

THE PADDOCK, DYFFRYN, NEATH, SA10 7BQ

Phase II:

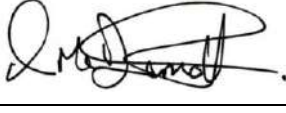
Ground Investigation Interpretative Report

Report No. Q1813/GIR/R3

May 2026

DOCUMENT CONTROL

Contract Name:	The Paddock, Dyffryn, Neath
Contract Reference:	Q1813
Report Type:	Phase II – Ground Investigation Interpretative Report
Report Reference:	Q1813/GIR/R3
Date of Report Production:	May 2026
Client:	Mr Andrew Follant and Miss Sam Toone

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0.0 FOREWORD

The following Conditions and Notes on Site Investigation Procedures should be read in conjunction with this report.

0.1 General

Recommendations made and opinions expressed in the report are based on the strata observed in the excavations, together with the results of site and laboratory tests. No responsibility can be held for conditions which have not been revealed by the Exploratory Holes or which occur between Exploratory Holes. Whilst the report may suggest the likely configuration of strata, both between Exploratory Holes and below the maximum depth of investigation, this is only indicative, and liability cannot be accepted for its accuracy.

Unless specifically stated, no account has been taken of possible subsidence due to mineral extraction below or close to the site.

0.2 Investigation Procedures

Rotary Probe Boreholes, Windowless Sample Borehole and Trial Pitting for ground investigation have been employed within the project. All Exploratory Hole operations, sampling and logging of soils, rocks and in-situ testing complies with the recommendations of the British Code of Practice BS 5930: 2015+A1 2020 'Site Investigations', British Code of Practice BS 10175: 2011 +A1:2013 'Investigation of Potentially Contaminated Sites' and BS 1377: 1990, 'Methods of Test for Soils for Engineering Purposes'.

0.3 Routine Sampling

Representative bulk disturbed samples of the different strata are taken following completion of logging. These samples are sealed and labelled in clear plastic bags and 2kg plastic tubs. All samples are returned from site to QGL's facility for controlled storage within 24 hours of sampling to await test scheduling/ requirements.

0.4 In-Situ Testing, Surveying & Instrumentation

In-situ testing comprised:

- Standard Penetration Tests within Windowless Sample Boreholes

0.5 Groundwater

Where possible, the depth of entry of any influx of groundwater is recorded during the course of excavation or boring operations. The rate of inflow into the excavation or borehole is monitored during the course of the excavation or during boring procedures. Upon encountering any water strikes, work is temporarily halted, and the water levels monitored for a standard twenty-minute period recording the change in water level at the end of the twenty minutes.

Groundwater conditions observed in the excavations are those appertaining to the period of investigation. It should be noted, however, that groundwater levels are subject to diurnal, seasonal and climatic variations and can also be affected by drainage conditions or other causes.

0.6 Retention of Samples

After satisfactory completion of all the scheduled laboratory tests on any sample, the remaining material is discarded. Unless otherwise instructed or detailed within the Contract, all soil and/or rock samples not tested will be discarded 28 days after submission of the approved final report.

EXECUTIVE SUMMARY

The following highlights the key findings, conclusions and recommendations obtained from the following Ground Investigation Report.

1	An intrusive ground investigation has been undertaken at the Paddock, Dyffryn, Neath.
2	The Ground investigation was scoped / designed by Spencer Quantum Ltd and delivered by Spencer Quantum Ltd in June and July 2025 and April 2026. The Ground Investigation comprised Windowless Sample Boreholes with Standard Penetration Testing, Rotary Boreholes and Trial Pits to provide information for the assessment of the ground conditions and suitability of the existing foundations, which remain in-situ, as well as providing information to assess the risk from unrecorded shallow mine workings, including a mine gas risk assessment.
3	The proposed development plan is to re-build a residential property, using the existing floor slab. It should be noted, based on information from the Client it is understood the proposed development site extends to the tree line crossing the southern area of the site, rather than the southern site boundary.

A Phase I Preliminary Risk Assessment (PRA) has been undertaken prior to the intrusive investigation (Report Ref: Q0759/PRA, March 2022). The PRA concluded:

Geotechnical:

- The geological map for the overall site area indicates the site is to be mantled by Glacial Till.
- The bedrock geology on the site study area is a Mudstone, Siltstone and Sandstone.
- Made Ground in the form of former railway track/sidings may be present on / within, the eastern boundary of the site. Made Ground associated with a nearby recorded limekiln may be present in the southern area of the site.

