

Directors:

G S J SOMMERWILL, BSc, MSc, CGeol, FGS, SilC, ROGEP Specialist
M R EYNON, BSc, MSc, CGeol, EurGeol, FGS, ROGEP Specialist

Associate Director:

D R BETTOSI, BSc, MSc, CGeol, CSci, FGS, ROGEP Professional

Principal Geologist:

J P HUCKER, BSc (Hons), CGeol, EurGeol, CSci, FGS, ROGEP Adviser

Consultants:

J K C CAMPBELL, BSc, MSc, CEng, CGeol, FGS, FIMM

S M RICE, BEng, PhD, CEng, CGeol, MICE, FGS

S PYCROFT, BSc, MSc DIC CGeol, FGS, AMICE, ROGEP Adviser

P STONE, PhD, MSc, MCIWEM, CEnv

Earth Science Partnership

Consulting Engineers | Geologists | Environmental Scientists

33 Cardiff Road

Taff's Well

CARDIFF

CF15 7RB

TEL: (029) 2081 3385

www.earthsciencepartnership.com enquiries@earthsciencepartnership.com

Our Ref: mte/8392.03.4285 Gas Addendum Report

Friday, 28 February 2025

Tai Tarian

Ty Gwyn

Baglan Energy Park

Brunel Way

Neath

SA11 2FP

BY EMAIL

Dear Sirs,

FORMER TUDOR INN PUBLIC HOUSE, CIMLA HAZARDOUS GROUND GAS ASSESSMENT – ADDENDUM REPORT

Further to the issue of our report on the above development (ref. ESP.8398.03.4230), we have now completed our programmed gas monitoring and are pleased to provide our assessment of the risk posed by hazardous ground gas.

This gas risk addendum has been carried out in accordance with advice set out in BS8485 (2019) and CL/AIRE Good Practice for Risk Assessments for Coal Mine Gas Emissions, October 2021. Information from C758 2019 has also been considered in assistance of the assessment.

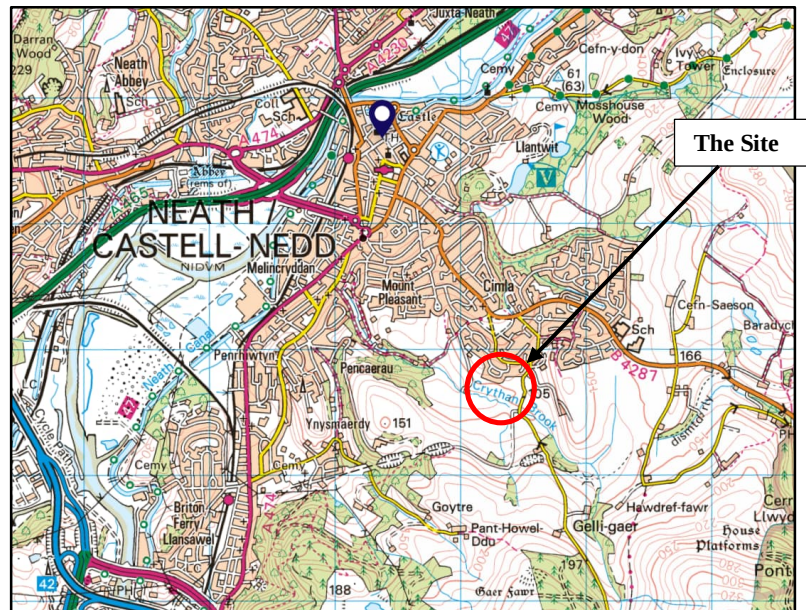
This letter report provides background information to the site and provides information required to undertake the risk assessment, which includes a review of the ground model and groundwater conditions, the monitoring information of gases and concludes with recommendations for the gas assessment.

1.0 Background

The site comprises the grounds of the former Tudor Inn, located on the south-western side of Cimla, Neath. The National Grid Reference of the centre of the site is (SS) 276060 196010 and the postcode is SA11 1JA. A Site Location Plan is presented as Insert 1 below.

EARTH SCIENCE PARTNERSHIP LIMITED
Registered in England & Wales:
No.3056375





*Insert 1: Site Location Plan from Ordnance Survey 1:25,000 scale map.
Reproduced with permission (OS License No.: AL100015788).*

The red line boundary of the site includes some of the adjacent road network, there are thus two areas of interest in this report, the site boundary and the Development Area where the houses will be constructed, as shown in Insert 2 below.



Insert 2: Site Plan showing red line boundary of the wider site, made of the Development Area, shaded in orange and the Access Area to the northeast.

2.0 Ground Model and Gas Setting

2.1 Ground Model

The below conceptual Ground Model has been developed using all site investigation information obtained to date. The investigation points suggested a thin, generally less than 0.5m but not more than a metre thick covering of Made Ground in the central, and central western portion of the Development Area; thicker Made Ground was noted along the southwestern boundary of the site. Investigation positions in the eastern portion of the Development Area showed no Made Ground. Where Made Ground was not encountered, a thin layer of topsoil was generally encountered.

Below the Topsoil or Made Ground, weathered bedrock was encountered and quickly graded into competent bedrock, thought to comprise the Swansea Member of the Pennant Sandstone Formation.

The rubble pile in the former location of the Tudor Inn contains asbestos cement boards and excavations in it showed the floor slabs to have remained intact.

The geological succession identified in the investigation points is presented on a Conceptual Ground Model in Figure 2.

Made Ground: – near the former Tudor Inn building: encountered to a maximum depth of 0.8m around the Former Tudor Inn and hardstanding areas as what are likely to be ‘sub-base’ gravels or dark brown gravelly sandy silts and clays with fragments of brick, glass, concrete and plastic or re-worked topsoil.

Made Ground: – along western boundary: thicker, with depths in excess of 3.2m, typically as heterogeneous sandy, clayey gravel with fill and tip material.

Topsoil: encountered in the field away from the Tudor Inn and hardstanding area to a maximum depth of 0.5m.

Swansea Member - Pennant Sandstone Formation: encountered at shallow depth across site beneath the topsoil or Made Ground. Typically comprising a weathered horizon of soft orange-brown slightly sandy gravelly clay or a sandy gravel or cobble of sandstone to a maximum encountered depth of 1.6m. Below the relatively thin weathered horizons, competent bedrock was encountered, typically comprising the Sandstone. A coal seam with several leaves was identified at the base of the sandstone which was noted to have evidence of being worked/mined.

Hughes Member - Pennant Sandstone Formation: below the coal seam, thought to be the Graigola coal seam, the boreholes encountered mudstone which is likely to be of the Hughes Member.

The coal seam was encountered between depths of 4.0m (RO1) and 17.6m (RO206) depth and was typically 1.5 to 2m in thickness, and likely dipping northeast.

2.2 Gas Setting

Previous phases of works suggested that possible shallow coal mine workings are a source of gas and the CL:AIRE (2021) decision support tool suggested the site lies in a high risk zone

from mine gas. The thick Made Ground along the western boundary of the site may also be a source of ground gas.

3.0 Well Installations

A 50mm diameter monitoring well was installed in selected boreholes in accordance with BS8576:2013 to allow monitoring of hazardous ground gases. The wells, comprising slotted plastic pipe with a gravel surround (the response zone), bentonite seals above and below the response zone, and a lockable vandal proof cover, were installed as detailed on the borehole records and summarised in the table below.

Table 1: Well Installations

Well ID	Date of Installation	Response Zone depth	Response Zone Stratum	Rationale
RO201	29/10/2024	5.5 – 8.4	Coal and Mudstone	3
RO202	29/10/2024	10.4 – 13.8	Coal and Mudstone	3
RO203	29/10/2024	1.0 – 4.0	Shallow Sandstone Bedrock	4
RO204	29/10/2024	12.3 – 13.9	Coal and Mudstone	3
RO205	29/10/2024	11.2 – 13.2	Coal and Mudstone	3
RO205a	29/10/2024	1.0 – 4.0	Shallow Sandstone Bedrock	4
RO206	29/10/2024	14.9 – 17.6	Coal and Mudstone	2
RO207	29/10/2024	8.0 – 9.8	Coal and Mudstone	2
RO208	29/10/2024	0.8 – 4.0	Made Ground and Shallow Sandstone Bedrock	4
Notes: - Details of each monitoring well are presented on the individual borehole records (Appendix J). - Well installed in the bedrock, Pennant Sandstone Formation (Upper Coal Measures) targeting coal seams encountered. - Well installed in the bedrock, Pennant Sandstone Formation (Upper Coal Measures) targeting suspected backfilled workings. - Well installed in shallow soils to target shallow or migratory gases.				

The details of the well installations are presented on the borehole records in Enclosures A and the well positions are shown on the attached Investigation Point Plan, Figure 1.

4.0 Monitoring

4.1 Gas Monitoring – 2024 to 2025

Gas wells installed in a previous phase of investigation were monitored for hazardous gases on seven occasions. The monitoring results are presented in Enclosure B and are summarised in Table 2:

Table 2: Summary of Previous Gas Monitoring Data (Visits 1 to 7)

Well	Response Zone Depth ¹ (m)	Methane (%)	Carbon dioxide (%)	Gas Flow (L/hr)	Water depth (m)	Atmospheric pressure
RO201	5.5-8.4m coal seam	0.0*	0.0 – 1.6	0.0 – 6.5	8.07 – 8.18	1004 - 1018
RO202	10.4-13.8m coal seam	0.0*	1.3 – 3.1	0.0 – 6.5	13.37 – 13.68	1004 - 1023
RO203	1-4m shallow	0.0*	1.5 – 2.1	0.0 – 0.9	Dry	1004 - 1018
RO204	12.3-13.9 coal seam	0.0*	0.4 – 1.4	0.0 – 6.4	Dry – 13.66	1004 - 1023

Well	Response Zone Depth ¹ (m)	Methane (%)	Carbon dioxide (%)	Gas Flow (L/hr)	Water depth (m)	Atmospheric pressure
RO205	11.2-13.2 coal seam	0.0*	0.9 – 1.2	0.0 – 6.1	Dry	1004 - 1018
RO205a	1-4m shallow	0.0*	0.1 – 1.6	0.0 – 5.8	3.62 – 3.82	1004 - 1018
RO206	14.9-17.6 coal seam	0.0*	0.9 – 1.2	0.0 – 6.3	16.94 – 17.01	1004 - 1018
RO207	8-9.8 coal seam	0.0	0.6 – 0.8	0.0 – 63	Dry – 9.43	1004 - 1018
RO208	0.8-4m shallow	0.0*	0.6 – 2.0	0.0 – 6.3	Dry	1004 - 1018
Notes 1, * denoted negative methane value recorded on initial visits. 2, RO202 and RO204 have 7 visits, others have 6 visits worth of data. 3, Steady State values used. 4 Hydrogen Sulphide detected on several occasions, only on one occasion was a steady state value of 200ppm recorded.						

The borehole response zones were either in the shallow soils, where interactions with foundations, services may be encountered or set within the coal seam below the site, a source of gas. As such, they are separated out below:

The shallow wells encountered a maximum concentration of Carbon Dioxide of 2.1% and a highest flow rate of 6.3 l/h. No methane was detected in the monitoring visits.

The deep wells showed a maximum carbon Dioxide concentration of 3.1% and a maximum flow rate of 63 l/h. No methane was recorded in the monitoring visits.

The high flow was recorded in a single well, RO207 and an order of magnitude above other flow rates noted in all the monitoring at the site. Flow rates in the deeper response zones were generally zero to around 6 l/h.

The reason for the 200ppm steady state hydrogen sulphide reading is unknown. Hydrogen sulphide was noted as peaks in the monitoring but generally reduced to zero within the next minute or two. There are no known sources of hydrogen sulphide.

Methane levels in the records are shown as negative values on visit 1 and 2, this is considered likely to be instrument error and whilst the data is erroneous, it suggests the lack of methane in the measured wells. It should be noted that no methane has been detected in any subsequent monitoring visits across the site.

4.2 Groundwater Monitoring

The monitoring information suggests no clear groundwater level and further information, or monitoring would be needed to understand if the levels noted are actual groundwater levels, or a function of water being trapped in the base of the man made monitoring well.

The water depths measured during the monitoring suggests that none of the response zones in the wells were flooded at the time of monitoring, given their relatively consistent level over the monitoring period, it is reasonable to assume that the response zones were not flooded. The

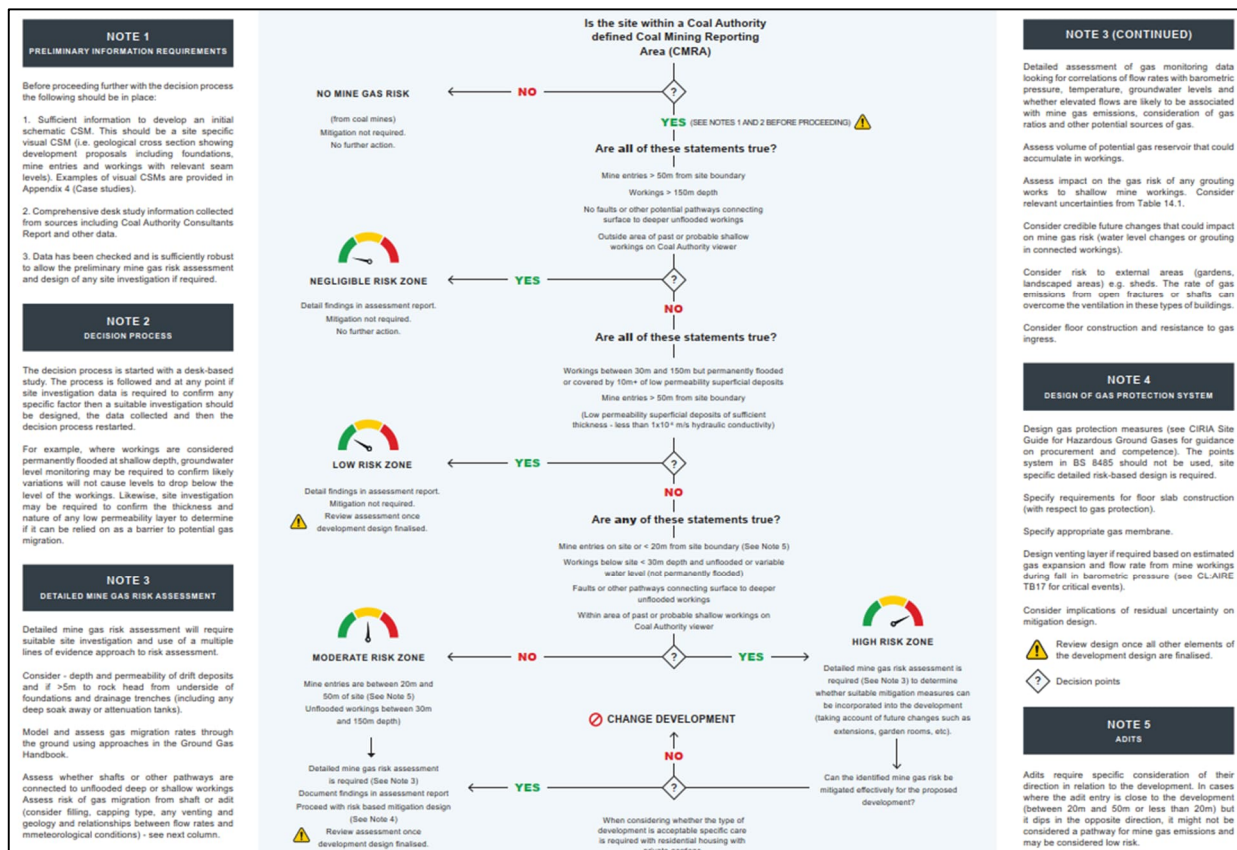
site is located at a topographic high in the area, and it is possible that the main groundwater body is some depth below the site, or the current monitoring wells.

It should be appreciated that in former mining areas, such as this, groundwater conditions may still be changing in response to the cessation or reduction in pumping from underground coal workings.

5.0 Discussion of Gas Risk

The gas risk assessment process in mining areas needs to consider the risk from mines gas, and also any other sources of ground gas. The calculation of a Gas Screening Value (GSV) and an associated site Characteristic Situation (CS) as per CIRIA C665:2007 is not on its own suitable in mining areas. However, the generation of a GSV and CS can indicate possible levels of gas risk from shallow gasses.

Using the CL/AIRE gas risk assessment flow chart, as shown in Insert 3 below, the site would be classified as high risk, and a detailed mine gas risk assessment would need to be carried out, which would supersede and GSV or CS derived for the site. This is because relatively shallow (<30m) workings are expected below the site, the monitoring information shows that they are not flooded



Insert 3: Extract of CL/AIRE gas risk assessment flow chart.

For information purposed only, the values from the shallow and deep response zone wells were used to generate Gas Screening Values (GSV) appropriate for the site using the methodology published in CIRIA C665 (Wilson et al, 2007). The calculated GSVs for the site are presented in Table 3:

Table 3: Gas Screening Values (based on existing visits)

		Maximum Recorded Level (%)	Maximum Gas Flow Rate (L/hr)	GSV (L/hr)
Shallow Wells	Methane	<0.1	6.3	0.0063
	Carbon dioxide	2.1	6.3	0.13
Deeper Wells	Methane	<0.1	63	0.063
	Carbon dioxide	3.1	63	1.95
Notes to Table 3: 1. GSV calculated using method derived in CIRIA 665 (2007).				

On the basis of the above calculated GSV, the site may be classified as Characteristic Situation CS-2 for a residential development (CIRIA C665:2007).

Our work at the site to investigation geotechnical aspects recommended that the site be drilled and grouted to prevent the risk of subsidence. It is considered likely that the grouting of the underground voids/workings would change the current ground gas regime and further monitoring and assessment should be done following completing the grouting to understand the gas regime at that point. We would recommend the total grouting below the site to help minimise the potential for ground gas below the site, this would also have the benefit of reducing geotechnical risks for other areas of the site, roadways, parking and soft landscaping.

The concentrations of gases measured in the boreholes has been reviewed against a ternary plot to understand if the gases are likely to be from aerobic soil respiration or thermogenic methane (coal workings). This generally showed that the concentrations are likely to be from microbial respiration of organic material, in both the shallow and deeper response zone wells.

Given the above, it is considered possible, that with the proposed grouting process and the monitoring within the shallow wells, that there may be a low to moderate risk of ground gas below the site, however, it is not possible to confirm at this stage and a stage of further monitoring and assessment will be required after the grouting is complete.

A steady state of hydrogen sulphide was noted in on well on one occasion. There is no obvious source of the gas and further investigation and assessment will be needed to understand the source of the gas.

