00	3.00	0.05	FLOODED		967	965	Falling		0.00	0.00	2.3	2.3	17.3	ND	ND	0.2	ND	ND	0.0001	CS1	0.0023	CS1				
8		18/02/2022	Very windy	92.0	2.00	3.00	0.05	FLOODED		965	966	Steady		0.00	0.00	1.0	0.0	19	ND	ND	ND	ND	ND	0.0001	CS1	0.0001	CS1				
9		23/03/2022	Dry & sunny	92.0	2.00	3.00	DRY	-		1018	1016	Falling		0.00	0.00	0.6	0.6	21	ND	ND	ND	ND	ND	0.0001	CS1	0.0006	CS1				
10		30/05/2022	Well destroyed	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11		08/06/2022	Well destroyed	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12		15/06/2022	Well destroyed	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1	PH634A	15/10/2020	Flow took 3mins to equilibrate.	88.0	1.00	3.00	1.69	-	Siltstone & mudstone (Middle Coal Measures)	1016	1015	Falling		0.00	0.00	0.4	0.4	14.9	4	2	8.5	ND	ND	0.0001	CS1	0.0004	CS1	0.0002	CS1	0.0017	CS1
2		20/10/2020		88.0	1.00	3.00	1.70	-		980	978	Falling		0.00	0.00	0.6	0.6	14.5	3	3	ND	ND	ND	0.0001	CS1	0.0006	CS1				
3		13/11/2020	Flow at 1.5 for only 15 secs.	88.0	1.00	3.00	1.60	-		993	992	Falling		0.00	0.00	0.8	0.8	9.9	3	2	1.5	ND	ND	0.0001	CS1	0.0008	CS1				
4		27/11/2020	Flow at 4.8 for only 2secs.	88.0	1.00	3.00	1.66	-		1006	1004	Falling		0.00	0.00	0.8	0.8	10.1	2	1	4.8	ND	ND	0.0001	CS1	0.0008	CS1				
5	Gas valve missing	30/09/2021	Very windy							997	997	Steady		-	-	-	-	-	-	-	-	-	-	-	-	-	-				
6		01/12/2021		88.0	1.00	3.00	DRY	-		991	991	Steady		0.00	0.00	0.9	0.9	17.2	0	0	ND	ND	ND	0.0001	CS1	0.0009	CS1				
7		07/12/2021		88.0	1.00	3.00	DRY	-		967	965	Falling		0.00	0.00	1.2	0.2	19.9	0	0	ND	ND	ND	0.0001	CS1	0.0002	CS1				
8		18/02/2022	Very windy	88.0	1.00	3.00	1.65	-		965	966	Steady		0.00	0.00	0.4	0.4	19.3	0	0	ND	ND	ND	0.0001	CS1	0.0004	CS1				
9		23/03/2022	Dry & sunny	88.0	1.00	3.00	1.49	-		1018	1016	Falling		0.00	0.00	0.0	0.0	20.5	0	0	ND	ND	ND	0.0001	CS1	0.0001	CS1				
10		30/05/2022	Faulty Dipometer	88.0	1.00	3.00	-	-		1000	1000	Steady		0.00	0.00	1.7	1.7	14.5	0	0	ND	ND	ND	0.0001	CS1	0.0017	CS1				
11		08/06/2022	Dry & sunny	88.0	1.00	3.00	2.50	-		995	992	Falling		0.00	0.00	1.5	1.5	16.3	0	0	ND	ND	ND	0.0001	CS1	0.0015	CS1				
12		15/06/2022	Dry & sunny	88.0	1.00	3.00	2.48	-		1009	1009	Steady		0.20	0.10	1.3	1.3	17.5	0	0	ND	ND	ND	0.0002	CS1	0.0013	CS1				
1	PH902	30/09/2021	Very windy	91.67	18.40	21.40	DRY	-	Shallow Coal Workings	997	997	Steady		2.20	2.00	6.2	6.0	9.1	0	0	2.0	1.0	0.022	CS1	0.06	CS1	0.1875	CS2	0.48	CS2	
2		01/12/2021		91.67	18.40	21.40	DRY	-		991	991	Steady		0.30	0.30	6.4	6.4	9.2	0	0	-18.9	-18.6	-0.0558	-	-1.1904	-					
3		07/12/2021	Gas flow +7.5 (l/hr) after 10 mins.	91.67	18.40	21.40	DRY	-		967	965	Falling		0.40	0.40	5.9	5.9	9.1	0	0	7.8	7.5	0.03	CS1	0.4425	CS2					
4		18/02/2022	Very windy	91.67	18.40	21.40	DRY	-		965	966	Steady		0.80	0.80	5.8	5.8	9.1	0	0	-24	-22.0	-0.176	-	-1.276	-					
5		23/03/2022	Dry & sunny	91.67	18.40	21.40	DRY	-		1018	1016	Falling		0.40	0.40	4.0	4.0	9.1	0	0	1.0	0.7	0.0028	CS1	0.028	CS1					
6		08/06/2022	Dry & sunny	91.67	18.40	21.40	DRY	-		995	992	Falling		2.50	0.65	5.6	4.5	9.3	0	0	0.1	0.1	0.0025	CS1	0.0045	CS1					
1	PH907	30/09/2021	Very windy	89.67	18.30	19.50	DRY	-	Shallow Coal Workings	887	997	Steady		2.10	2.00	6.0	6.0	9.1	0	0	2.6	2.2	0.0462	CS1	0.132	CS2	0.1554	CS2	0.4514	CS2	
2		01/12/2021		89.67	18.30	19.50	DRY	-		991	991	Steady		1.50	1.20	6.0	6.0	2.6	0	0	-9.7	-8.1	-0.1215	-	-0.486	-					
3		07/12/2021	Gas flow +7.4 (l/hr) after 10 mins.	89.67	18.30	19.50	DRY	-		967	965	Falling		1.40	1.40	6.1	6.1	9.1	0	3	8	7.4	0.1036	CS2	0.4514	CS2					
4		18/02/2022	Very windy	89.67	18.30	19.50	DRY	-		965	966	Steady		1.80	1.80	0.4	0.4	9.1	0	0	-24	-21.0	-0.378	-	-0.084	-					
5		23/03/2022	Dry & sunny	89.67	18.30	19.50	DRY	-		1018	1016	Falling		0.20	0.20	3.8	3.8	9.7	0	0	0.0	0.0	0.0002	CS1	0.0038	CS1					
6		08/06/2022	Dry & sunny	89.67	18.30	19.50	DRY	-		995	992	Falling		0.40	0.40	4.9	0.4														

>>>> outside the range of +100 to -60 l/hr