Geo-Environmental:

- The potential for Made Ground or shallow soils that may be present could contain potential contaminants of concern have been identified in the development area of the site, particularly any associated with the former tramway on / within the eastern site boundary. The potential exists for demolition material to be present that has the potential to contain Asbestos fibres, although based on records from the waste recipient, this is considered unlikely.
- Potential for off-site sources of contamination to the site are considered to be possible with the adjacent former lime kiln to the south of the site.
- There is a possibility of leaching of any potentially contaminated soils off site into the controlled waters, but these will not be additional to entry that has already occurred.

Recommendations

A number of potential geotechnical and geo-environmental issues have been identified within this study. The following recommendations are made:

- In relation to any geo-environmental/contaminated land issues, the desk study has identified the possibility of made ground being locally present on the site in the area. A ground investigation should be undertaken to investigate the nature and extent of any Made Ground.
- There is a risk of made ground being present adjacent to the site and therefore a potential source of land contamination. However, this is highly unlikely to be disturbed as part of the development of the site to an extent that could pose a risk to site end users, site workers or controlled waters, nor will it be additional to entry that has already occurred in relation to controlled waters.
- The ground investigation will need to investigate the areas identified as possibly containing Made Ground, namely the eastern extent of the site along the route of the mapped tramway, and the south eastern corner of the site, within the vicinity of the off-site lime kiln. In addition, exploratory holes should be undertaken across the site for general site coverage.
- A general suite of contaminants should be undertaken on any samples of Made Ground and shallow natural soils.

Blandford Consulting undertook a Coal Mining Risk Assessment: Land at The Paddocks, Bryn Coch, Neath (Report Ref: BC/MB/04.22.02)

The Blandford Consulting Coal Mining Risk Assessment concluded the following:

The Coal Authority's mining report and on-line resource both identify the presence of shallow mine workings underlying the Site. Deeper old workings in the Swansea Four Feet and other seams lower in the geological sequence, down to a depth of some 410m, are of an age and are at depths such that they pose no risk to the development. To assess in detail the potential risk of the recorded shallow old workings beneath the Site collapsing to the surface the precise depth and nature of the old workings should be determined by means of exploratory boreholes. Drilling the boreholes will require a permit from The Coal Authority.

Our searches found no recorded, disused shaft or adit within the confines of the Site or 20m of it. The risk of an unrecorded disused mine entry being present within the confines of the Site is considered to be very low. There is no evidence on historic Ordnance Survey plans of features associated with a coal mine surface being present on or in the immediate vicinity of the Site. Nevertheless, it would be prudent to monitor excavations associated with the redevelopment of the Site and if anything unusual is observed, excavation work should be stopped immediately, and advice sought from a Chartered Geologist or from The Coal Authority.

Mine Gases

There are recorded shallow mine workings in the vicinity of the Site that could act as a source of mine gases. The recommended exploratory boreholes should be monitored for the presence of mine gases.