6.0 Recommendations

- The proposed drill and grout treatment should be carried out and this should allow the confirmation of the ground model. This dense spread of boreholes, along with site preparation works (clearance) would provide confidence in the absence of possible unrecorded mineshafts/entries at the site.
- All the existing wells on site should be protected from future works to enable continuation of monitoring. This process may require robust protection, such as concrete rings, permanent fencing to ensure their protection.
- Undertake gas monitoring after the drilling and grouting is completed via spot monitoring or continuous monitoring if shorter time periods are desired. The length of monitoring carried out should satisfy regulators, guidance or be sufficient to determine the ground gas model at the site.
- Additional investigation and monitoring to understand hydrogen sulphide gas measured in R0204.
- Complete a detailed mine gas risk assessment.

- Structural engineers may need to design site specific gas protection measures that may include alterations to structural design/form.
- Project managers to allow time for the gas monitoring, elements of assessment/design following completion of the grouting.

We trust that the above meets with your present requirements. If you have any further queries, please do not hesitate to contact us.

Yours sincerely,



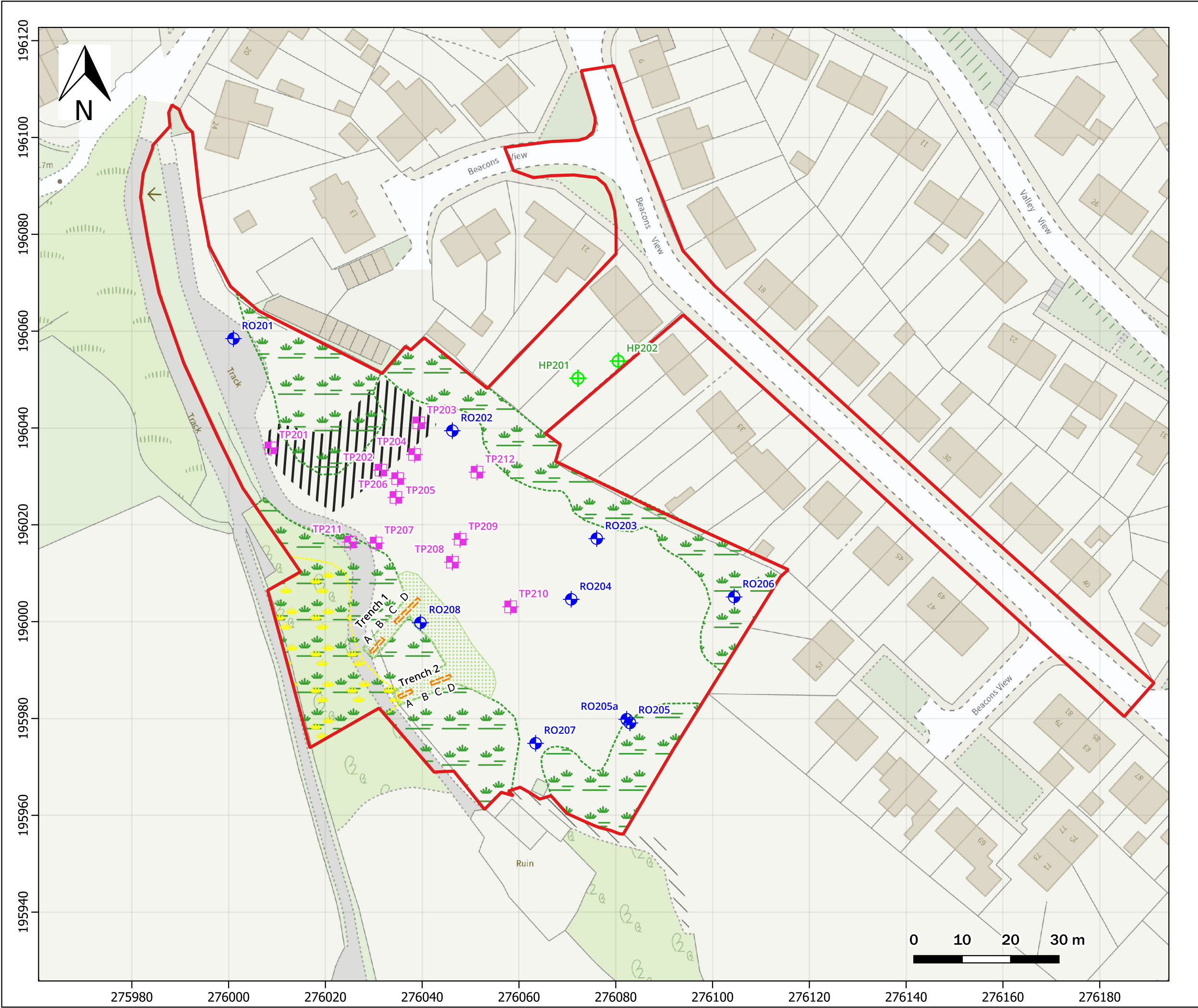
Mat Elcock

Enc. Figure 1: Investigation Point Plan
Figure 2: Conceptual Ground Model

Enclosure A: Borehole Records
Enclosure B: Gas Monitoring Results

References:

- BRITISH STANDARDS INSTITUTION (BSI). 2019. Code of Practice for the Characterisation and Remediation from Ground Gas in Affected Developments. BS8485:2019. HMSO, London.
- BRITISH STANDARDS INSTITUTION (BSI). 2013. Guidance on Investigations for Ground Gas – Permanent Gases and Volatile Organic Compounds (VOCs). BS8576:2013. HMSO, London.
- CL/AIRE Good Practice for Risk Assessments for Caol Mine Gas Emission, October 2021.
- Earth Science Partnership. Ref: ESP.7614mte.03.3951. September 2022.
- MALLETT, H., COX, L., WILSON, S. and CORBAN, M. Good practice on the testing and verification of protection systems for buildings against hazardous ground gases (C735). CIRIA, London, 2014.
- WILSON S, OLIVER S, MALLETT H, HUTCHINGS H and CARD G. 2007. Assessing Risks Posed by Hazardous Ground Gases to Buildings. CIRIA C665.
- WILSON S, CARD G and HAINES S. 2009. Ground Gas Handbook. Whittles Publishing.



LEGEND:

- Site Boundary
- Zone of Demolition Rubble

Vegetation

- Area of cleared vegetation
- Vegetation
- Japanese Knotweed

ESP Investigation Points (Oct, 2024)

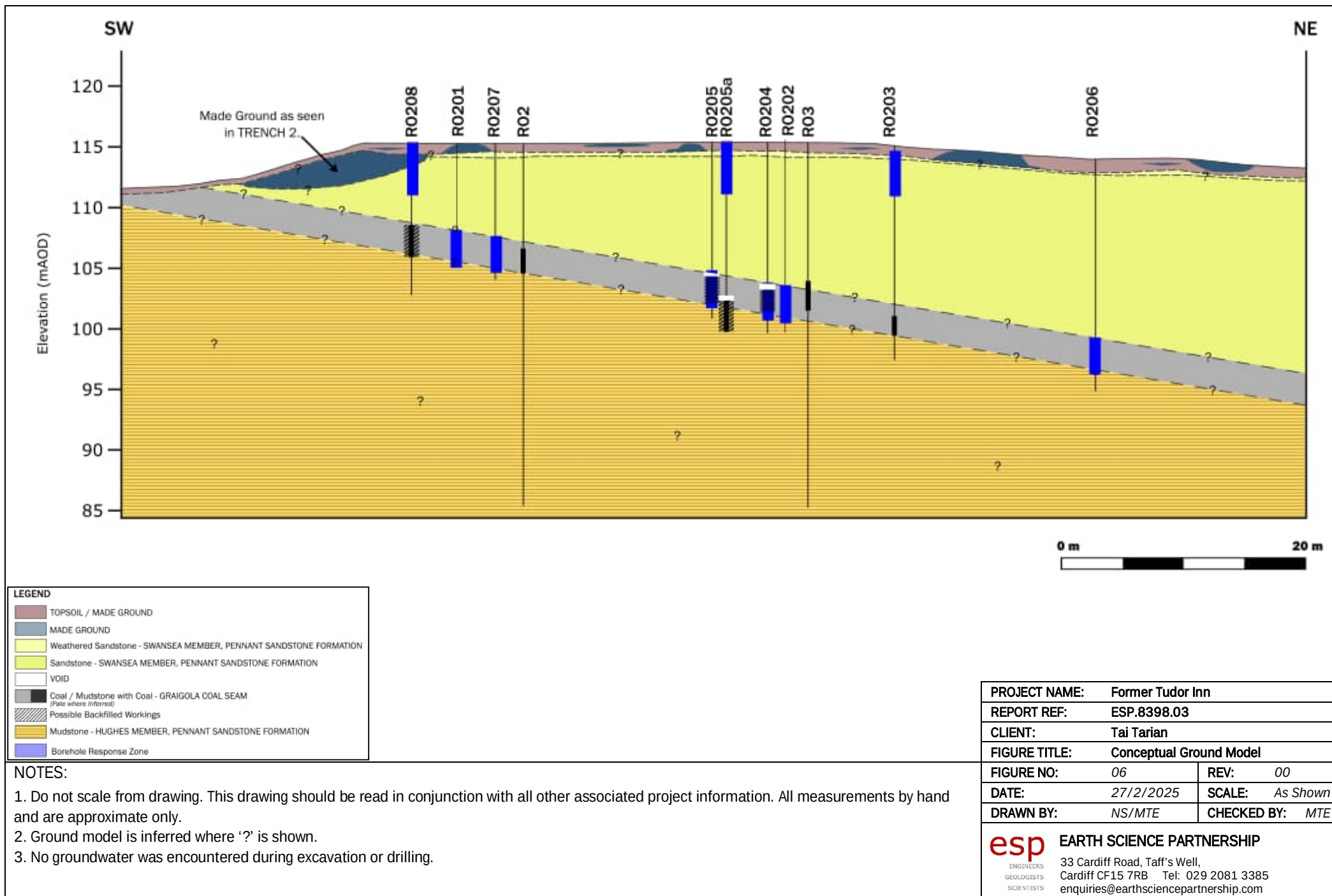
- Rotary Open Boreholes
- Trial Pits
- Hand Pits
- Trenches

NOTES:

1. Do not scale from drawing. This drawing should be read in conjunction with all other associated project information. Site features are approximate locations.

2. Contains OS data © Crown copyright and database right (2024). Data may be re-used under the terms of the Open Government Licence (OGL).

PROJECT NAME:	Former Tudor Inn Cimla, Neath	
REPORT REF:	ESP.8398.03	
CLIENT:	Tai Tarian	
FIGURE TITLE:	Investigation Point Plan	
FIGURE NO: 01	REV.: 00	
DATE: 04/12/2024	SCALE: 1: 750	
DRAWN BY: NS	CHECKED BY: MTE	



Earth Science Partnership

Consulting Engineers | Geologists | Environmental Scientists

Project Name:
Former Tudor Inn

Site Location:
Cimla, Neath

Client:
Tai Tarian

Project No:
8398.03

Drilling method
Rotary open hole

Equipment
Fraste Multidrill P.L.G

Ground Level: 114.00 mOD

Easting: 276001 m

Northing: 196059 m

RO201

Start date: 28/10/2024

Driller: APEX - TD/JB

End date: 28/10/2024

Logged by: APEX - TD/JB

Backfill date: 28/10/2024

Date logged: 28/10/2024

Core Details and SPT Data							Strata Details			Water	Depth		Backfill/ Install- ations
Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N	Depth	Description	Legend	Strikes/ Standing	Depth (Thickness)	mOD	
					0.10 - 0.20/ES 0.30 - 0.40/ES			Loose TARMACADAM. (MADE GROUND)			(0.05) 0.05	113.95 113.70	
							0.5	Red and brown sandy silty fine to coarse angular to sub-rounded GRAVEL. (MADE GROUND)			(0.25) 0.30 (0.10)	113.60	
							1.0	Grey and yellow-brown sandy silty fine to coarse angular sandstone GRAVEL with low sandstone cobble content. (Grade IV PENNANT SANDSTONE FORMATION)			0.40		
							1.5						
							2.0	Weathered SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			(3.00)		
							2.5						
							3.0						
							3.5	SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			3.40	110.60	
							4.0						
							4.5				(2.10)		
							5.0						
							5.5	COAL (Drillers Description) (PENNANT SANDSTONE FORMATION)			5.50 (0.10)	108.50 108.40	
							6.0	SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			5.60 (0.40)	108.00	
							6.5	Void. (Drillers Description) (PENNANT SANDSTONE FORMATION)			6.00 (0.30)	107.70	
							7.0	Soft COAL and MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			6.30		
							7.5	Possible Backfilled Workings (Drillers Note).			(1.50)		
							8.0	MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			7.80 (0.20)	106.20 106.00	
							8.5	COAL and MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			8.00 (0.40)	105.60	
							9.0	MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			8.40		
							9.5				(2.10)		

Progress & Standing Water Levels					Water Strikes					Hole Diameter			Casing Diameter	
Date	Time	Hole Depth	Casing Depth	Water Depth	Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed		Hole Depth	Casing Depth
													10.50	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 0.4m depth.

3. No groundwater encountered.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 5.5 and 8.4m depth.

Earth Science Partnership Consulting Engineers Geologists Environmental Scientists			Project Name: Former Tudor Inn Site Location: Cimla, Neath Client: Tai Tarian Project No: 8398.03		Drilling method Rotary open hole Equipment Fraste Multidrill P.L.G Ground Level: 114.00 mOD Easting: 276001 m Northing: 196059 m		RO201		
Start date: 28/10/2024 End date: 28/10/2024 Backfill date: 28/10/2024		Driller: APEX - TD/IB Logged by: APEX - TD/IB Date logged: 28/10/2024							

Core Details and SPT Data							Strata Details			Water	Depth		Backfill/ Install- ations
Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N	Depth	Description	Legend	Strikes/ Standing	Depth (Thickness)	mOD	
							10.5	MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			10.50	103.50	
							11.0						
							11.5						
							12.0						
							12.5						
							13.0						
							13.5						
							14.0						
							14.5						
							15.0						
							15.5						
							16.0						
							16.5						
							17.0						
							17.5						
							18.0						
							18.5						
							19.0						
							19.5						

Progress & Standing Water Levels					Water Strikes							Hole Diameter		Casing Diameter	
Date	Time	Hole Depth	Casing Depth	Water Depth	Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed	Hole Depth	Hole Diameter	Casing Diameter	Casing Depth
												10.50	97	115	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 0.4m depth.

3. No groundwater encountered.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 5.5 and 8.4m depth.

Earth Science Partnership

Consulting Engineers | Geologists | Environmental Scientists

Project Name:
Former Tudor Inn

Site Location:
Cimla, Neath

Client:
Tai Tarian

Project No:
8398.03

Drilling method
Rotary open hole

Equipment
Fraste Multidrill P.L.G

Ground Level: 114.00 mOD

Easting: 276046 m

Northing: 196040 m

RO202

Start date: 28/10/2024

Driller: APEX - TD/IB

End date: 28/10/2024

Logged by: APEX - TD/IB

Backfill date: 28/10/2024

Date logged: 28/10/2024

Core Details and SPT Data							Strata Details			Water	Depth		Backfill/ Install- ations
Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N	Depth	Description	Legend	Strikes/ Standing	Depth (Thickness)	mOD	
					0.00/D			Grass over COBBLES with much brown-black sandy gravelly CLAY.					
					0.30 - 0.40/ES		0.5	Gravel and cobbles of angular brick, concrete, tile and other demolition material and occasional ACM Cement roofing fragment. (MADE GROUND)			(0.80)		
					0.50 - 0.60/ES		1.0	Angular to sub-rounded sandstone COBBLES with much grey sandy silty fine to coarse angular sandstone GRAVEL. (Grade IV to III PENNANT SANDSTONE FORMATION)			0.80 (0.40)	113.20	
							1.5	Weathered SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			1.20	112.80	
							2.0						
							2.5						
							3.0						
							3.5						
							4.0						
							4.5	SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			4.30	109.70	
							5.0						
							5.5						
							6.0						
							6.5						
							7.0						
							7.5				(6.10)		
							8.0						
							8.5						
							9.0						
							9.5						

Progress & Standing Water Levels					Water Strikes								Hole Diameter		Casing Diameter	
Date	Time	Hole Depth	Casing Depth	Water Depth	Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed		Hole Depth	Hole Diameter	Casing Diameter	Casing Depth
													16.00	97	115	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 1.2m depth.

3. Moderate groundwater ingress within inspection pit from 1.0m. Water filling the inspection pit had a dull black sheen. Borehole 'wet' (drillers description) from 3.2m depth.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 10.4 and 13.8m depth.

Earth Science Partnership

Consulting Engineers | Geologists | Environmental Scientists

Project Name:
Former Tudor Inn

Site Location:
Cimla, Neath

Client:
Tai Tarian

Project No:
8398.03

Drilling method
Rotary open hole

Equipment
Fraste Multidrill P.L.G

Ground Level: 114.00 mOD

Easting: 276046 m

Northing: 196040 m

RO202

Start date: 28/10/2024

Driller: APEX - TD/IB

End date: 28/10/2024

Logged by: APEX - TD/IB

Backfill date: 28/10/2024

Date logged: 28/10/2024

Core Details and SPT Data							Strata Details			Water	Depth		Backfill/ Install- ations
Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N	Depth	Description	Legend	Strikes/ Standing	Depth (Thickness)	mOD	
								SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)					
							10.5	COAL (Drillers Description) (PENNANT SANDSTONE FORMATION)			10.40 (0.10)	103.60 103.50	
							11.0	MUDSTONE with coal traces. (Drillers Description) (PENNANT SANDSTONE FORMATION)					
							11.5				(1.80)		
							12.0						
							12.5	Void. (Drillers Description) (PENNANT SANDSTONE FORMATION)			12.30 (0.20)	101.70 101.50	
							13.0	Soft COAL and MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)					
							13.5	Possible Backfilled Workings (Drillers Note).			(1.30)		
							14.0	MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			13.80	100.20	
							14.5						
							15.0				(2.20)		
							15.5						
							16.0				16.00	98.00	
							16.5						
							17.0						
							17.5						
							18.0						
							18.5						
							19.0						
							19.5						

Progress & Standing Water Levels					Water Strikes							Hole Diameter		Casing Diameter	
Date	Time	Hole Depth	Casing Depth	Water Depth	Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed	Hole Depth	Hole Diameter	Casing Diameter	Casing Depth
												16.00	97	115	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 1.2m depth.

3. Moderate groundwater ingress within inspection pit from 1.0m. Water filling the inspection pit had a dull black sheen. Borehole 'wet' (drillers description) from 3.2m depth.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 10.4 and 13.8m depth.

Earth Science Partnership

Consulting Engineers | Geologists | Environmental Scientists

Project Name:
Former Tudor Inn

Site Location:
Cimla, Neath

Client:
Tai Tarian

Project No:
8398.03

Drilling method
Rotary open hole

Equipment
Fraste Multidrill P.L.G

Ground Level: 113.00 mOD

Easting: 276076 m

Northing: 196018 m

RO203

Start date: 28/10/2024

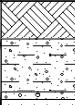
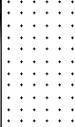
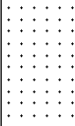
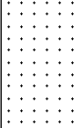
Driller: APEX - TD/IB

End date: 30/10/2024

Logged by: APEX - TD/IB

Backfill date: 30/10/2024

Date logged: 30/10/2024

Core Details and SPT Data							Strata Details			Water	Depth		Backfill/ Install- ations
Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N	Depth	Description	Legend	Strikes/ Standing	Depth (Thickness)	mOD	
					0.10 - 0.20/ES 0.30 - 0.40/ES		0.5	Grass over soft dark brown slightly sandy very fine to coarse sub-angular to sub-rounded gravelly CLAY. (TOPSOIL)			(0.25) 0.25 (0.35) 0.60 (0.05) 0.65	112.75 112.40 112.35	
							1.0	Soft orange-brown slightly sandy very gravelly CLAY. Gravel is fine to coarse angular to sub-rounded sandstone and mudstone. (Grade V to IV PENNANT SANDSTONE FORMATION)					
							1.5	Angular to sub-rounded sandstone COBBLES with much grey sandy silty fine to coarse angular sandstone GRAVEL. (Grade IV to III PENNANT SANDSTONE FORMATION)					
							2.0	SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)					
							2.5						
							3.0						
							3.5						
							4.0						
							4.5						
							5.0						
							5.5						
							6.0						
							6.5						
							7.0						
							7.5				(13.55)		
							8.0						
							8.5						
							9.0						
							9.5						

Progress & Standing Water Levels					Water Strikes								Hole Diameter		Casing Diameter	
Date	Time	Hole Depth	Casing Depth	Water Depth	Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed		Hole Depth	Hole Diameter	Casing Diameter	Casing Depth
													17.50	97	115	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 0.65m depth.

3. No groundwater encountered.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 1.0 and 4.0m depth.

Earth Science Partnership Consulting Engineers Geologists Environmental Scientists			Project Name: Former Tudor Inn Site Location: Cimla, Neath Client: Tai Tarian Project No: 8398.03		Drilling method Rotary open hole Equipment Fraste Multidrill P.L.G Ground Level: 113.00 mOD Easting: 276076 m Northing: 196018 m		RO203			
Start date: 28/10/2024 End date: 30/10/2024 Backfill date: 30/10/2024		Driller: APEX - TD/IB Logged by: APEX - TD/IB Date logged: 30/10/2024								

Core Details and SPT Data							Strata Details			Water	Depth		Backfill/ Install- ations
Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N	Depth	Description	Legend	Strikes/ Standing	Depth (Thickness)	mOD	
								SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)					
							10.5						
							11.0						
							11.5						
							12.0						
							12.5						
							13.0						
							13.5						
							14.0						
							14.5	COAL with mudstone bands (Drillers Description). (PENNANT SANDSTONE FORMATION)			14.20	98.80	
							15.0				(1.40)		
							15.5						
							16.0	MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			15.60	97.40	
							16.5				(1.90)		
							17.0						
							17.5				17.50	95.50	
							18.0						
							18.5						
							19.0						
							19.5						

Progress & Standing Water Levels					Water Strikes							Hole Diameter			Casing Diameter	
Date	Time	Hole Depth	Casing Depth	Water Depth	Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed				Hole Depth	Hole Diameter
															17.50	97
															115	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 0.65m depth.

3. No groundwater encountered.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 1.0 and 4.0m depth.

Earth Science Partnership

Consulting Engineers | Geologists | Environmental Scientists

Project Name:
Former Tudor Inn

Site Location:
Cimla, Neath

Client:
Tai Tarian

Project No:
8398.03

Drilling method
Rotary open hole

Equipment
Fraste Multidrill P.L.G

Ground Level: 115.00 mOD

Easting: 276071 m

Northing: 196005 m

RO204

Start date: 28/10/2024

Driller: APEX - TD/IB

End date: 30/10/2024

Logged by: APEX - TD/IB

Backfill date: 30/10/2024

Date logged: 30/10/2024

Core Details and SPT Data							Strata Details			Water	Depth		Backfill/ Install- ations
Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N	Depth	Description	Legend	Strikes/ Standing	Depth (Thickness)	mOD	
					0.10 - 0.20/ES		0.5	Grass over soft dark brown slightly sandy very fine to coarse sub-angular to sub-rounded gravelly CLAY. (TOPSOIL)			(0.30)		
							1.0	Angular to sub-rounded sandstone COBBLES with much grey sandy silty fine to coarse angular sandstone GRAVEL. (Grade IV to III PENNANT SANDSTONE FORMATION)			0.30	114.70	
							1.5	SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			(0.20)	114.50	
							2.0				0.50		
							2.5						
							3.0						
							3.5						
							4.0						
							4.5						
							5.0						
							5.5						
							6.0						
							6.5				(11.80)		
							7.0						
							7.5						
							8.0						
							8.5						
							9.0						
							9.5						

Progress & Standing Water Levels					Water Strikes							Hole Diameter		Casing Diameter	
Date	Time	Hole Depth	Casing Depth	Water Depth	Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed	Hole Depth	Hole Diameter	Casing Diameter	Casing Depth
												15.50	97	115	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 0.5m depth.

3. No groundwater encountered.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 12.3 and 13.9m depth.

Earth Science Partnership

Consulting Engineers | Geologists | Environmental Scientists

Project Name:
Former Tudor Inn

Site Location:
Cimla, Neath

Client:
Tai Tarian

Project No:
8398.03

Drilling method
Rotary open hole

Equipment
Fraste Multidrill P.L.G

Ground Level: 115.00 mOD

Easting: 276071 m

Northing: 196005 m

RO204

Start date: 28/10/2024

End date: 30/10/2024

Backfill date: 30/10/2024

Driller: APEX - TD/IB

Logged by: APEX - TD/IB

Date logged: 30/10/2024

Core Details and SPT Data							Strata Details			Water	Depth		Backfill/ Install- ations
Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N	Depth	Description	Legend	Strikes/ Standing	Depth (Thickness)	mOD	
							10.5	SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)					
							11.0						
							11.5						
							12.0						
							12.5	Void. (Drillers Description) (PENNANT SANDSTONE FORMATION)			12.30 (0.30)	102.70	
							13.0	Soft COAL and MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			12.60	102.40	
					12.30 - 13.90/ D		13.5	Possible Backfilled Workings (Drillers Note).			(1.30)		
							14.0	MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			13.90	101.10	
							14.5				(1.60)		
							15.0						
							15.5				15.50	99.50	
							16.0						
							16.5						
							17.0						
							17.5						
							18.0						
							18.5						
							19.0						
							19.5						

Progress & Standing Water Levels					Water Strikes							Hole Diameter		Casing Diameter	
Date	Time	Hole Depth	Casing Depth	Water Depth	Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed	Hole Depth	Hole Diameter	Casing Diameter	Casing Depth
												15.50	97	115	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 0.5m depth.

3. No groundwater encountered.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 12.3 and 13.9m depth.

Earth Science Partnership

Consulting Engineers | Geologists | Environmental Scientists

Project Name:
Former Tudor Inn

Site Location:
Cimla, Neath

Client:
Tai Tarian

Project No:
8398.03

Drilling method
Rotary open hole

Equipment
Fraste Multidrill P.L.G

Ground Level: 115.00 mOD

Easting: 276083 m

Northing: 195979 m

RO205

Start date: 28/10/2024

Driller: APEX - TD/IB

End date: 29/10/2024

Logged by: APEX - TD/IB

Backfill date: 29/10/2024

Date logged: 29/10/2024

Core Details and SPT Data							Strata Details			Water	Depth		Backfill/ Install- ations
Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N	Depth	Description	Legend	Strikes/ Standing	Depth (Thickness)	mOD	
					0.10 - 0.20/ES		0.5	Ferns over soft dark brown slightly sandy slightly gravelly silty CLAY. (TOPSOIL)			(0.25) 0.25 (0.35) 0.60	114.75 114.40	
							1.0	Angular to sub-rounded sandstone COBBLES with much grey sandy silty fine to coarse angular sandstone GRAVEL. (Grade IV to III PENNANT SANDSTONE FORMATION)					
							1.5	SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)					
							2.0						
							2.5						
							3.0						
							3.5						
							4.0						
							4.5						
							5.0						
							5.5						
							6.0				(10.60)		
							6.5						
							7.0						
							7.5						
							8.0						
							8.5						
							9.0						
							9.5						

Progress & Standing Water Levels					Water Strikes							Hole Diameter		Casing Diameter	
Date	Time	Hole Depth	Casing Depth	Water Depth	Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed	Hole Depth	Hole Diameter	Casing Diameter	Casing Depth
												14.50	97	115	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 0.6m depth.

3. No groundwater encountered.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 11.2 and 13.2m depth.

Earth Science Partnership

Consulting Engineers | Geologists | Environmental Scientists

Project Name:
Former Tudor Inn

Site Location:
Cimla, Neath

Client:
Tai Tarian

Project No:
8398.03

Drilling method
Rotary open hole

Equipment
Fraste Multidrill P.L.G

Ground Level: 115.00 mOD

Easting: 276083 m

Northing: 195979 m

Start date: 28/10/2024

End date: 29/10/2024

Backfill date: 29/10/2024

Driller: APEX - TD/IB

Logged by: APEX - TD/IB

Date logged: 29/10/2024

RO205

Core Details and SPT Data							Strata Details			Water	Depth		Backfill/ Install- ations
Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N	Depth	Description	Legend	Strikes/ Standing	Depth (Thickness)	mOD	
							10.5	SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)					
							11.0						
							11.5	Void (Drillers Description). (PENNANT SANDSTONE FORMATION)			11.20 (0.30)	103.80	
							12.0	Soft COAL and MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION) Possible Backfilled Workings (Drillers Note).			11.50	103.50	
							12.5				(1.70)		
							13.0						
							13.5	MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			13.20	101.80	
							14.0				(1.30)		
							14.5				14.50	100.50	
							15.0						
							15.5						
							16.0						
							16.5						
							17.0						
							17.5						
							18.0						
							18.5						
							19.0						
							19.5						

Progress & Standing Water Levels					Water Strikes							Hole Diameter		Casing Diameter	
Date	Time	Hole Depth	Casing Depth	Water Depth	Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed	Hole Depth	Hole Diameter	Casing Diameter	Casing Depth
												14.50	97	115	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 0.6m depth.

3. No groundwater encountered.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 11.2 and 13.2m depth.

Earth Science Partnership

Consulting Engineers | Geologists | Environmental Scientists

Project Name:
Former Tudor Inn

Site Location:
Cimla, Neath

Client:
Tai Tarian

Project No:
8398.03

Drilling method
Rotary cored

Equipment
Fraste Multidrill P.L.G

Ground Level: 115.00 mOD

Easting: 276082 m

Northing: 195980 m

RO205a

Start date: 28/10/2024

Driller: APEX - TD/IB

End date: 30/10/2024

Logged by: APEX - TD/IB

Backfill date: 30/10/2024

Date logged: 30/10/2024

Core Details and SPT Data							Strata Details			Water	Depth		Backfill/ Install- ations
Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N	Depth	Description	Legend	Strikes/ Standing	Depth (Thickness)	mOD	
							0.5	Ferns over soft dark brown slightly sandy slightly gravelly silty CLAY. (TOPSOIL)			(0.25) 0.25 (0.35) 0.60	114.75 114.40	
							1.0	Angular to sub-rounded sandstone COBBLES with much grey sandy silty fine to coarse angular sandstone GRAVEL. (Grade IV to III PENNANT SANDSTONE FORMATION)					
							1.5	SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)					
							2.0						
							2.5						
							3.0						
							3.5						
							4.0						
							4.5						
							5.0						
							5.5						
							6.0						
							6.5						
							7.0				(12.60)		
							7.5						
							8.0						
							8.5						
							9.0						
							9.5						

Progress & Standing Water Levels					Water Strikes							Hole Diameter		Casing Diameter	
Date	Time	Hole Depth	Casing Depth	Water Depth	Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed	Hole Depth	Hole Diameter	Casing Diameter	Casing Depth
												15.40	97	115	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 0.6m depth.

3. No groundwater encountered.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 1.0 and 4.0m depth.

Earth Science Partnership

Consulting Engineers | Geologists | Environmental Scientists

Project Name:

Former Tudor Inn

Site Location:

Cimla, Neath

Client:

Tai Tarian

Project No:

8398.03

Drilling method

Rotary cored

Equipment

Fraste Multidrill PLG

Ground Level:

115.00 mOD

Easting:

276082 m

Northing:

195980 m

Start date:

28/10/2024

End date:

30/10/2024

Backfill date:

30/10/2024

Driller:

APEX - TD/IB

Logged by:

APEX - TD/IB

Date logged:

30/10/2024

RO205a

Core Details and SPT Data

Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N
13.20 - 14.70 (1.50)	87	0	0	NI		
14.70 - 15.40 (0.70)	100	0	0	NI		

Strata Details

Depth	Description	Legend
	SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)	
10.5		
11.0		
11.5		
12.0		
12.5		
13.0		
13.20	Probable Loss (ASSUMED PENNANT SANDSTONE FORMATION)	
13.5	Weak grey thinly laminated MUDSTONE. Recovered as; angular coarse to fine GRAVEL. (PENNANT SANDSTONE FORMATION)	
14.0	Black coarse to fine angular gravelly silty SAND. (PENNANT SANDSTONE FORMATION)	
14.5	Weak grey mottled orange thinly laminated MUDSTONE. Recovered as; angular coarse to fine GRAVEL. (PENNANT SANDSTONE FORMATION)	
15.0	Black coarse to fine angular gravelly silty SAND. (PENNANT SANDSTONE FORMATION)	
15.5	At 14.4m depth: 3cm lense of mudstone.	
16.0	Weak grey mottled orange thinly laminated MUDSTONE. Recovered as; angular coarse to fine GRAVEL. (PENNANT SANDSTONE FORMATION)	
16.5	Black sandy silty coarse to fine angular GRAVEL. (PENNANT SANDSTONE FORMATION)	
17.0	At 14.85m depth: Lense of mudstone.	
17.5	At 15m depth: 0.1m bed of mudstone.	
18.0		
18.5		
19.0		
19.5		

Water

Strikes/ Standing

Depth

Depth (Thickness)	mOD
13.20	101.80
(0.20)	101.60
13.40	101.40
(0.20)	13.60
13.60	(0.50)
(0.50)	100.90
14.10	100.80
(0.10)	14.20
14.20	100.40
(0.40)	100.30
14.60	(0.10)
(0.10)	14.70
14.70	(0.70)
(0.70)	99.60
15.40	

Backfill/
Install-
ations

--

Progress & Standing Water Levels

Date	Time	Hole Depth	Casing Depth	Water Depth

Water Strikes

Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed

Hole Diameter

Hole Depth	Hole Diameter
15.40	97

Casing Diameter

Casing Diameter	Casing Depth
115	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 0.6m depth.

3. No groundwater encountered.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 1.0 and 4.0m depth.

Earth Science Partnership

Consulting Engineers | Geologists | Environmental Scientists

Project Name:
Former Tudor Inn

Site Location:
Cimla, Neath

Client:
Tai Tarian

Project No:
8398.03

Drilling method
Rotary cored

Equipment
Fraste Multidrill P.L.G

Ground Level: 115.00 mOD

Easting: 276082 m

Northing: 195980 m

RO205a

Start date: 28/10/2024

Driller: APEX - TD/IB

End date: 30/10/2024

Logged by: APEX - TD/IB

Backfill date: 30/10/2024

Date logged: 30/10/2024

Core Details and SPT Data							Strata Details			Water	Depth		Backfill/ Install- ations
Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N	Depth	Description	Legend	Strikes/ Standing	Depth (Thickness)	mOD	
							0.5	Ferns over soft dark brown slightly sandy slightly gravelly silty CLAY. (TOPSOIL)			(0.25) 0.25 (0.35) 0.60	114.75 114.40	
							1.0	Angular to sub-rounded sandstone COBBLES with much grey sandy silty fine to coarse angular sandstone GRAVEL. (Grade IV to III PENNANT SANDSTONE FORMATION)					
							1.5	SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)					
							2.0						
							2.5						
							3.0						
							3.5						
							4.0						
							4.5						
							5.0						
							5.5						
							6.0						
							6.5						
							7.0				(12.60)		
							7.5						
							8.0						
							8.5						
							9.0						
							9.5						

Progress & Standing Water Levels					Water Strikes								Hole Diameter		Casing Diameter	
Date	Time	Hole Depth	Casing Depth	Water Depth	Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed		Hole Depth	Hole Diameter	Casing Diameter	Casing Depth
													15.40	97	115	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 0.6m depth.

3. No groundwater encountered.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 1.0 and 4.0m depth.

Earth Science Partnership

Consulting Engineers | Geologists | Environmental Scientists

Project Name:
Former Tudor Inn

Site Location:
Cimla, Neath

Client:
Tai Tarian

Project No:
8398.03

Drilling method
Rotary cored

Equipment
Fraste Multidrill PLG

Ground Level: 115.00 mOD

Easting: 276082 m

Northing: 195980 m

Start date: 28/10/2024

End date: 30/10/2024

Backfill date: 30/10/2024

Driller: APEX - TD/IB

Logged by: APEX - TD/IB

Date logged: 30/10/2024

RO205a

Core Details and SPT Data

Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N
13.20 - 14.70 (1.50)	87	0	0	NI		
14.70 - 15.40 (0.70)	100	0	0	NI		

Strata Details

Depth	Description	Legend
	SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)	
10.5		
11.0		
11.5		
12.0		
12.5		
13.0		
13.20	Probable Loss (ASSUMED PENNANT SANDSTONE FORMATION)	
13.5	Weak grey thinly laminated MUDSTONE. Recovered as; angular coarse to fine GRAVEL. (PENNANT SANDSTONE FORMATION)	
14.0	Black coarse to fine angular gravelly silty SAND. (PENNANT SANDSTONE FORMATION)	
14.5	Weak grey mottled orange thinly laminated MUDSTONE. Recovered as; angular coarse to fine GRAVEL. (PENNANT SANDSTONE FORMATION)	
15.0	Black coarse to fine angular gravelly silty SAND. (PENNANT SANDSTONE FORMATION)	
15.5	At 14.4m depth: 3cm lense of mudstone.	
16.0	Weak grey mottled orange thinly laminated MUDSTONE. Recovered as; angular coarse to fine GRAVEL. (PENNANT SANDSTONE FORMATION)	
16.5	Black sandy silty coarse to fine angular GRAVEL. (PENNANT SANDSTONE FORMATION)	
17.0	At 14.85m depth: Lense of mudstone.	
17.5	At 15m depth: 0.1m bed of mudstone.	
18.0		
18.5		
19.0		
19.5		

Water

Strikes/ Standing

Depth

Depth (Thickness)	mOD
13.20	101.80
(0.20)	101.60
13.40	101.40
(0.20)	101.20
13.60	100.90
(0.50)	100.80
14.10	100.40
(0.10)	100.30
14.20	99.60
(0.40)	
14.60	
(0.10)	
14.70	
(0.70)	
15.40	

Backfill/
Install-
ations

--

Progress & Standing Water Levels

Date	Time	Hole Depth	Casing Depth	Water Depth

Water Strikes

Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed

Hole Diameter

Hole Depth	Hole Diameter
15.40	97

Casing Diameter

Casing Diameter	Casing Depth
115	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 0.6m depth.