	Summary of Recommendations The risk from shallow mine workings and from mine gases should be assessed by means of exploratory boreholes. The borehole programme should be designed and supervised by a Chartered Geologist or other competent person and will require a permit from The Coal Authority. The risk of an unrecorded, disused mine entry being present within the confines of the Site is considered to be very low. Nevertheless, if any unusual features are encountered during excavation works, the works must be stopped immediately, and advice sought from a Chartered Geologist or from The Coal Authority.
5	The area under review is currently a large grassed area with several outbuildings, an asphalt access track / driveway and the floor slab of the former residential building in the northern area of the site.
6	Ground Conditions The site study area is underlain by Topsoil over Glacial Till (cohesive) overlying Bedrock containing Intact Coal and soft ground / possible collapsed Mine Workings. A localised pocket / thin layer of Made Ground was present below the Topsoil to the south of the building. A linear deposit of Made Ground, associated with an historic railway, was proven along the eastern edge of the site. The proven depth of the Made Ground ranged between 0.9 and 1.2mbgl. This Made Ground is likely to be associated with the infilled tramway cutting. No Made Ground was identified in the southern area of the site that may be associated with the historic off-site Lime Kiln. Groundwater was not encountered within any of the exploratory holes during the ground investigation. Post fieldwork monitoring measured groundwater levels of between 20.4 and 23.02mbgl within the Borehole standpipes. Monitoring standpipes installed within the superficial deposits at shallow depths were found to be dry.
7	Foundation Recommendations The shallow firm to stiff Glacial Till deposits will provide a suitable founding strata for the proposed development and will provide an allowable bearing capacity in excess of 100kN/m². The existing floor slab / foundations must be founded on the Glacial Till Deposits or a suitable Engineered Fill to allow the re-use of the floor slab / foundations.
8	Shallow Mine Workings Stability Assessment In terms of the risk from historic shallow mine workings, a soft zone was identified within the Upper Coal Measures in two of the three boreholes drilled, which have been interpreted to possibly be collapsed historic mine workings. No voids were revealed. The shallowest possible collapsed mine workings were identified between 21.0 and 23.0mbgl within BH03. At 21.0mbgl, there is 9.5m of soil cover and 11.5m of bedrock cover. With no 'open' voided workings revealed, the risk of substantial collapse or subsidence at surface is therefore considered to be very low, particularly with 11.5m of overlying bedrock. Based on the ground conditions identified, we would recommend any development on the site includes a rafted reinforced slab type foundation, capable of spanning a 3m void, and mitigate any potential minor ground movement, albeit the risk is considered low. It is understood the existing slab from the previous building that occupied the site and the proposed extension that remains in-situ comprises a 200mm thick reinforced raft. A Structural Engineer should confirm that the existing slab is suitable.

9	Geo-Environmental Assessment – Risk to Human Health Based on the laboratory test results from the intrusive investigation, elevated concentrations of Dibenz(a,h)anthracene and Naphthalene within the Made Ground in WS02 between 0.9 and 1.2mbgl present within WS02 undertaken to the south of the former building. No other potentially significantly elevated potential contaminant concentrations were measured. The Made Ground containing potentially significantly elevated Dibenz(a,h)anthracene and Naphthalene concentrations was a 0.3m thick layer encountered in a single exploratory and is therefore considered to be a contamination 'hotspot'. As this Made Ground is overlain by 0.9m of Topsoil that does not contain potentially significantly elevated potential contaminant concentrations, the risk to future site users from this Made Ground through dermal contact or ingestion is considered to be negligible. PID readings showed no Isobutylene levels and therefore, there is not considered to be a risk from volatile contaminants. If ground levels are to be reduced, the risk to receptors from the potentially contaminated Made Ground may be increased and further assessment will be required. The Made Ground present along the eastern edge of the site was not found to contain any potentially significantly elevated potential contaminant concentrations. No potentially significantly elevated potential contaminant concentrations were measured in samples of the near surface soils in the southern area of the site, within the vicinity of the historic lime kiln. If potentially contaminated soil is encountered during the development / construction, SQL and the Local Authorities Contaminated Land Officer should be informed and additional testing as assessment undertaken.
10	Ground / Mine Gas Risk Assessment The initial Generic Screening Risk Assessment indicates that the 'Worst Credible' classification is CS1 (very low risk classification), where no protective measures are considered necessary. A generic screening assessment does not take into account the full lines of evidence and does not consider the gCSM. The following conclusions can be made: • Low volumes of ground gas and negligible flow rates have been observed across the site, including in monitoring locations within identified coal seams and possible collapsed mine workings at depth and within the superficial deposits. The lines of evidence support the conclusion that both current and future gas generation potential is low. • There is no indication of significant volumes of gas migrating from depth toward the surface, demonstrated by the results of the spot monitoring from within the shallow superficial deposits. • The only potentially viable gas source that could pose a risk to the development is associated with historical mine workings however, there is an absence of significant gas concentrations or flow rates within the possible collapsed mine workings. • A significant thickness (over 10m) of low permeability superficial deposits have been proven to overlie the bedrock, which will remove the migratory pathway if mine gas within the possible collapsed mine workings is generated. • Any gas migration from depth is most likely to be driven by a concentration gradient and diffusive processes. This process is unlikely to contribute significant gas volumes in near surface soils. • Given the significant thickness of low permeability deposits, it is considered unlikely seasonal groundwater fluctuations within the bedrock may alter potential migration pathways, particularly within shallow soils. Based on the ground conditions proven, along with the readings from the gas monitoring undertaken, the site may be classified as a Characteristic Situation CS1. No gas protection measures are required.