3. No groundwater encountered.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 1.0 and 4.0m depth.

Earth Science Partnership
Consulting Engineers | Geologists | Environmental Scientists

Consulting Engineers | Geologists | Environmental Scientists

Start date:	28/10/2024
-------------	------------

End date: 29/10/2024

Backfill date: 29/10/2024

Driller: APEX - TD/JB

Logged by: APEX - TD/JB

Date logged: 29/10/2024

Project Name:

Former Tudor Inn

Site Location:

Cimla, Neath

Client:

Tai Tarian

Project No:

8398.03

Drilling method

Rotary open hole

Equipment

Fraste Multidrill PL.G

Ground Level: 114.00 mOD

Easting: 276104 m

Northing: 196005 m

RO206

Core Details and SPT Data							Strata Details			Water	Depth		Backfill/ Install- ations
Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N	Depth	Description	Legend	Strikes/ Standing	Depth (Thickness)	mOD	
					0.10 - 0.20/ES			Bramble and ferns over soft dark brown slightly sandy slightly gravelly silty CLAY. (TOPSOIL)			(0.40)		
					0.50 - 0.60/ES		0.5	Soft orange-brown slightly sandy very gravelly CLAY. Gravel is fine to coarse angular to sub-rounded sandstone and mudstone. (Grade V to IV PENNANT SANDSTONE FORMATION)			0.40	113.60	
							1.0	Angular to sub-rounded sandstone COBBLES with much grey sandy silty fine to coarse angular sandstone GRAVEL. (Grade IV to III PENNANT SANDSTONE FORMATION)			(0.30)	113.30	
							1.5	SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			0.70	113.00	
							2.0				1.00		
							2.5						
							3.0						
							3.5						
							4.0						
							4.5						
							5.0						
							5.5						
							6.0						
							6.5						
							7.0						
							7.5						
							8.0				(13.90)		
							8.5						
							9.0						
							9.5						

Progress & Standing Water Levels					Water Strikes										Hole Diameter		Casing Diameter	
Date	Time	Hole Depth	Casing Depth	Water Depth	Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed				Hole Depth	Hole Diameter	Casing Diameter	Casing Depth
															19.00	97	115	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.
2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 1.0m depth.
3. No groundwater encountered.
4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 14.9 and 17.6m depth.

Earth Science Partnership

Consulting Engineers | Geologists | Environmental Scientists

Project Name:
Former Tudor Inn

Site Location:
Cimla, Neath

Client:
Tai Tarian

Project No:
8398.03

Drilling method
Rotary open hole

Equipment
Fraste Multidrill P.L.G

Ground Level: 114.00 mOD

Easting: 276104 m

Northing: 196005 m

RO206

Start date: 28/10/2024

Driller: APEX - TD/IB

End date: 29/10/2024

Logged by: APEX - TD/IB

Backfill date: 29/10/2024

Date logged: 29/10/2024

Core Details and SPT Data							Strata Details			Water	Depth		Backfill/ Install- ations
Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N	Depth	Description	Legend	Strikes/ Standing	Depth (Thickness)	mOD	
								SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)					
							10.5						
							11.0						
							11.5						
							12.0						
							12.5						
							13.0						
							13.5						
							14.0						
							14.5						
							15.0	MUDSTONE with coal trace (Drillers Description). (PENNANT SANDSTONE FORMATION)			14.90	99.10	
							15.5				(0.90)		
							16.0	COAL (Drillers Description) (PENNANT SANDSTONE FORMATION)			15.80	98.20	
							16.5				(1.80)		
							17.0						
							17.5	MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			17.60	96.40	
							18.0				(1.40)		
							18.5						
							19.0				19.00	95.00	
							19.5						

Progress & Standing Water Levels					Water Strikes							Hole Diameter		Casing Diameter	
Date	Time	Hole Depth	Casing Depth	Water Depth	Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed	Hole Depth	Hole Diameter	Casing Diameter	Casing Depth
												19.00	97	115	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 1.0m depth.

3. No groundwater encountered.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 14.9 and 17.6m depth.

Earth Science Partnership

Consulting Engineers | Geologists | Environmental Scientists

Project Name:
Former Tudor Inn

Site Location:
Cimla, Neath

Client:
Tai Tarian

Project No:
8398.03

Drilling method
Rotary open hole

Equipment
Fraste Multidrill P.L.G

Ground Level: 116.00 mOD

Easting: 276063 m

Northing: 195975 m

Start date: 28/10/2024

End date: 29/10/2024

Backfill date: 29/10/2024

Driller: APEX - TD/IB

Logged by: APEX - TD/IB

Date logged: 29/10/2024

RO207

Core Details and SPT Data							Strata Details			Water	Depth		Backfill/ Install- ations
Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N	Depth	Description	Legend	Strikes/ Standing	Depth (Thickness)	mOD	
					0.10 - 0.20/ES			Grass over soft dark brown slightly sandy silty CLAY. (TOPSOIL)			(0.25) 0.25	115.75	
							0.5	Angular to sub-rounded sandstone COBBLES and some boulders with some grey or orange sandy silty fine to coarse angular sandstone GRAVEL.			(0.85)		
							1.0	(Grade IV to III PENNANT SANDSTONE FORMATION)			1.10	114.90	
							1.5	Boulders up to 0.6x0.5x0.2m observed in the inspection pit.					
							2.0	SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)					
							2.5						
							3.0						
							3.5						
							4.0						
							4.5				(6.90)		
							5.0						
							5.5						
							6.0						
							6.5						
							7.0						
							7.5						
							8.0	COAL (Drillers Description) (PENNANT SANDSTONE FORMATION)			8.00 (0.10)	108.00 107.90	
							8.5	MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			8.10 (0.30)	107.60	
							9.0	COAL with mudstone bands (Drillers Description). (PENNANT SANDSTONE FORMATION)			8.40 (1.40)		
							9.5						
								MUDSTONE (Drillers Description)			9.80	106.20	

Progress & Standing Water Levels					Water Strikes									Hole Diameter		Casing Diameter	
Date	Time	Hole Depth	Casing Depth	Water Depth	Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed			Hole Depth	Hole Diameter	Casing Diameter	Casing Depth
														11.50	97	115	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 1.3 m depth.

3. No groundwater encountered.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 8.0 and 9.8m depth.

Earth Science Partnership

Consulting Engineers | Geologists | Environmental Scientists

Project Name:
Former Tudor Inn

Site Location:
Cimla, Neath

Client:
Tai Tarian

Project No:
8398.03

Drilling method
Rotary open hole

Equipment
Fraste Multidrill P.L.G

Ground Level: 116.00 mOD

Easting: 276063 m

Northing: 195975 m

RO207

Start date: 28/10/2024

Driller: APEX - TD/IB

End date: 29/10/2024

Logged by: APEX - TD/IB

Backfill date: 29/10/2024

Date logged: 29/10/2024

Core Details and SPT Data							Strata Details			Water	Depth		Backfill/ Install- ations
Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N	Depth	Description	Legend	Strikes/ Standing	Depth (Thickness)	mOD	
							10.5	MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			(1.70)		
							11.0						
							11.5				11.50	104.50	
							12.0						
							12.5						
							13.0						
							13.5						
							14.0						
							14.5						
							15.0						
							15.5						
							16.0						
							16.5						
							17.0						
							17.5						
							18.0						
							18.5						
							19.0						
							19.5						

Progress & Standing Water Levels					Water Strikes							Hole Diameter		Casing Diameter	
Date	Time	Hole Depth	Casing Depth	Water Depth	Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed	Hole Depth	Hole Diameter	Casing Diameter	Casing Depth
												11.50	97	115	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 1.3 m depth.

3. No groundwater encountered.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 8.0 and 9.8m depth.

Earth Science Partnership

Consulting Engineers | Geologists | Environmental Scientists

Project Name:
Former Tudor Inn

Site Location:
Cimla, Neath

Client:
Tai Tarian

Project No:
8398.03

Drilling method
Rotary open hole

Equipment
Fraste Multidrill P.L.G

Ground Level: 116.00 mOD

Easting: 276040 m

Northing: 196000 m

RO208

Start date: 28/10/2024

Driller: APEX - TD/JB

End date: 28/10/2024

Logged by: APEX - TD/JB

Backfill date: 28/10/2024

Date logged: 28/10/2024

Core Details and SPT Data							Strata Details			Water	Depth		Backfill/Installations
Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N	Depth	Description	Legend	Strikes/Standing	Depth (Thickness)	mOD	
					0.20 - 0.30/ES			Grass over soft dark brown slightly sandy silty CLAY. (TOPSOIL)			(0.40)		
							0.5	Soft orange-brown slightly sandy very gravelly CLAY. Gravel is fine to coarse angular to sub-rounded sandstone and mudstone. (Grade V to IV			0.40	115.60	
							1.0	PENNANT SANDSTONE FORMATION)			(0.10)	115.50	
					1.10 - 1.20/B		1.5	North-East Face: Angular to sub-rounded sandstone COBBLES with much grey sandy silty fine to coarse angular sandstone GRAVEL. (Grade IV to III			(0.80)		
					1.10 - 1.20/D		2.0	PENNANT SANDSTONE FORMATION)South-West Face: Grey mudstone COBBLES with much dark grey sandy very clayey coarse to fine angular mudstone GRAVEL with			1.30	114.70	
							2.5	lenses of black clay. (Possible MADE GROUND or Grade IV to VI					
							3.0	PENNANT SANDSTONE FORMATION)			(3.50)		
							3.5	Weathered SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)					
							4.0						
							4.5						
							5.0	MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			4.80	111.20	
							5.5	SANDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			(0.50)		
							6.0				5.30	110.70	
							6.5				(1.40)		
							7.0	COAL (Drillers Description) (PENNANT SANDSTONE FORMATION)			6.70	109.30	
							7.5	MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			(0.10)	109.20	
							8.0	MUDSTONE with coal trace (Drillers Description). (PENNANT SANDSTONE FORMATION)			6.80	108.70	
							8.5	Possible Backfilled Workings (Drillers Note).			(0.50)		
							9.0	COAL (Drillers Description) (PENNANT SANDSTONE FORMATION)			7.30	108.20	
							9.5	MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			(0.50)		

Progress & Standing Water Levels					Water Strikes					Hole Diameter			Casing Diameter	
Date	Time	Hole Depth	Casing Depth	Water Depth	Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed		Hole Depth	Casing Depth
													11.50	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 1.1m depth.

3. No groundwater encountered.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 0.8 and 4.0m depth.

Earth Science Partnership Consulting Engineers Geologists Environmental Scientists			Project Name: Former Tudor Inn Site Location: Cimla, Neath Client: Tai Tarian Project No: 8398.03		Drilling method Rotary open hole Equipment Fraste Multidrill P.L.G Ground Level: 116.00 mOD Easting: 276040 m Northing: 196000 m		RO208			
Start date: 28/10/2024 End date: 28/10/2024 Backfill date: 28/10/2024		Driller: APEX - TD/IB Logged by: APEX - TD/IB Date logged: 28/10/2024								

Core Details and SPT Data							Strata Details			Water	Depth		Backfill/ Install- ations
Depth (Length)	TCR (%)	SCR (%)	RQD (%)	FI	Sample	SPT-N	Depth	Description	Legend	Strikes/ Standing	Depth (Thickness)	mOD	
							10.5	MUDSTONE (Drillers Description) (PENNANT SANDSTONE FORMATION)			(2.40)		
							11.0						
							11.5					11.50	
							12.0						
							12.5						
							13.0						
							13.5						
							14.0						
							14.5						
							15.0						
							15.5						
							16.0						
							16.5						
							17.0						
							17.5						
							18.0						
							18.5						
							19.0						
							19.5						

Progress & Standing Water Levels					Water Strikes										Hole Diameter		Casing Diameter	
Date	Time	Hole Depth	Casing Depth	Water Depth	Date	Time	Strike Depth	Casing Depth	Elapsed Minutes	Depth to Water	Depth Sealed				Hole Depth	Hole Diameter	Casing Diameter	Casing Depth
															11.50	97	115	1.20

General Remarks

1. Co-ordinates and ground levels of investigation points obtained by a recent ordnance survey map and are approximate only.

2. Service plans reviewed and area CAT scanned prior to breaking ground. Hand excavated service inspection pit refused on sandstone bedrock at 1.1m depth.

3. No groundwater encountered.

4. 50mm diameter gas and groundwater monitoring well installed upon completion with a response zone between 0.8 and 4.0m depth.

esp
ENGINEERS
GEOLOGISTS
SCIENTISTS

1

Well ID:	RO201	Well dia.(mm):	50	Date installed:	28/11/2024	Response stratum:		Interbedded Coal and Mudstone		
		Well depth (m):					Groundwater depth (m):			
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading										
After 30 Seconds										
After 1 Minute										
After 2 Minutes										
Steady State										
min		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
max		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:		0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:		0.00 L/hr	Carbon Dioxide	0 L/hr	
Comments:		Well cover and bung removed								

Well ID:	RO203	Well dia.(mm):	50	Date installed:	30/11/2024	Response stratum:	Shallow Sandstone		
Monitored Variables		Well depth (m):	Groundwater depth (m):						
Immediate Reading	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
After 30 Seconds									
After 1 Minute									
After 2 Minutes									
After 3 Minutes									
Steady State									
min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0 L/hr	
Comments:	Well cover and bung removed								

Well ID:	RO205	Well dia.(mm):	50	Date installed:	29/11/2024	Response stratum:	Interbedded Coal and Mudstone		
Well depth (m):					Groundwater depth (m):				
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading									
After 30 Seconds									
After 1 Minute									
After 2 Minutes									
After 3 Minutes									
Steady State									
min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)				Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)				Methane:	0.00 L/hr		Carbon Dioxide	0 L/hr	
Comments: Well cover and bung removed									

Well ID:	R0205a	Well dia.(mm):	50		Date installed:	30/11/2024		Response stratum:	Shallow Sandstone	
		Well depth (m):					Groundwater depth (m):			
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)	
Immediate Reading										
After 30 Seconds										
After 1 Minute										
After 2 Minutes										
After 3 Minutes										
Steady State										
min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0 L/hr	
Comments:		Well cover and bung removed								

Well ID:	R0206	Well dia.(mm):	50	Date installed:	29/11/2024	Response stratum:		Interbedded Coal and Mudstone		
		Well depth (m):				Groundwater depth (m):				
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading										
After 30 Seconds										
After 1 Minute										
After 2 Minutes										
After 3 Minutes										
	min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	#REF! L/hr		Carbon Dioxide	#REF! L/hr	
Comments:		Well cover and bung removed								

Well ID:	R0207	Well dia.(mm):	50	Date installed:	29/11/2024	Response stratum:	Interbedded Coal and Mudstone		
		Well depth (m):				Groundwater depth (m):			
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading									
After 30 Seconds									
After 1 Minute									
After 2 Minutes									
After 3 Minutes									
min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)				Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)				Methane:	#REF! L/hr		Carbon Dioxide	#REF! L/hr	
Comments:	Well cover and bung removed								

Well ID:	R0208	Well dia.(mm):	50	Date installed:	28/11/2024	Response stratum:		Shallow Sandstone		
		Well depth (m):				Groundwater depth (m):				
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading										
After 30 Seconds										
After 1 Minute										
After 2 Minutes										
After 3 Minutes										
Steady State										
min		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
max		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0 L/hr	
Comments:		Well cover and bung removed								

Key:
dP - differential pressure (well-atmosphere)
LEL - Lower Explosive Limit (methane)
N₂ - nitrogen
CO₂ - carbon dioxide
TS - Topsoil, MG - Made Ground, BTS - Buried Topsoil, GD - Glacial Diamiction, WR - Weathered Rock, R - Rock, C - Coal, G - Grout
CH₄ - methane
O₂ - oxygen
H₂S - Hydrogen sulphide
PID - measure of volatile organic compounds

Date:	29/11/2024	Atmospheric Pressure (start):	1,004 mb	Trend:	Rising
Time:	10:20	Atmospheric Pressure (end):	1,005 mb		
Engineer:	JA	Site Status:	Open grass with demolished building		
Weather:	Clear, dry, very cold	Ground Conditions:	Dry Ground		
Instrument:	Gas Data LMSxi G3.18e meter	Next Calibration Due Date:	16/8/2025		
Instrument:	Phocheck 2000+ PID	Next Calibration Due Date:	09/11/2025		

Well ID:	R0202	Well dia.(mm):	50	Date installed:	28/11/2024	Response stratum:	Interbedded Coal and Mudstone			
		Well depth (m):	14.83			Groundwater depth (m):	13.47			
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	<<<<	81.9	0.0	-0.5	18.6	0.0	0.0	0.3
After 30 Seconds		0.0	<<<<	81.2	1.7	-0.5	17.6	0.0	0.0	0.4
After 1 Minute		0.0	<<<<	81.8	1.7	-0.6	17.1	0.0	0.0	0.1
After 2 Minutes		0.0	<<<<	81.9	1.7	-0.6	17.0	0.0	0.0	0.1
After 3 Minutes		0.0	<<<<	82.0	1.7	-0.6	16.9	0.0	0.0	0.1
After 4 Minutes		0.0	<<<<	82.0	1.7	-0.6	16.9	0.0	0.0	0.1
After 5 Minutes		0.0	<<<<	82.1	1.7	-0.7	16.9	0.0	0.0	0.1
After 6 Minutes		0.0	<<<<	82.1	1.7	-0.7	16.9	0.0	0.0	0.1
After 7 Minutes		0.0	<<<<	82.1	1.7	-0.7	16.9	0.0	0.0	0.1
After 8 Minutes		0.0	<<<<	82.1	1.7	-0.7	16.9	0.0	0.0	0.1
After 9 Minutes		0.0	<<<<	82.1	1.7	-0.7	16.9	0.0	0.0	0.1
After 10 Minutes		0.0	<<<<	82.1	1.7	-0.7	16.9	0.0	0.0	0.1
Steady State		0.0	<<<<	82.1	1.7	-0.7	16.9	0.0	0.0	0.1
min		0.0	0.0	81.2	0.0	-0.7	16.9	0.0	0.0	0.1
max		0.0	0.0	82.1	1.7	-0.5	18.6	0.0	0.0	0.4
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)				Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)				Methane:	0.00 L/hr		Carbon Dioxide	0 L/hr		
Comments:										

Well ID:	R0203	Well dia.(mm):	50		Date installed:	30/11/2024		Response stratum:		Shallow Sandstone		
		Well depth (m):	4.00					Groundwater depth (m):		Dry		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)		
Immediate Reading		5.0	<<<<	82.1	0.0	-0.6	18.5	0.0	0.9	0.1		
After 30 Seconds		5.0	<<<<	81.8	1.4	-0.6	17.4	0.0	0.9	0.3		
After 1 Minute		5.0	<<<<	82.2	1.5	-0.6	16.9	0.0	0.9	0.3		
After 2 Minutes		5.0	<<<<	82.4	1.5	-0.6	16.7	0.0	0.9	0.3		
After 3 Minutes		5.0	<<<<	82.5	1.5	-0.6	16.6	0.0	0.9	0.3		
After 4 Minutes		5.0	<<<<	82.4	1.5	-0.6	16.7	0.0	0.9	0.3		
After 5 Minutes		5.0	<<<<	82.4	1.5	-0.6	16.7	0.0	0.9	0.3		
After 6 Minutes		5.0	<<<<	82.4	1.5	-0.6	16.7	0.0	0.9	0.3		
After 7 Minutes		5.0	<<<<	82.4	1.5	-0.6	16.7	0.0	0.9	0.3		
After 8 Minutes		5.0	<<<<	82.4	1.5	-0.7	16.8	0.0	0.9	0.3		
After 9 Minutes		5.0	<<<<	82.3	1.5	-0.7	16.9	0.0	0.9	0.3		
After 10 Minutes		5.0	<<<<	82.3	1.5	-0.7	16.9	0.0	0.9	0.3		
Steady State		5.0	<<<<	82.3	1.5	-0.7	16.9	0.0	0.9	0.3		
<i>min</i>		5.0	0.0	81.8	0.0	-0.7	16.6	0.0	0.9	0.1		
<i>max</i>		5.0	0.0	82.5	1.5	-0.6	18.5	0.0	0.9	0.3		
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	-0.0054 L/hr		Carbon Dioxide	0.01 L/hr			
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	-0.01 L/hr		Carbon Dioxide	0.0135 L/hr			
Comments:												

Well ID:	R0204	Well dia. (mm):	50	Date installed:	30/11/2024	Response stratum:	Interbedded Coal and Mudstone			
		Well depth (m):	13.96			Groundwater depth (m):	Dry			
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		59.0	<<<<	81.9	0.0	-0.4	18.5	0.0	6.2	0.1
After 30 Seconds		59.0	<<<<	82.1	0.1	-0.5	18.3	0.0	6.2	0.2
After 1 Minute		59.0	<<<<	82.2	0.2	-0.5	18.1	0.0	6.2	0.2
After 2 Minutes		59.0	<<<<	82.2	0.3	-0.5	18.0	150.0	6.2	0.2
After 3 Minutes		59.0	<<<<	82.5	0.3	-0.6	17.8	0.0	6.2	0.2
After 4 Minutes		59.0	<<<<	83.4	0.3	-2.0	18.3	30.0	6.2	0.2
After 5 Minutes		59.0	<<<<	82.6	0.3	-0.6	17.7	0.0	6.2	0.2
After 6 Minutes		59.0	<<<<	82.7	0.3	-0.6	17.6	0.0	6.2	0.2
After 7 Minutes		59.0	<<<<	82.7	0.4	-0.6	17.5	0.0	6.2	0.2
After 8 Minutes		59.0	<<<<	82.7	0.4	-0.6	17.5	0.0	6.2	0.2
After 9 Minutes		59.0	<<<<	82.7	0.4	-0.6	17.5	0.0	6.2	0.2
After 10 Minutes		59.0	<<<<	82.7	0.4	-0.6	17.5	0.0	6.2	0.2
Steady State		59.0	<<<<	82.7	0.4	-0.6	17.5	0.0	6.2	0.2
min		59.0	0.0	81.9	0.0	-2.0	17.5	0.0	6.2	0.1
max		59.0	0.0	83.4	0.4	-0.4	18.5	150.0	6.2	0.2
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	-0.0248 L/hr		Carbon Dioxide	0.02 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	-0.04 L/hr		Carbon Dioxide	0.0248 L/hr	
Comments:										

Well ID:	R0207	Well dia.(mm):	50	Date installed:		29/11/2024		Response stratum:		Interbedded Coal and Mudstone		
		Well depth (m):	9.52					Groundwater depth (m):		9.45		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)		
Immediate Reading		0.0	<<<<	82.2	0.0	-0.6	18.4	0.0	0.0	0.1		
After 30 Seconds		0.0	<<<<	81.7	0.7	-0.6	18.2	0.0	0.0	0.2		
After 1 Minute		0.0	<<<<	81.9	0.7	-0.6	18.0	0.0	0.0	0.2		
After 2 Minutes		0.0	<<<<	81.9	0.6	-0.6	18.1	0.0	0.0	0.2		
After 3 Minutes		0.0	<<<<	81.8	0.6	-0.6	18.2	0.0	0.0	0.2		
After 4 Minutes		0.0	<<<<	81.8	0.6	-0.6	18.2	0.0	0.0	0.2		
After 5 Minutes		0.0	<<<<	81.7	0.6	-0.6	18.3	0.0	0.0	0.2		
After 6 Minutes		0.0	<<<<	81.8	0.6	-0.6	18.2	0.0	0.0	0.2		
After 7 Minutes		0.0	<<<<	81.8	0.6	-0.6	18.2	0.0	0.0	0.2		
After 8 Minutes		0.0	<<<<	81.8	0.6	-0.6	18.2	0.0	0.0	0.2		
After 9 Minutes		0.0	0.0	81.1	0.6	0.0	18.3	0.0	0.0	0.2		
After 10 Minutes		0.0	0.0	81.1	0.6	0.0	18.3	0.0	0.0	0.2		
Steady State		0.0	0.0	81.1	0.6	0.0	18.3	0.0	0.0	0.2		
min		0.0	0.0	81.1	0.0	-0.6	18.0	0.0	0.0	0.1		
max		0.0	0.0	82.2	0.7	0.0	18.4	0.0	0.0	0.2		
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)						Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)						Methane:	0.00 L/hr		Carbon Dioxide	0 L/hr		
Comments:												

Well ID:	R0208	Well dia.(mm):	50	Date installed:		28/11/2024		Response stratum:		Shallow Sandstone		
		Well depth (m):	3.90					Groundwater depth (m):		Dry		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)		
Immediate Reading		0.0	<<<<	82.1	0.0	-0.6	18.5	0.0	0.0	0.0		
After 30 Seconds		0.0	<<<<	81.7	0.6	-0.7	18.4	0.0	0.0	0.0		
After 1 Minute		0.0	<<<<	81.7	0.6	-0.6	18.3	0.0	0.0	0.0		
After 2 Minutes		0.0	<<<<	81.8	0.6	-0.6	18.2	0.0	0.0	0.0		
After 3 Minutes		0.0	<<<<	81.9	0.6	-0.6	18.1	50.0	0.0	0.0		
After 4 Minutes		0.0	<<<<	82.0	0.6	-0.6	18.0	0.0	0.0	0.0		
After 5 Minutes		0.0	<<<<	81.8	0.6	-0.6	18.2	0.0	0.0	0.0		
After 6 Minutes		0.0	<<<<	81.8	0.6	-0.6	18.2	0.0	0.0	0.0		
After 7 Minutes		0.0	<<<<	81.8	0.6	-0.6	18.2	0.0	0.0	0.0		
After 8 Minutes		0.0	<<<<	81.8	0.6	-0.6	18.2	0.0	0.0	0.0		
After 9 Minutes		0.0	<<<<	81.8	0.6	-0.6	18.2	0.0	0.0	0.0		
After 10 Minutes		0.0	<<<<	81.8	0.6	-0.6	18.2	0.0	0.0	0.0		
Steady State		0.0	<<<<	81.8	0.6	-0.6	18.2	0.0	0.0	0.0		
min		0.0	0.0	81.7	0.0	-0.7	18.0	0.0	0.0	0.0		
max		0.0	0.0	82.1	0.6	-0.6	18.5	50.0	0.0	0.0		
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)						Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr			
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)						Methane:	0.00 L/hr	Carbon Dioxide	0 L/hr			
Comments:												

Key:
dP - differential pressure (well-atmosphere)
LEL - Lower Explosive Limit (methane)
N₂ - nitrogen
CO₂ - carbon dioxide
TS - Topsoil, MG - Made Ground, BTS - Buried Topsoil, GD - Glacial Diamiction, WR - Weathered Rock, R - Rock, C - Coal, G - Grout

CH₄ - methane
O₂ - oxygen
H₂S - Hydrogen sulphide
PID - measure of volatile organic compounds

esp
ENGINEERS
GEOLOGISTS
SCIENTISTS

Date:	11/12/2024	Atmospheric Pressure (start):	1,016 mb	Trend:	Rising
Time:	10	Atmospheric Pressure (end):	1,018 mb		
Engineer:	JA	Site Status:	Open grass with demolished building		
Weather:	Clear, dry, very cold	Ground Conditions:	Dry Ground		
Instrument:	Gas Data LMSxi G3.18e meter	Next Calibration Due Date:	16/8/2025		
Instrument:	Phocheck 2000+ FID	Next Calibration Due Date:	09/11/2025		

Well ID:	R0202	Well dia.(mm):	50	Date installed:	28/11/2024	Response stratum:		Interbedded Coal and Mudstone		
		Well depth (m):	14.75			Groundwater depth (m):		13.68		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	<<<<	75.4	0.0	0.0	24.6	0.0	0.0	0.0
After 30 Seconds		0.0	<<<<	74.1	1.3	0.0	24.6	0.0	0.0	0.1
After 1 Minute		0.0	<<<<	74.1	1.3	0.0	24.6	-25.0	0.0	0.1
After 2 Minutes		0.0	<<<<	74.1	1.3	0.0	24.6	0.0	0.0	0.1
After 3 Minutes		0.0	<<<<	74.1	1.3	0.0	24.6	0.0	0.0	0.1
After 4 Minutes		0.0	<<<<	74.1	1.3	0.0	24.6	0.0	0.0	0.1
After 5 Minutes		0.0	<<<<	74.1	1.3	0.0	24.6	0.0	0.0	0.1
After 6 Minutes		0.0	<<<<	74.1	1.3	0.0	24.6	0.0	0.0	0.1
After 7 Minutes		0.0	<<<<	74.1	1.3	0.0	24.6	0.0	0.0	0.1
After 8 Minutes		0.0	<<<<	74.1	1.3	0.0	24.6	0.0	0.0	0.1
After 9 Minutes		0.0	<<<<	74.1	1.3	0.0	24.6	0.0	0.0	0.1
After 10 Minutes		0.0	<<<<	74.1	1.3	0.0	24.6	0.0	0.0	0.1
Steady State		0.0	<<<<	74.1	1.3	0.0	24.6	0.0	0.0	0.1
min		0.0	0.0	74.1	0.0	0.0	24.6	-25.0	0.0	0.0
max		0.0	0.0	75.4	1.3	0.0	24.6	0.0	0.0	0.1
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0 L/hr	
Comments:										

Well ID:	R0203	Well dia.(mm):	50	Date installed:	30/11/2024	Response stratum:		Shallow Sandstone		
		Well depth (m):	4.00			Groundwater depth (m):		Dry		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	<<<<	78.0	0.0	0.0	22.0	0.0	0.0	0.1
After 30 Seconds		0.0	<<<<	74.7	1.8	0.0	23.5	0.0	0.0	0.3
After 1 Minute		0.0	<<<<	73.9	1.8	0.0	24.3	0.0	0.0	0.3
After 2 Minutes		0.0	<<<<	73.5	1.8	0.0	24.7	0.0	0.0	0.3
After 3 Minutes		0.0	<<<<	73.4	1.9	0.0	24.7	0.0	0.0	0.3
After 4 Minutes		0.0	<<<<	73.3	1.9	0.0	24.8	0.0	0.0	0.3
After 5 Minutes		0.0	<<<<	73.4	1.9	0.0	24.7	0.0	0.0	0.3
After 6 Minutes		0.0	<<<<	73.3	1.9	0.0	24.8	0.0	0.0	0.3
After 7 Minutes		0.0	<<<<	73.2	1.9	0.0	24.9	0.0	0.0	0.3
After 8 Minutes		0.0	<<<<	73.2	1.9	0.0	24.9	0.0	0.0	0.3
After 9 Minutes		0.0	<<<<	73.2	1.9	0.0	24.9	0.0	0.0	0.3
After 10 Minutes		0.0	<<<<	73.2	1.9	0.0	24.9	0.0	0.0	0.3
Steady State		0.0	<<<<	73.2	1.9	0.0	24.9	0.0	0.0	0.3
min		0.0	0.0	73.2	0.0	0.0	22.0	0.0	0.0	0.1
max		0.0	0.0	78.0	1.9	0.0	24.9	0.0	0.0	0.3
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0 L/hr	
Comments:										

Well ID:	R0204	Well dia.(mm):	50	Date installed:	30/11/2024	Response stratum:		Interbedded Coal and Mudstone		
		Well depth (m):	13.96			Groundwater depth (m):		Dry		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	<<<<	78.2	0.0	0.0	21.8	0.0	0.0	0.1
After 30 Seconds		0.0	<<<<	75.6	1.1	0.0	23.3	0.0	0.0	0.2
After 1 Minute		0.0	<<<<	74.7	1.3	0.0	24.0	0.0	0.0	0.2
After 2 Minutes		0.0	<<<<	74.0	1.4	0.0	24.6	10.0	0.0	0.2
After 3 Minutes		0.0	<<<<	74.0	1.4	0.0	24.6	50.0	0.0	0.2
After 4 Minutes		0.0	<<<<	74.1	1.4	0.0	24.5	50.0	0.0	0.2
After 5 Minutes		0.0	<<<<	74.0	1.4	0.0	24.6	200.0	0.0	0.2
After 6 Minutes		0.0	<<<<	74.0	1.4	0.0	24.6	200.0	0.0	0.2
After 7 Minutes		0.0	<<<<	74.0	1.4	0.0	24.6	200.0	0.0	0.2
After 8 Minutes		0.0	<<<<	74.0	1.4	0.0	24.6	200.0	0.0	0.2
After 9 Minutes		0.0	<<<<	74.0	1.4	0.0	24.6	200.0	0.0	0.2
After 10 Minutes		0.0	<<<<	74.0	1.4	0.0	24.6	200.0	0.0	0.2
Steady State		0.0	<<<<	74.0	1.4	0.0	24.6	200.0	0.0	0.2
min		0.0	0.0	74.0	0.0	0.0	21.8	0.0	0.0	0.1
max		0.0	0.0	78.2	1.4	0.0	24.6	200.0	0.0	0.2
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0 L/hr	
Comments:										

Well ID:	R0205	Well dia.(mm):	50	Date installed:	29/11/2024	Response stratum:		Interbedded Coal and Mudstone		
		Well depth (m):	12.86			Groundwater depth (m):		Dry		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	<<<<	78.7	0.0	0.0	21.3	-25.0	0.0	0.5
After 30 Seconds		0.0	<<<<	75.6	1.0	0.0	23.4	40.0	0.0	1.0
After 1 Minute		0.0	<<<<	75.3	1.0	0.0	23.7	0.0	0.0	0.8
After 2 Minutes		0.0	<<<<	74.7	1.1	0.0	24.2	-30.0	0.0	0.8
After 3 Minutes		0.0	<<<<	74.8	1.0	0.0	24.2	-25.0	0.0	0.8
After 4 Minutes		0.0	<<<<	74.7	1.1	0.0	24.2	0.0	0.0	0.8
After 5 Minutes		0.0	<<<<	74.7	1.1	0.0	24.2	-25.0	0.0	0.8
After 6 Minutes		0.0	<<<<	74.8	1.0	0.0	24.2	0.0	0.0	0.8
After 7 Minutes		0.0	<<<<	74.8	1.0	0.0	24.2	0.0	0.0	0.8
After 8 Minutes		0.0	<<<<	74.8	1.0	0.0	24.2	0.0	0.0	0.8
After 9 Minutes		0.0	<<<<	74.8	1.0	0.0	24.2	0.0	0.0	0.8
After 10 Minutes		0.0	<<<<	74.8	1.0	0.0	24.2	0.0	0.0	0.8
Steady State		0.0	<<<<	74.8	1.0	0.0	24.2	0.0	0.0	0.8
min		0.0	0.0	74.7	0.0	0.0	21.3	-30.0	0.0	0.5
max		0.0	0.0	78.7	1.1	0.0	24.2	40.0	0.0	1.0
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0 L/hr	
Comments:										

Well ID:	RO205a	Well dia.(mm):	50	Date installed:	30/11/2024	Response stratum:		Shallow Sandstone		
		Well depth (m):	3.95			Groundwater depth (m):		3.66		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		-3.0	0.0	78.5	0.0	0.0	21.5	0.0	-0.4	0.1
After 30 Seconds		0.0	0.0	75.1	1.2	0.0	23.7	0.0	0.0	0.1
After 1 Minute		0.0	0.0	74.8	1.1	0.0	24.1	0.0	0.0	0.1
After 2 Minutes		0.0	0.0	74.0	1.2	0.0	24.8	0.0	0.0	0.1
After 3 Minutes		0.0	0.0	73.9	1.2	0.0	24.9	0.0	0.0	0.1
After 4 Minutes		0.0	0.0	73.9	1.2	0.0	24.9	0.0	0.0	0.1
After 5 Minutes		0.0	0.0	73.9	1.2	0.0	24.9	0.0	0.0	0.1
After 6 Minutes		0.0	0.0	73.9	1.2	0.0	24.9	0.0	0.0	0.1
After 7 Minutes		0.0	0.0	73.9	1.2	0.0	24.9	0.0	0.0	0.1
After 8 Minutes		0.0	0.0	73.9	1.2	0.0	24.9	0.0	0.0	0.1
After 9 Minutes		0.0	0.0	73.9	1.2	0.0	24.9	0.0	0.0	0.1
After 10 Minutes		0.0	0.0	73.9	1.2	0.0	24.9	0.0	0.0	0.1
Steady State		0.0	0.0	73.9	1.2	0.0	24.9	0.0	0.0	0.1
min		-3.0	0.0	73.9	0.0	0.0	21.5	0.0	-0.4	0.1
max		0.0	0.0	78.5	1.2	0.0	24.9	0.0	0.0	0.1
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0 L/hr		
Comments:										