1.0 INTRODUCTION

1.1 General

Upon the instructions of Mr Andrew Follant and Miss Sam Toone (Client), Spencer Quantum Ltd (SQL) has been commissioned to undertake a Ground Investigation for a proposed residential development at the Paddock, Dyffryn, Neath.

In this interpretative report, a factual account of the fieldwork and the strata encountered including groundwater observations are detailed. Guidance and recommendations on geotechnical and / or geo-environmental issues are provided along with details on any remedial or mitigative measures deemed necessary.

Although the Client owns the entire site, it is understood the development does not include the southern most extents of the site.

This report should be read in conjunction with:

- QGL. Phase I Preliminary Risk Assessment (Report Ref: Q0759/PRA)
- Blandford Consulting. Coal Mining Risk Assessment: Land at The Paddocks, Bryn Coch, Neath (Report Ref: BC/MB/04.22.02)

1.2 Purpose of Ground Investigation

The site was occupied by a concrete building that was identified as being structurally unstable during works to build an extension. The building was demolished to ground level, with the floor slab left in situ.

This investigation is required to satisfy planning conditions which identified the need for a Mine Gas Risk Assessment and an assessment of the nature and extent of any contamination.

The Client wishes to use the existing foundations and floor slab for the construction of the proposed residential property. This investigation aims to provide information to establish the suitability of the existing foundations and floor slab for use within the proposed structure / re-development. The existing foundation is believed to be a 6" thick reinforced raft.

The QGL Preliminary Risk Assessment concluded the following:

Geotechnical:

- *The geological map for the overall site area indicates the site is to be mantled by Glacial Till.*
- *The bedrock geology on the site study area is a Mudstone, Siltstone and Sandstone.*
- *Made Ground in the form of former railway track/sidings may be present on / within, the eastern boundary of the site.*

Geo-Environmental:

- The potential for Made Ground or shallow soils that may be present could contain potential contaminants of concern have been identified in the development area of the site, particularly any associated with the former tramway on / within the eastern site boundary. The potential exists for demolition material to be present that has the potential to contain Asbestos fibres.*
- Potential for off-site sources of contamination to the site are considered to be possible with the adjacent former lime kiln to the south of the site. It is understood the southern section of the site (south of the existing tree line) is not included within the development area and is to remain as a Paddock, with no change in use. Therefore any risk associated with the historic lime kiln to the development area is considered to be negligible.*
- There is a possibility of leaching of any potentially contaminated soils off site into the controlled waters, but these will not be additional to entry that has already occurred.*

Recommendations

A number of potential geotechnical and geo-environmental issues have been identified within this study. The following recommendations are made:

- In relation to any geo-environmental/contaminated land issues, the desk study has identified the possibility of made ground being locally present on the site in the area. A ground investigation should be undertaken to investigate the nature and extent of any Made Ground.*
- There is a risk of made ground being present adjacent to the site and therefore a potential source of land contamination. However, this is highly unlikely to be disturbed as part of the development of the site to an extent that could pose a risk to site end users, site workers or controlled waters, nor will it be additional to entry that has already occurred in relation to controlled waters.*

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Our searches found no recorded, disused shaft or adit within the confines of the Site or 20m of it. The risk of an unrecorded disused mine entry being present within the confines of the Site is considered to be very low. There is no evidence on historic Ordnance Survey plans of features associated with a coal mine surface being present on or in the immediate vicinity of the Site. Nevertheless, it would be prudent to monitor excavations associated with the redevelopment of the Site and if anything unusual is observed, excavation work should be stopped immediately, and advice sought from a Chartered Geologist or from The Coal Authority.

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Summary of Recommendations

The risk from shallow mine workings and from mine gases should be assessed by means of exploratory boreholes. The borehole programme should be designed and supervised by a Chartered Geologist or other competent person and will require a permit from The Coal Authority. The risk of an unrecorded, disused mine entry being present within the confines of the Site is considered to be very low. Nevertheless, if any unusual features are encountered during excavation works, the works must be stopped immediately, and advice sought from a Chartered Geologist or from The Coal Authority.

2.0 SITE DETAIL

2.1 Site Description

The site under review lies in the village of Dyffryn Clydach, Bryncoch, some 3km to the north of Neath town centre. The overall site is triangular in shape with the existing house in the northern part of the site.

The approximate National Grid Reference of the site is 273700E 199880N.

The extent of the site is indicated on the Client's site plan included in Appendix I. The overall site area covers around 0.65 hectares.