Well ID:	R0206	Well dia.(mm):	50	Date installed:	29/11/2024	Response stratum:		Interbedded Coal and Mudstone		
		Well depth (m):	17.25			Groundwater depth (m):		17.01		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	0.0	78.5	0.0	0.0	21.5	0.0	0.0	0.1
After 30 Seconds		0.0	0.0	75.8	0.9	0.0	23.3	0.0	0.0	0.1
After 1 Minute		0.0	0.0	74.8	0.9	0.0	24.3	0.0	0.0	0.1
After 2 Minutes		0.0	0.0	74.5	0.9	0.0	24.6	0.0	0.0	0.1
After 3 Minutes		0.0	0.0	74.4	0.9	0.0	24.7	0.0	0.0	0.1
After 4 Minutes		0.0	0.0	74.4	0.9	0.0	24.7	0.0	0.0	0.1
After 5 Minutes		0.0	0.0	74.4	0.9	0.0	24.7	0.0	0.0	0.1
After 6 Minutes		0.0	0.0	74.5	0.9	0.0	24.6	0.0	0.0	0.1
After 7 Minutes		0.0	0.0	74.8	0.9	0.0	24.3	100.0	0.0	0.1
After 8 Minutes		0.0	0.0	74.6	1.0	0.0	24.4	0.0	0.0	0.1
After 9 Minutes		0.0	0.0	74.7	0.9	0.0	24.4	-25.0	0.0	0.1
After 10 Minutes		0.0	0.0	74.7	0.9	0.0	24.4	-25.0	0.0	0.1
Steady State		0.0	0.0	74.7	0.9	0.0	24.4	-25.0	0.0	0.1
min		0.0	0.0	74.4	0.0	0.0	21.5	-25.0	0.0	0.1
max		0.0	0.0	78.5	1.0	0.0	24.7	100.0	0.0	0.1
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0 L/hr		
Comments:										

Well ID:	R0207	Well dia.(mm):	50	Date installed:		29/11/2024		Response stratum:		Interbedded Coal and Mudstone	
		Well depth (m):	9.57					Groundwater depth (m):		9.46	
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)	
Immediate Reading		60.0	0.0	79.5	0.0	-0.6	21.1	0.0	63.0	0.0	
After 30 Seconds		60.0	0.0	77.6	0.8	-0.6	22.2	0.0	63.0	0.1	
After 1 Minute		60.0	0.0	77.3	0.8	-0.6	22.5	0.0	63.0	0.1	
After 2 Minutes		60.0	0.0	77.3	0.8	-0.6	22.5	0.0	63.0	0.1	
After 3 Minutes		60.0	0.0	77.3	0.8	-0.6	22.5	0.0	63.0	0.1	
After 4 Minutes		60.0	0.0	77.1	0.8	-0.6	22.7	0.0	63.0	0.1	
After 5 Minutes		60.0	0.0	77.0	0.8	-0.6	22.8	0.0	63.0	0.1	
After 6 Minutes		60.0	0.0	77.0	0.8	-0.6	22.8	0.0	63.0	0.1	
After 7 Minutes		60.0	0.0	77.0	0.8	-0.6	22.8	0.0	63.0	0.1	
After 8 Minutes		60.0	0.0	77.0	0.8	-0.6	22.8	0.0	63.0	0.1	
After 9 Minutes		60.0	0.0	76.4	0.8	0.0	22.8	0.0	63.0	0.1	
After 10 Minutes		60.0	0.0	76.4	0.8	0.0	22.8	0.0	63.0	0.1	
Steady State		60.0	0.0	76.4	0.8	0.0	22.8	0.0	63.0	0.1	
min		60.0	0.0	76.4	0.0	-0.6	21.1	0.0	63.0	0.0	
max		60.0	0.0	79.5	0.8	0.0	22.8	0.0	63.0	0.1	
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.50 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0.504 L/hr		
Comments:											

Well ID:	R0208	Well dia.(mm):	50	Date installed:		28/11/2024		Response stratum:		Shallow Sandstone		
		Well depth (m):	3.90					Groundwater depth (m):		Dry		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)		
Immediate Reading		0.0	0.0	78.8	0.0	0.0	21.2	0.0	0.0	0.1		
After 30 Seconds		0.0	0.0	77.8	0.6	0.0	21.6	0.0	0.0	0.1		
After 1 Minute		0.0	0.0	77.6	0.6	0.0	21.8	0.0	0.0	0.1		
After 2 Minutes		0.0	0.0	77.4	0.6	0.0	22.0	0.0	0.0	0.1		
After 3 Minutes		0.0	0.0	77.6	0.6	0.0	21.8	50.0	0.0	0.1		
After 4 Minutes		0.0	0.0	77.5	0.6	0.0	21.9	0.0	0.0	0.1		
After 5 Minutes		0.0	0.0	77.4	0.6	0.0	22.0	0.0	0.0	0.1		
After 6 Minutes		0.0	0.0	77.3	0.7	0.0	22.0	0.0	0.0	0.1		
After 7 Minutes		0.0	0.0	77.3	0.7	0.0	22.0	0.0	0.0	0.1		
After 8 Minutes		0.0	0.0	77.3	0.7	0.0	22.0	0.0	0.0	0.1		
After 9 Minutes		0.0	0.0	77.3	0.7	0.0	22.0	0.0	0.0	0.1		
After 10 Minutes		0.0	0.0	77.3	0.7	0.0	22.0	0.0	0.0	0.1		
Steady State		0.0	0.0	77.3	0.7	0.0	22.0	0.0	0.0	0.1		
min		0.0	0.0	77.3	0.0	0.0	21.2	0.0	0.0	0.1		
max		0.0	0.0	78.8	0.7	0.0	22.0	50.0	0.0	0.1		
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)						Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr			
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)						Methane:	0.00 L/hr	Carbon Dioxide	0 L/hr			
Comments:												

Key:
dP - differential pressure (well-atmosphere)
LEL - Lower Explosive Limit (methane)
N₂ - nitrogen
CO₂ - carbon dioxide
TS - Topsoil, MG - Made Ground, BTS - Buried Topsoil, GD - Glacial Diamiction, WR - Weathered Rock, R - Rock, C - Coal, G - Grout

CH₄ - methane
O₂ - oxygen
H₂S - Hydrogen sulphide
PID - measure of volatile organic compounds

4

Well ID:	R0201	Well dia.(mm):	50	Date installed:	28/11/2024	Response stratum:		Interbedded Coal and Mudstone		
		Well depth (m):	8.20				Groundwater depth (m):		8.07	
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	0.0	77.0	0.0	0.0	23.0	0.0	0.0	0.0
After 30 Seconds		0.0	0.0	75.1	1.6	0.0	23.3	0.0	0.0	0.0
After 1 Minute		0.0	0.0	74.7	1.6	0.0	23.7	0.0	0.0	0.0
After 2 Minutes		0.0	0.0	74.4	1.7	0.0	23.9	0.0	0.0	0.0
After 3 Minutes		0.0	0.0	74.3	1.7	0.0	24.0	0.0	0.0	0.0
After 4 Minutes		0.0	0.0	74.4	1.6	0.0	24.0	0.0	0.0	0.0
After 5 Minutes		0.0	0.0	74.4	1.6	0.0	24.0	0.0	0.0	0.0
After 6 Minutes		0.0	0.0	74.4	1.6	0.0	24.0	0.0	0.0	0.0
After 7 Minutes		0.0	0.0	74.4	1.6	0.0	24.0	0.0	0.0	0.0
After 8 Minutes		0.0	0.0	74.4	1.6	0.0	24.0	0.0	0.0	0.0
After 9 Minutes		0.0	0.0	74.4	1.6	0.0	24.0	0.0	0.0	0.0
After 10 Minutes		0.0	0.0	74.4	1.6	0.0	24.0	0.0	0.0	0.0
Steady State		0.0	0.0	74.4	1.6	0.0	24.0	0.0	0.0	0.0
min		0.0	0.0	74.3	0.0	0.0	23.0	0.0	0.0	0.0
max		0.0	0.0	77.0	1.7	0.0	24.0	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0 L/hr	
Comments:										

Well ID:	R0203	Well dia.(mm):	50	Date installed:	30/11/2024	Response stratum:		Shallow Sandstone		
		Well depth (m):	4.00			Groundwater depth (m):		Dry		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	0.0	77.6	0.0	0.0	22.4	200.0	0.0	0.1
After 30 Seconds		0.0	0.0	73.6	2.0	0.0	24.4	-30.0	0.0	0.0
After 1 Minute		0.0	0.0	73.1	2.0	0.0	24.9	-25.0	0.0	0.0
After 2 Minutes		0.0	0.0	72.8	2.0	0.0	25.2	-25.0	0.0	0.0
After 3 Minutes		0.0	0.0	72.8	2.0	0.0	25.2	0.0	0.0	0.0
After 4 Minutes		0.0	0.0	72.8	1.9	0.0	25.3	0.0	0.0	0.0
After 5 Minutes		0.0	0.0	72.7	2.1	0.0	25.2	0.0	0.0	0.0
After 6 Minutes		0.0	47.0	69.6	2.4	3.0	25.0	-30.0	0.0	0.0
After 7 Minutes		0.0	13.0	72.0	3.1	0.3	24.6	120.0	0.0	0.0
After 8 Minutes		0.0	22.3	73.0	1.5	1.2	24.3	0.0	0.0	0.0
After 9 Minutes		0.0	0.0	73.1	2.1	0.0	24.8	0.0	0.0	0.0
After 10 Minutes		0.0	0.0	73.1	2.1	0.0	24.8	0.0	0.0	0.0
Steady State		0.0	0.0	73.1	2.1	0.0	24.8	0.0	0.0	0.0
min		0.0	0.0	69.6	0.0	0.0	22.4	-30.0	0.0	0.0
max		0.0	47.0	77.6	3.1	3.0	25.3	200.0	0.0	0.1
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0 L/hr	
Comments:										

Well ID:	R0205	Well dia.(mm):	50	Date installed:	29/11/2024	Response stratum:		Interbedded Coal and Mudstone		
		Well depth (m):	12.81			Groundwater depth (m):		Dry		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	<<<<	77.7	0.0	0.0	22.3	0.0	0.0	0.5
After 30 Seconds		0.0	<<<<	75.6	0.9	0.0	23.5	0.0	0.0	1.5
After 1 Minute		0.0	<<<<	75.2	0.9	0.0	23.9	0.0	0.0	1.5
After 2 Minutes		0.0	<<<<	74.9	0.9	0.0	24.2	0.0	0.0	1.5
After 3 Minutes		0.0	<<<<	74.9	0.9	0.0	24.2	0.0	0.0	1.5
After 4 Minutes		0.0	<<<<	74.7	0.9	0.0	24.4	0.0	0.0	1.5
After 5 Minutes		0.0	<<<<	74.7	0.9	0.0	24.4	0.0	0.0	1.5
After 6 Minutes		0.0	<<<<	74.7	0.9	0.0	24.4	0.0	0.0	1.5
After 7 Minutes		0.0	<<<<	74.7	0.9	0.0	24.4	0.0	0.0	1.5
After 8 Minutes		0.0	<<<<	74.7	0.9	0.0	24.4	0.0	0.0	1.5
After 9 Minutes		0.0	<<<<	74.7	0.9	0.0	24.4	0.0	0.0	1.5
After 10 Minutes		0.0	<<<<	74.7	0.9	0.0	24.4	0.0	0.0	1.5
Steady State		0.0	<<<<	74.7	0.9	0.0	24.4	0.0	0.0	1.5
min		0.0	0.0	74.7	0.0	0.0	22.3	0.0	0.0	0.5
max		0.0	0.0	77.7	0.9	0.0	24.4	0.0	0.0	1.5
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0 L/hr	
Comments:										

Well ID:	R0206	Well dia.(mm):	50	Date installed:	29/11/2024	Response stratum:		Interbedded Coal and Mudstone		
		Well depth (m):	17.10			Groundwater depth (m):		16.95		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	0.0	#VALUE!	0.8	0.0	>>>>	0.0	0.0	0.0
After 30 Seconds		0.0	0.0	82.7	0.9	0.0	16.4	0.0	0.0	0.1
After 1 Minute		0.0	0.0	83.9	0.9	0.0	15.2	0.0	0.0	0.1
After 2 Minutes		0.0	0.0	83.1	1.0	0.0	15.9	0.0	0.0	0.1
After 3 Minutes		0.0	34.0	#VALUE!	0.9	1.7	>>>>	0.0	0.0	0.1
After 4 Minutes		0.0	0.0	78.8	0.9	0.0	20.3	0.0	0.0	0.1
After 5 Minutes		0.0	0.0	80.9	0.7	0.0	18.4	0.0	0.0	0.1
After 6 Minutes		0.0	5.7	70.5	0.9	6.2	22.4	0.0	0.0	0.1
After 7 Minutes		0.0	0.0	76.7	0.9	0.0	22.4	0.0	0.0	0.1
After 8 Minutes		0.0	0.0	76.7	0.9	0.0	22.4	0.0	0.0	0.1
After 9 Minutes		0.0	0.0	76.7	0.9	0.0	22.4	0.0	0.0	0.1
After 10 Minutes		0.0	0.0	76.7	0.9	0.0	22.4	0.0	0.0	0.1
Steady State		0.0	0.0	76.7	0.9	0.0	22.4	0.0	0.0	0.1
min		0.0	0.0	#VALUE!	0.7	0.0	15.2	0.0	0.0	0.0
max		0.0	34.0	#VALUE!	1.0	6.2	22.4	0.0	0.0	0.1
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0 L/hr	
Comments:										

Well ID:	R0207	Well dia.(mm):	50	Date installed:	29/11/2024	Response stratum:	Interbedded Coal and Mudstone			
		Well depth (m):	9.59			Groundwater depth (m):	9.47			
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)	
Immediate Reading	0.0	0.0	77.7	0.0	0.0	22.3	0.0	0.0	0.0	0.2
After 30 Seconds	0.0	0.0	76.3	0.8	0.0	22.9	0.0	0.0	0.0	0.2
After 1 Minute	0.0	0.0	75.7	0.8	0.0	23.5	0.0	0.0	0.0	0.2
After 2 Minutes	0.0	0.0	75.6	0.8	0.0	23.6	0.0	0.0	0.0	0.2
After 3 Minutes	0.0	0.0	75.6	0.8	0.0	23.6	0.0	0.0	0.0	0.2
After 4 Minutes	0.0	0.0	75.6	0.8	0.0	23.6	0.0	0.0	0.0	0.2
After 5 Minutes	0.0	0.0	75.6	0.8	0.0	23.6	0.0	0.0	0.0	0.2
After 6 Minutes	0.0	0.0	75.6	0.8	0.0	23.6	0.0	0.0	0.0	0.2
After 7 Minutes	0.0	0.0	75.6	0.8	0.0	23.6	0.0	0.0	0.0	0.2
After 8 Minutes	0.0	0.0	75.6	0.8	0.0	23.6	0.0	0.0	0.0	0.2
After 9 Minutes	0.0	0.0	75.6	0.8	0.0	23.6	0.0	0.0	0.0	0.2
After 10 Minutes	0.0	0.0	75.6	0.8	0.0	23.6	0.0	0.0	0.0	0.2
Steady State	0.0	0.0	75.6	0.8	0.0	23.6	0.0	0.0	0.0	0.2
min	0.0	0.0	75.6	0.0	0.0	22.3	0.0	0.0	0.0	0.2
max	0.0	0.0	77.7	0.8	0.0	23.6	0.0	0.0	0.0	0.2
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0 L/hr		
Comments:										

Well ID:	R0208	Well dia.(mm):	50	Date installed:	28/11/2024	Response stratum:		Shallow Sandstone		
		Well depth (m):	3.89			Groundwater depth (m):		Dry		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)	
Immediate Reading	0.0	0.0	77.7	0.0	0.0	22.3	0.0	0.0	0.1	
After 30 Seconds	0.0	0.0	74.6	1.9	0.0	23.5	0.0	0.0	0.0	
After 1 Minute	0.0	0.0	73.7	1.9	0.0	24.4	0.0	0.0	0.0	
After 2 Minutes	0.0	0.0	73.4	1.9	0.0	24.7	0.0	0.0	0.0	
After 3 Minutes	0.0	0.0	73.4	1.9	0.0	24.7	50.0	0.0	0.0	
After 4 Minutes	0.0	0.0	73.4	1.9	0.0	24.7	0.0	0.0	0.0	
After 5 Minutes	0.0	0.0	73.3	1.9	0.0	24.8	0.0	0.0	0.0	
After 6 Minutes	0.0	0.0	73.2	2.0	0.0	24.8	0.0	0.0	0.0	
After 7 Minutes	0.0	0.0	73.2	2.0	0.0	24.8	0.0	0.0	0.0	
After 8 Minutes	0.0	0.0	73.1	2.0	0.0	24.9	0.0	0.0	0.0	
After 9 Minutes	0.0	0.0	73.1	2.0	0.0	24.9	0.0	0.0	0.0	
After 10 Minutes	0.0	0.0	73.1	2.0	0.0	24.9	0.0	0.0	0.0	
Steady State	0.0	0.0	73.1	2.0	0.0	24.9	0.0	0.0	0.0	
min	0.0	0.0	73.1	0.0	0.0	22.3	0.0	0.0	0.0	
max	0.0	0.0	77.7	2.0	0.0	24.9	50.0	0.0	0.1	
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0 L/hr		
Comments:										

Key:

dP - differential pressure (well-atmosphere) CH₄ - methane

LEL - Lower Explosive Limit (methane) O₂ - oxygen

N₂ - nitrogen H₂S - Hydrogen sulphide

CO₂ - carbon dioxide PID - measure of volatile organic compounds

TS - Topsoil, MG - Made Ground, BTS - Buried Topsoil, GD - Glacial Diamiction, WR - Weathered Rock, R - Rock, C - Coal, G - Grout

Date:	13/01/2025	Atmospheric Pressure (start):	1,008 mb	Trend:	Steady
Time:	9:30	Atmospheric Pressure (end):	1,008 mb		
Engineer:	JA	Site Status:	Open grass with demolished building		
Weather:	Clear, dry, very cold	Ground Conditions:	Dry Ground		
Instrument:	Gas Data LMSxi G3.18e meter	Next Calibration Due Date:	16/8/2025		
Instrument:	Phocheck 2000+ PID	Next Calibration Due Date:	09/11/2025		

Well ID:	R0202	Well dia.(mm):	50	Date installed:	28/11/2024	Response stratum:		Interbedded Coal and Mudstone		
		Well depth (m):	14.63				Groundwater depth (m):		13.5	
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	0.0	77.6	0.0	0.0	22.4	0.0	0.0	0.3
After 30 Seconds		0.0	0.0	73.4	2.1	0.0	24.5	0.0	0.0	0.8
After 1 Minute		0.0	0.0	72.3	2.1	0.0	25.6	0.0	0.0	0.8
After 2 Minutes		0.0	0.0	71.7	2.1	0.0	26.2	0.0	0.0	0.7
After 3 Minutes		0.0	0.0	71.6	2.1	0.0	26.3	0.0	0.0	0.7
After 4 Minutes		0.0	0.0	#VALUE!	2.1	0.0	>>>>	0.0	0.0	0.7
After 5 Minutes		0.0	0.0	#VALUE!	2.1	0.0	>>>>	0.0	0.0	0.7
After 6 Minutes		0.0	0.0	#VALUE!	2.1	0.0	>>>>	0.0	0.0	0.7
After 7 Minutes		0.0	0.0	#VALUE!	2.1	0.0	>>>>	0.0	0.0	0.7
After 8 Minutes		0.0	0.0	#VALUE!	2.1	0.0	>>>>	0.0	0.0	0.7
After 9 Minutes		0.0	0.0	#VALUE!	2.1	0.0	>>>>	0.0	0.0	0.7
After 10 Minutes		0.0	0.0	#VALUE!	2.1	0.0	>>>>	0.0	0.0	0.7
Steady State		0.0	0.0	#VALUE!	2.1	0.0	>>>>	0.0	0.0	0.7
min		0.0	0.0	#VALUE!	0.0	0.0	22.4	0.0	0.0	0.3
max		0.0	0.0	#VALUE!	2.1	0.0	26.3	0.0	0.0	0.8
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0 L/hr	
Comments:										

Well ID:	R0203	Well dia.(mm):	50	Date installed:	30/11/2024	Response stratum:	Shallow Sandstone			
		Well depth (m):	4.01			Groundwater depth (m):	Dry			
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	0.0	77.3	0.0	0.0	22.7	200.0	0.0	0.1
After 30 Seconds		0.0	0.0	74.3	1.9	0.0	23.8	-30.0	0.0	0.0
After 1 Minute		0.0	0.0	73.4	2.0	0.0	24.6	-25.0	0.0	0.0
After 2 Minutes		0.0	0.0	73.1	2.0	0.0	24.9	-25.0	0.0	0.0
After 3 Minutes		0.0	0.0	73.0	2.0	0.0	25.0	0.0	0.0	0.0
After 4 Minutes		0.0	0.0	73.0	2.0	0.0	25.0	0.0	0.0	0.0
After 5 Minutes		0.0	0.0	73.0	2.0	0.0	25.0	0.0	0.0	0.0
After 6 Minutes		0.0	0.0	73.0	2.0	0.0	25.0	-30.0	0.0	0.0
After 7 Minutes		0.0	0.0	72.9	2.0	0.0	25.1	120.0	0.0	0.0
After 8 Minutes		0.0	0.0	72.9	2.0	0.0	25.1	0.0	0.0	0.0
After 9 Minutes		0.0	0.0	72.9	2.0	0.0	25.1	0.0	0.0	0.0
After 10 Minutes		0.0	0.0	72.9	2.0	0.0	25.1	0.0	0.0	0.0
Steady State		0.0	0.0	72.9	2.0	0.0	25.1	0.0	0.0	0.0
min		0.0	0.0	72.9	0.0	0.0	22.7	-30.0	0.0	0.0
max		0.0	0.0	77.3	2.0	0.0	25.1	200.0	0.0	0.1
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0 L/hr	
Comments:										

Well ID:	R0205a	Well dia. (mm):	50	Date installed:	30/11/2024	Response stratum:		Shallow Sandstone		
		Well depth (m):	3.90			Groundwater depth (m):		3.62		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)	
Immediate Reading	-2.0	0.0	77.2	0.0	0.0	22.8	45.0	-0.4	0.2	
After 30 Seconds	0.0	0.0	73.9	1.5	0.0	24.6	0.0	0.0	0.3	
After 1 Minute	0.0	0.0	72.8	1.5	0.0	25.7	190.0	0.0	0.3	
After 2 Minutes	0.0	0.0	#VALUE!	1.5	0.0	>>>>	45.0	0.0	0.3	
After 3 Minutes	0.0	0.0	#VALUE!	1.5	0.0	>>>>	0.0	0.0	0.3	
After 4 Minutes	0.0	0.0	#VALUE!	1.5	0.0	>>>>	0.0	0.0	0.3	
After 5 Minutes	0.0	0.0	#VALUE!	1.5	0.0	>>>>	0.0	0.0	0.3	
After 6 Minutes	0.0	0.0	#VALUE!	1.5	0.0	>>>>	0.0	0.0	0.3	
After 7 Minutes	0.0	0.0	#VALUE!	1.5	0.0	>>>>	0.0	0.0	0.3	
After 8 Minutes	0.0	0.0	#VALUE!	1.5	0.0	>>>>	0.0	0.0	0.3	
After 9 Minutes	0.0	0.0	#VALUE!	1.5	0.0	>>>>	0.0	0.0	0.3	
After 10 Minutes	0.0	0.0	#VALUE!	1.5	0.0	>>>>	0.0	0.0	0.3	
Steady State	0.0	0.0	#VALUE!	1.5	0.0	>>>>	0.0	0.0	0.3	
min	-2.0	0.0	#VALUE!	0.0	0.0	22.8	0.0	-0.4	0.2	
max	0.0	0.0	#VALUE!	1.5	0.0	25.7	190.0	0.0	0.3	
Borehole Hazardous Gas Flow Rates Q _{Hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr		
Borehole Hazardous Gas Flow Rates Q _{Hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0 L/hr		
Comments:										

Well ID:	R0207	Well dia.(mm):	50	Date installed:		29/11/2024		Response stratum:		Interbedded Coal and Mudstone		
		Well depth (m):	9.54					Groundwater depth (m):		Dry		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)		
Immediate Reading		10.0	0.0	77.3	0.0	0.0	22.7	0.0	1.8	0.2		
After 30 Seconds		10.0	0.0	76.1	0.8	0.0	23.1	0.0	1.8	0.2		
After 1 Minute		10.0	0.0	75.7	0.8	0.0	23.5	0.0	1.8	0.2		
After 2 Minutes		10.0	0.0	75.5	0.8	0.0	23.7	0.0	1.8	0.2		
After 3 Minutes		10.0	0.0	75.5	0.8	0.0	23.7	0.0	1.8	0.2		
After 4 Minutes		10.0	0.0	75.5	0.8	0.0	23.7	0.0	1.8	0.2		
After 5 Minutes		10.0	0.0	75.5	0.8	0.0	23.7	0.0	1.8	0.2		
After 6 Minutes		10.0	0.0	75.5	0.8	0.0	23.7	0.0	1.8	0.2		
After 7 Minutes		10.0	0.0	75.5	0.8	0.0	23.7	0.0	1.8	0.2		
After 8 Minutes		10.0	0.0	75.5	0.8	0.0	23.7	0.0	1.8	0.2		
After 9 Minutes		10.0	0.0	75.5	0.8	0.0	23.7	0.0	1.8	0.2		
After 10 Minutes		10.0	0.0	75.5	0.8	0.0	23.7	0.0	1.8	0.2		
Steady State		10.0	0.0	75.5	0.8	0.0	23.7	0.0	1.8	0.2		
min		10.0	0.0	75.5	0.0	0.0	22.7	0.0	1.8	0.2		
max		10.0	0.0	77.3	0.8	0.0	23.7	0.0	1.8	0.2		
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)						Methane:		0 L/hr	Carbon Dioxide		0.01 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)						Methane:		0.00 L/hr	Carbon Dioxide		0.0144 L/hr	
Comments:												

Well ID:	R0208	Well dia.(mm):	50	Date installed:		28/11/2024		Response stratum:		Shallow Sandstone	
		Well depth (m):	3.90					Groundwater depth (m):		Dry	
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)	
Immediate Reading		0.0	0.0	77.4	0.0	0.0	22.6	0.0	0.0	0.0	
After 30 Seconds		0.0	0.0	75.0	1.4	0.0	23.6	0.0	0.0	0.0	
After 1 Minute		0.0	0.0	74.5	1.5	0.0	24.0	0.0	0.0	0.0	
After 2 Minutes		0.0	0.0	74.0	1.5	0.0	24.5	0.0	0.0	0.0	
After 3 Minutes		0.0	0.0	73.3	1.6	0.0	25.1	30.0	0.0	0.0	
After 4 Minutes		0.0	0.0	73.8	1.6	0.0	24.6	0.0	0.0	0.0	
After 5 Minutes		0.0	0.0	73.7	1.6	0.0	24.7	0.0	0.0	0.0	
After 6 Minutes		0.0	0.0	73.7	1.6	0.0	24.7	0.0	0.0	0.0	
After 7 Minutes		0.0	0.0	73.7	1.6	0.0	24.7	0.0	0.0	0.0	
After 8 Minutes		0.0	0.0	73.7	1.6	0.0	24.7	0.0	0.0	0.0	
After 9 Minutes		0.0	0.0	73.7	1.6	0.0	24.7	0.0	0.0	0.0	
After 10 Minutes		0.0	0.0	73.7	1.6	0.0	24.7	0.0	0.0	0.0	
Steady State		0.0	0.0	73.7	1.6	0.0	24.7	0.0	0.0	0.0	
min		0.0	0.0	73.3	0.0	0.0	22.6	0.0	0.0	0.0	
max		0.0	0.0	77.4	1.6	0.0	25.1	30.0	0.0	0.0	
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)						Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)						Methane:	0.00 L/hr	Carbon Dioxide	0 L/hr		
Comments:											

Key:
dP - differential pressure (well-atmosphere)
LEL - Lower Explosive Limit (methane)
N₂ - nitrogen
CO₂ - carbon dioxide
TS - Topsoil, MG - Made Ground, BTS - Buried Topsoil, GD - Glacial Diamiction, WR - Weathered Rock, R - Rock, C - Coal, G - Grout

CH₄ - methane
O₂ - oxygen
H₂S - Hydrogen sulphide
PID - measure of volatile organic compounds

Date:	31/01/2025	Atmospheric Pressure (start):	1.011 mb	Trend:	Steady
Time:	12:30	Atmospheric Pressure (end):	1.011 mb		
Engineer:	JA	Site Status:	Open grass with demolished building		
Weather:	Clear, dry, cold	Ground Conditions:	Dry Ground		
Instrument:	Gas Data LMSxi G3.18e meter	Next Calibration Due Date:	16/8/2025		
Instrument:	Phocheck 2000+ PID	Next Calibration Due Date:	09/11/2025		

Well ID:	R0202	Well dia.(mm):	50	Date installed:	28/11/2024	Response stratum:	Interbedded Coal and Mudstone			
		Well depth (m):	14.63				Groundwater depth (m):	13.5		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		26.0	0.0	76.6	0.0	0.0	23.4	0.0	3.6	0.2
After 30 Seconds		26.0	0.0	76.1	0.6	0.0	23.3	0.0	3.6	0.0
After 1 Minute		26.0	0.0	75.9	0.7	0.0	23.4	0.0	3.6	0.0
After 2 Minutes		26.0	0.0	75.9	0.2	0.0	23.9	0.0	3.6	0.0
After 3 Minutes		26.0	0.0	74.0	1.6	0.0	24.4	0.0	3.6	0.0
After 4 Minutes		26.0	0.0	73.5	1.8	0.0	24.7	0.0	3.6	0.0
After 5 Minutes		26.0	0.0	73.3	1.9	0.0	24.8	0.0	3.6	0.0
After 6 Minutes		26.0	0.0	73.2	1.9	0.0	24.9	0.0	3.6	0.0
After 7 Minutes		26.0	0.0	73.2	1.9	0.0	24.9	0.0	3.6	0.0
After 8 Minutes		26.0	0.0	73.2	1.9	0.0	24.9	0.0	3.6	0.0
After 9 Minutes		26.0	0.0	73.2	1.9	0.0	24.9	0.0	3.6	0.0
After 10 Minutes		26.0	0.0	73.2	1.9	0.0	24.9	0.0	3.6	0.0
Steady State		26.0	0.0	73.2	1.9	0.0	24.9	0.0	3.6	0.0
min		26.0	0.0	73.2	0.0	0.0	23.3	0.0	3.6	0.0
max		26.0	0.0	76.6	1.9	0.0	24.9	0.0	3.6	0.2
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)				Methane:	0 L/hr		Carbon Dioxide	0.07 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)				Methane:	0.00 L/hr		Carbon Dioxide	0.0684 L/hr		
Comments:		Well cover and bung removed upon arrival. Bung was later found, inserted and left for the gas to regenerate for an hour before monitoring took place.								

Well ID:	R0203	Well dia.(mm):	50	Date installed:	30/11/2024	Response stratum:		Shallow Sandstone		
		Well depth (m):	3.99			Groundwater depth (m):		Dry		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	0.0	#VALUE!	0.0	0.0	>>>>	0.0	0.0	0.1
After 30 Seconds		0.0	0.0	74.3	1.7	0.0	24.0	0.0	0.0	0.2
After 1 Minute		0.0	0.0	73.0	2.1	0.0	24.9	0.0	0.0	0.2
After 2 Minutes		0.0	0.0	73.5	1.8	0.0	24.7	25.0	0.0	0.2
After 3 Minutes		0.0	0.0	73.7	1.8	0.0	24.5	0.0	0.0	0.2
After 4 Minutes		0.0	0.0	73.0	1.7	0.0	25.3	0.0	0.0	0.2
After 5 Minutes		0.0	0.0	72.9	1.8	0.0	25.3	0.0	0.0	0.2
After 6 Minutes		0.0	0.0	72.9	1.8	0.0	25.3	0.0	0.0	0.2
After 7 Minutes		0.0	0.0	72.9	1.8	0.0	25.3	0.0	0.0	0.2
After 8 Minutes		0.0	0.0	72.9	1.8	0.0	25.3	0.0	0.0	0.2
After 9 Minutes		0.0	0.0	72.9	1.8	0.0	25.3	0.0	0.0	0.2
After 10 Minutes		0.0	0.0	72.9	1.8	0.0	25.3	0.0	0.0	0.2
Steady State		0.0	0.0	72.9	1.8	0.0	25.3	0.0	0.0	0.2
min		0.0	0.0	#VALUE!	0.0	0.0	24.0	0.0	0.0	0.1
max		0.0	0.0	#VALUE!	2.1	0.0	25.3	25.0	0.0	0.2
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0 L/hr	
Comments:										

Well ID:	R0204	Well dia. (mm):	50	Date installed:	30/11/2024	Response stratum:	Interbedded Coal and Mudstone		
		Well depth (m):	13.77			Groundwater depth (m):	13.66		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	0.0	77.0	0.0	0.0	23.0	0.0	0.0	0.2
After 30 Seconds	0.0	0.0	75.0	1.0	0.0	24.0	0.0	0.0	0.5
After 1 Minute	0.0	0.0	73.7	1.1	0.0	25.2	0.0	0.0	0.5
After 2 Minutes	0.0	0.0	73.5	1.1	0.0	25.4	25.0	0.0	0.5
After 3 Minutes	0.0	0.0	73.8	1.1	0.0	25.1	25.0	0.0	0.5
After 4 Minutes	0.0	0.0	73.4	1.1	0.0	25.5	0.0	0.0	0.5
After 5 Minutes	0.0	0.0	73.4	1.1	0.0	25.5	0.0	0.0	0.5
After 6 Minutes	0.0	0.0	73.4	1.1	0.0	25.5	0.0	0.0	0.5
After 7 Minutes	0.0	0.0	73.5	1.1	0.0	25.4	0.0	0.0	0.5
After 8 Minutes	0.0	0.0	73.4	1.1	0.0	25.5	0.0	0.0	0.5
After 9 Minutes	0.0	0.0	73.3	1.1	0.0	25.6	0.0	0.0	0.5
After 10 Minutes	0.0	0.0	73.3	1.1	0.0	25.6	0.0	0.0	0.5
Steady State	0.0	0.0	73.3	1.1	0.0	25.6	0.0	0.0	0.5
min	0.0	0.0	73.3	0.0	0.0	23.0	0.0	0.0	0.2
max	0.0	0.0	77.0	1.1	0.0	25.6	25.0	0.0	0.5
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)				Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)				Methane:	0.00 L/hr		Carbon Dioxide	0 L/hr	
Comments:									

Well ID:	R0207	Well dia. (mm):	50	Date installed:	29/11/2024	Response stratum:		Interbedded Coal and Mudstone		
		Well depth (m):	9.55			Groundwater depth (m):		9.43		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		10.0	0.0	77.3	0.0	0.0	22.7	0.0	1.8	0.1
After 30 Seconds		10.0	0.0	75.9	0.8	0.0	23.3	0.0	1.8	0.3
After 1 Minute		10.0	0.0	75.5	0.8	0.0	23.7	0.0	1.8	0.3
After 2 Minutes		10.0	0.0	75.3	0.8	0.0	23.9	0.0	1.8	0.3
After 3 Minutes		10.0	0.0	75.3	0.8	0.0	23.9	0.0	1.8	0.3
After 4 Minutes		10.0	0.0	75.3	0.8	0.0	23.9	0.0	1.8	0.3
After 5 Minutes		10.0	0.0	75.3	0.8	0.0	23.9	0.0	1.8	0.3
After 6 Minutes		10.0	0.0	75.2	0.8	0.0	24.0	0.0	1.8	0.3
After 7 Minutes		10.0	0.0	75.3	0.8	0.0	23.9	0.0	1.8	0.3
After 8 Minutes		10.0	0.0	75.3	0.8	0.0	23.9	0.0	1.8	0.3
After 9 Minutes		10.0	0.0	75.2	0.8	0.0	24.0	0.0	1.8	0.3
After 10 Minutes		10.0	0.0	75.2	0.8	0.0	24.0	0.0	1.8	0.3
Steady State		10.0	0.0	75.2	0.8	0.0	24.0	0.0	1.8	0.3
	<i>min</i>	10.0	0.0	75.2	0.0	0.0	22.7	0.0	1.8	0.1
	<i>max</i>	10.0	0.0	77.3	0.8	0.0	24.0	0.0	1.8	0.3
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.01 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0.0144 L/hr	
Comments:										

Well ID:	R0208	Well dia. (mm):	50	Date installed:	28/11/2024	Response stratum:		Shallow Sandstone		
		Well depth (m):	3.89			Groundwater depth (m):		Dry		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	0.0	76.8	0.0	0.0	23.2	0.0	0.0	0.0
After 30 Seconds		0.0	0.0	74.9	1.4	0.0	23.7	0.0	0.0	0.0
After 1 Minute		0.0	0.0	74.4	1.4	0.0	24.2	0.0	0.0	0.0
After 2 Minutes		0.0	0.0	74.0	1.5	0.0	24.5	0.0	0.0	0.0
After 3 Minutes		0.0	0.0	74.0	1.5	0.0	24.5	30.0	0.0	0.0
After 4 Minutes		0.0	0.0	74.0	1.5	0.0	24.5	0.0	0.0	0.0
After 5 Minutes		0.0	0.0	74.0	1.5	0.0	24.5	0.0	0.0	0.0
After 6 Minutes		0.0	0.0	74.0	1.5	0.0	24.5	0.0	0.0	0.0
After 7 Minutes		0.0	0.0	74.0	1.5	0.0	24.5	0.0	0.0	0.0
After 8 Minutes		0.0	0.0	74.0	1.5	0.0	24.5	0.0	0.0	0.0
After 9 Minutes		0.0	0.0	74.0	1.5	0.0	24.5	0.0	0.0	0.0
After 10 Minutes		0.0	0.0	74.0	1.5	0.0	24.5	0.0	0.0	0.0
Steady State		0.0	0.0	74.0	1.5	0.0	24.5	0.0	0.0	0.0
min		0.0	0.0	74.0	0.0	0.0	23.2	0.0	0.0	0.0
max		0.0	0.0	76.8	1.5	0.0	24.5	30.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0 L/hr		
Comments:										

Key:

dP - differential pressure (well-atmosphere)

LEL - Lower Explosive Limit (methane)

N₂ - nitrogen

CO₂ - carbon dioxide

TS - Topsoil, MG - Made Ground, BTS - Buried Topsoil, GD - Glacial Diamiction, WR - Weathered Rock, R - Rock, C - Coal, G - Grout

CH₄ - methane

O₂ - oxygen

H₂S - Hydrogen sulphide

PID - measure of volatile organic compounds

Date:	11/02/2025	Atmospheric Pressure (start):	1,004 mb	Trend:	Rising
Time:	9:30	Atmospheric Pressure (end):	1,005 mb		
Engineer:	JA	Site Status:	Open grass with demolished building		
Weather:	Clear, dry, cold	Ground Conditions:	Dry Ground		
Instrument:	Gas Data LMSxi G3.18e meter	Next Calibration Due Date:	16/8/2025		
Instrument:	Phocheck 2000+ FID	Next Calibration Due Date:	09/11/2025		

Well ID:	R0202	Well dia.(mm):	50	Date installed:	28/11/2024	Response stratum:		Interbedded Coal and Mudstone		
		Well depth (m):	14.63				Groundwater depth (m):		13.47	
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		63.0	0.0	76.9	0.0	0.0	23.1	0.0	6.5	0.2
After 30 Seconds		63.0	0.0	73.6	2.1	0.0	24.3	0.0	6.5	0.0
After 1 Minute		63.0	0.0	72.8	2.1	0.0	25.1	0.0	6.5	0.0
After 2 Minutes		63.0	0.0	72.3	2.1	0.0	25.6	0.0	6.5	0.0
After 3 Minutes		63.0	0.0	72.2	2.1	0.0	25.7	0.0	6.5	0.0
After 4 Minutes		63.0	0.0	72.0	2.2	0.0	25.8	0.0	6.5	0.0
After 5 Minutes		63.0	0.0	72.0	2.2	0.0	25.8	0.0	6.5	0.0
After 6 Minutes		63.0	0.0	72.0	2.2	0.0	25.8	0.0	6.5	0.0
After 7 Minutes		63.0	0.0	72.0	2.2	0.0	25.8	0.0	6.5	0.0
After 8 Minutes		63.0	0.0	72.0	2.2	0.0	25.8	0.0	6.5	0.0
After 9 Minutes		63.0	0.0	72.0	2.2	0.0	25.8	0.0	6.5	0.0
After 10 Minutes		63.0	0.0	72.0	2.2	0.0	25.8	0.0	6.5	0.0
Steady State		63.0	0.0	72.0	2.2	0.0	25.8	0.0	6.5	0.0
min		63.0	0.0	72.0	0.0	0.0	23.1	0.0	6.5	0.0
max		63.0	0.0	76.9	2.2	0.0	25.8	0.0	6.5	0.2
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.14 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0.143 L/hr	
Comments:										

Well ID:	R0203	Well dia.(mm):	50	Date installed:	30/11/2024	Response stratum:		Shallow Sandstone		
		Well depth (m):	4.00			Groundwater depth (m):		Dry		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	0.0	77.2	0.0	0.0	22.8	0.0	0.0	0.1
After 30 Seconds		0.0	0.0	74.5	1.7	0.0	23.8	0.0	0.0	0.2
After 1 Minute		0.0	0.0	74.0	1.7	0.0	24.3	0.0	0.0	0.2
After 2 Minutes		0.0	0.0	73.8	1.7	0.0	24.5	-25.0	0.0	0.2
After 3 Minutes		0.0	0.0	73.7	1.7	0.0	24.6	330.0	0.0	0.2
After 4 Minutes		0.0	0.0	73.5	1.7	0.0	24.8	-30.0	0.0	0.2
After 5 Minutes		0.0	0.0	73.6	1.7	0.0	24.7	220.0	0.0	0.2
After 6 Minutes		0.0	0.0	73.6	1.7	0.0	24.7	-30.0	0.0	0.2
After 7 Minutes		0.0	0.0	73.7	1.6	0.0	24.7	0.0	0.0	0.2
After 8 Minutes		0.0	0.0	73.7	1.6	0.0	24.7	0.0	0.0	0.2
After 9 Minutes		0.0	0.0	73.7	1.6	0.0	24.7	25.0	0.0	0.2
After 10 Minutes		0.0	0.0	73.8	1.6	0.0	24.6	0.0	0.0	0.2
Steady State		0.0	0.0	73.8	1.6	0.0	24.6	0.0	0.0	0.2
min		0.0	0.0	73.5	0.0	0.0	22.8	-30.0	0.0	0.1
max		0.0	0.0	77.2	1.7	0.0	24.8	330.0	0.0	0.2
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0 L/hr	
Comments:										

Well ID:	R0204	Well dia. (mm):	50	Date installed:	30/11/2024	Response stratum:	Interbedded Coal and Mudstone			
		Well depth (m):	13.79			Groundwater depth (m):	13.67			
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		61.0	0.0	76.9	0.0	0.0	23.1	0.0	6.4	0.2
After 30 Seconds		61.0	0.0	74.3	1.2	0.0	24.5	0.0	6.4	0.5
After 1 Minute		61.0	0.0	73.7	1.2	0.0	25.1	0.0	6.4	0.5
After 2 Minutes		61.0	0.0	72.9	1.2	0.0	25.9	-10.0	6.4	0.5
After 3 Minutes		61.0	0.0	72.8	1.2	0.0	26.0	25.0	6.4	0.5
After 4 Minutes		61.0	0.0	73.1	1.2	0.0	25.7	0.0	6.4	0.5
After 5 Minutes		61.0	0.0	72.8	1.2	0.0	26.0	180.0	6.4	0.5
After 6 Minutes		61.0	0.0	72.8	1.2	0.0	26.0	320.0	6.4	0.5
After 7 Minutes		61.0	0.0	72.5	1.2	0.0	26.3	-25.0	6.4	0.5
After 8 Minutes		61.0	0.0	72.7	1.2	0.0	26.1	0.0	6.4	0.5
After 9 Minutes		61.0	0.0	72.7	1.2	0.0	26.1	0.0	6.4	0.5
After 10 Minutes		61.0	0.0	72.7	1.2	0.0	26.1	0.0	6.4	0.5
Steady State		61.0	0.0	72.7	1.2	0.0	26.1	0.0	6.4	0.5
min		61.0	0.0	72.5	0.0	0.0	23.1	-25.0	6.4	0.2
max		61.0	0.0	76.9	1.2	0.0	26.3	320.0	6.4	0.5
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.08 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0.0768 L/hr	
Comments:										

Well ID:	R0205	Well dia. (mm):	50	Date installed:	29/11/2024	Response stratum:		Interbedded Coal and Mudstone		
		Well depth (m):	12.82			Groundwater depth (m):		Dry		
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		58.0	0.0	77.0	0.0	0.0	23.0	0.0	6.1	0.0
After 30 Seconds		58.0	0.0	75.2	0.9	0.0	23.9	0.0	6.1	0.0
After 1 Minute		58.0	0.0	74.7	0.9	0.0	24.4	0.0	6.1	0.0
After 2 Minutes		58.0	0.0	74.6	0.9	0.0	24.5	0.0	6.1	0.0
After 3 Minutes		58.0	0.0	74.7	0.9	0.0	24.4	0.0	6.1	0.0
After 4 Minutes		58.0	0.0	74.5	0.9	0.0	24.6	0.0	6.1	0.0
After 5 Minutes		58.0	0.0	74.6	0.9	0.0	24.5	0.0	6.1	0.0
After 6 Minutes		58.0	0.0	74.5	0.9	0.0	24.6	40.0	6.1	0.0
After 7 Minutes		58.0	0.0	74.5	0.9	0.0	24.6	-25.0	6.1	0.0
After 8 Minutes		58.0	0.0	74.5	0.9	0.0	24.6	0.0	6.1	0.0
After 9 Minutes		58.0	0.0	74.5	0.9	0.0	24.6	0.0	6.1	0.0
After 10 Minutes		58.0	0.0	74.5	0.9	0.0	24.6	0.0	6.1	0.0
Steady State		58.0	0.0	74.5	0.9	0.0	24.6	0.0	6.1	0.0
min		58.0	0.0	74.5	0.0	0.0	23.0	-25.0	6.1	0.0
max		58.0	0.0	77.0	0.9	0.0	24.6	40.0	6.1	0.0
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.05 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.0549 L/hr		
Comments:										

Well ID:	R0205a	Well dia.(mm):	50	Date installed:	30/11/2024	Response stratum:		Shallow Sandstone		
		Well depth (m):	3.91			Groundwater depth (m):		3.75		
Monitored Variables		dP (Pa)	LEL (%)	N₂ (%)	CO₂ (%)	CH₄ (%)	O₂ (%)	H₂S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		61.0	0.0	77.0	0.0	0.0	23.0	0.0	6.3	0.2
After 30 Seconds		58.0	0.0	74.1	1.5	0.0	24.4	0.0	5.8	0.4
After 1 Minute		58.0	0.0	72.8	1.4	0.0	25.8	0.0	5.8	0.3
After 2 Minutes		58.0	0.0	#VALUE!	1.7	0.0	>>>>	0.0	5.8	0.3
After 3 Minutes		58.0	0.0	#VALUE!	1.5	0.0	>>>>	0.0	5.8	0.3
After 4 Minutes		58.0	0.0	#VALUE!	1.5	0.0	>>>>	0.0	5.8	0.3
After 5 Minutes		58.0	0.0	#VALUE!	1.5	0.0	>>>>	0.0	5.8	0.3
After 6 Minutes		58.0	0.0	#VALUE!	1.5	0.0	>>>>	0.0	5.8	0.3
After 7 Minutes		58.0	0.0	#VALUE!	1.5	0.0	>>>>	0.0	5.8	0.3
After 8 Minutes		58.0	0.0	#VALUE!	1.5	0.0	>>>>	0.0	5.8	0.3
After 9 Minutes		58.0	0.0	#VALUE!	1.5	0.0	>>>>	0.0	5.8	0.3
After 10 Minutes		58.0	0.0	#VALUE!	1.5	0.0	>>>>	0.0	5.8	0.3
Steady State		58.0	0.0	#VALUE!	1.5	0.0	>>>>	0.0	5.8	0.3
<i>min</i>		58.0	0.0	#VALUE!	0.0	0.0	23.0	0.0	5.8	0.2
<i>max</i>		61.0	0.0	#VALUE!	1.7	0.0	25.8	0.0	6.3	0.4
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.11 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0.087 L/hr	
Comments:										

Well ID:	R0206	Well dia.(mm):	50	Date installed:	29/11/2024		Response stratum:		Interbedded Coal and Mudstone		
		Well depth (m):	17.33					Groundwater depth (m):		16.94	
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)	
Immediate Reading		60.0	0.0	76.8	0.0	0.0	23.2	0.0	6.3	0.2	
After 30 Seconds		60.0	0.0	75.4	0.7	0.0	23.9	0.0	6.3	0.0	
After 1 Minute		60.0	0.0	74.4	1.0	0.0	24.6	0.0	6.3	0.0	
After 2 Minutes		60.0	0.0	74.2	1.0	0.0	24.8	0.0	6.3	0.0	
After 3 Minutes		60.0	0.0	74.1	1.0	0.0	24.9	0.0	6.3	0.0	
After 4 Minutes		60.0	0.0	74.1	1.0	0.0	24.9	0.0	6.3	0.0	
After 5 Minutes		60.0	0.0	74.1	1.0	0.0	24.9	0.0	6.3	0.0	
After 6 Minutes		60.0	0.0	74.1	1.0	0.0	24.9	0.0	6.3	0.0	
After 7 Minutes		60.0	0.0	74.1	1.0	0.0	24.9	0.0	6.3	0.0	
After 8 Minutes		60.0	0.0	74.1	1.0	0.0	24.9	0.0	6.3	0.0	
After 9 Minutes		60.0	0.0	74.1	1.0	0.0	24.9	0.0	6.3	0.0	
After 10 Minutes		60.0	0.0	74.1	1.0	0.0	24.9	0.0	6.3	0.0	
Steady State		60.0	0.0	74.1	1.0	0.0	24.9	0.0	6.3	0.0	
min		60.0	0.0	74.1	0.0	0.0	23.2	0.0	6.3	0.0	
max		60.0	0.0	76.8	1.0	0.0	24.9	0.0	6.3	0.2	
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr		Carbon Dioxide	0.06 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr		Carbon Dioxide	0.063 L/hr		
Comments:											

Well ID:	R0207	Well dia.(mm):	50	Date installed:	29/11/2024	Response stratum:	Interbedded Coal and Mudstone			
		Well depth (m):	9.65			Groundwater depth (m):	9.49			
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)	
Immediate Reading	10.0	0.0	76.7	0.0	0.0	23.3	0.0	1.8	0.1	
After 30 Seconds	10.0	0.0	74.4	0.8	0.0	24.8	0.0	1.8	0.4	
After 1 Minute	10.0	0.0	75.2	0.8	0.0	24.0	0.0	1.8	0.4	
After 2 Minutes	10.0	0.0	75.0	0.8	0.0	24.2	0.0	1.8	0.4	
After 3 Minutes	10.0	0.0	75.0	0.8	0.0	24.2	0.0	1.8	0.4	
After 4 Minutes	10.0	0.0	75.0	0.8	0.0	24.2	0.0	1.8	0.4	
After 5 Minutes	10.0	0.0	75.0	0.8	0.0	24.2	0.0	1.8	0.4	
After 6 Minutes	10.0	0.0	75.0	0.8	0.0	24.2	0.0	1.8	0.4	
After 7 Minutes	10.0	0.0	75.0	0.8	0.0	24.2	0.0	1.8	0.4	
After 8 Minutes	10.0	0.0	75.0	0.8	0.0	24.2	0.0	1.8	0.4	
After 9 Minutes	10.0	0.0	75.0	0.8	0.0	24.2	0.0	1.8	0.4	
After 10 Minutes	10.0	0.0	75.0	0.8	0.0	24.2	0.0	1.8	0.4	
Steady State	10.0	0.0	75.0	0.8	0.0	24.2	0.0	1.8	0.4	
min	10.0	0.0	74.4	0.0	0.0	23.3	0.0	1.8	0.1	
max	10.0	0.0	76.7	0.8	0.0	24.8	0.0	1.8	0.4	
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.01 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.0144 L/hr		
Comments:										

Well ID:	R0208	Well dia.(mm):	50	Date installed:	28/11/2024	Response stratum:	Shallow Sandstone			
		Well depth (m):	3.91			Groundwater depth (m):	Dry			
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)	
Immediate Reading	60.0	0.0	76.5	0.0	0.0	23.5	0.0	6.3	0.0	
After 30 Seconds	60.0	0.0	75.9	0.6	0.0	23.5	0.0	6.3	0.0	
After 1 Minute	60.0	0.0	75.7	0.6	0.0	23.7	0.0	6.3	0.0	
After 2 Minutes	60.0	0.0	75.7	0.6	0.0	23.7	0.0	6.3	0.0	
After 3 Minutes	60.0	0.0	75.6	0.6	0.0	23.8	30.0	6.3	0.0	
After 4 Minutes	60.0	0.0	75.6	0.6	0.0	23.8	0.0	6.3	0.0	
After 5 Minutes	60.0	0.0	75.6	0.6	0.0	23.8	0.0	6.3	0.0	
After 6 Minutes	60.0	0.0	75.6	0.6	0.0	23.8	0.0	6.3	0.0	
After 7 Minutes	60.0	0.0	75.6	0.6	0.0	23.8	0.0	6.3	0.0	
After 8 Minutes	60.0	0.0	75.6	0.6	0.0	23.8	0.0	6.3	0.0	
After 9 Minutes	60.0	0.0	75.6	0.6	0.0	23.8	0.0	6.3	0.0	
After 10 Minutes	60.0	0.0	75.6	0.6	0.0	23.8	0.0	6.3	0.0	
Steady State	60.0	0.0	75.6	0.6	0.0	23.8	0.0	6.3	0.0	
min	60.0	0.0	75.6	0.0	0.0	23.5	0.0	6.3	0.0	
max	60.0	0.0	76.5	0.6	0.0	23.8	30.0	6.3	0.0	
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.04 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.0378 L/hr		
Comments:										

Key:

dP - differential pressure (well-atmosphere)

LEL - Lower Explosive Limit (methane)

N₂ - nitrogen

CO₂ - carbon dioxide

TS - Topsoil, MG - Made Ground, BTS - Buried Topsoil, GD - Glacial Diamiction, WR - Weathered Rock, R - Rock, C - Coal, G - Grout

CH₄ - methane

O₂ - oxygen

H₂S - Hydrogen sulphide

PID - measure of volatile organic compounds