The site is relatively flat, predominantly laid to lawn with trees bordering the west and east sides of the site. An access road runs along the eastern side of the site, approximately from north to south. There are several single storey 'out buildings' in the eastern and southern area of the site. The house which formerly occupied the northern area of the site has been demolished to floor slab level with the floor slab and foundations remaining in-situ. The area surrounding the former building has either asphalt or grass covering. There is no demolition material that may be associated with the former building present.

An aerial view of the development area from current on-line mapping is presented below, (approximately outlined in yellow dashed line). It is understood the Client owns the paddock area immediately to the south of the identified development area (approximately outlined in red dashed line) and this is included within the site in terms of planning however, this is to remain in use as the existing paddock.

Aerial photographs of the site are also included in the Groundsure report presented in Appendix III dating from 2000 to 2020.

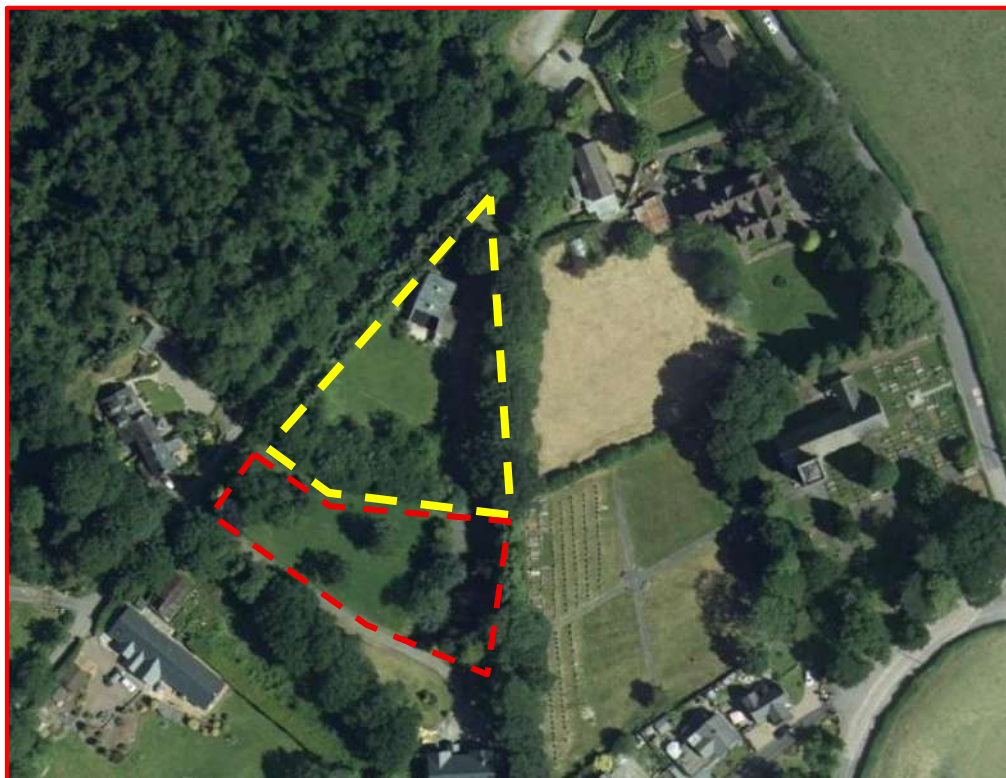


Figure 1: Aerial Image of Site ©2021 Microsoft

2.2 Published Geology

Details of the geology of the site are provided by British Geological Survey (BGS) Sheet SS79NW at 1:10,560 scale and BGS's online resource Geology of Britain Viewer.

The geological map indicates the site to be mantled by superficial deposits comprising Glacial Till (boulder clay).

The solid geology underlying the site is indicated to consist of strata from the Grovesend Formation of the Upper Pennant, Upper Coal Measures. These strata are predominantly mudstones, siltstone and sandstone. Productive coal seams are also present. The Little Bryncoch coal seam is mapped outcropping some 300m east of the site. Information as to the dip and strike of the strata at the surface is scant on the geological map, but from seam contours detailed in coal seams at depth, the strata appear to be dipping generally towards the north. The Cwm Felin Fault courses in a north-south direction to the west of the site. The hade of the fault is mapped in the workings of the Graigola seam at depth.

An extract of the geological map is presented below for reference, with the site location highlighted.

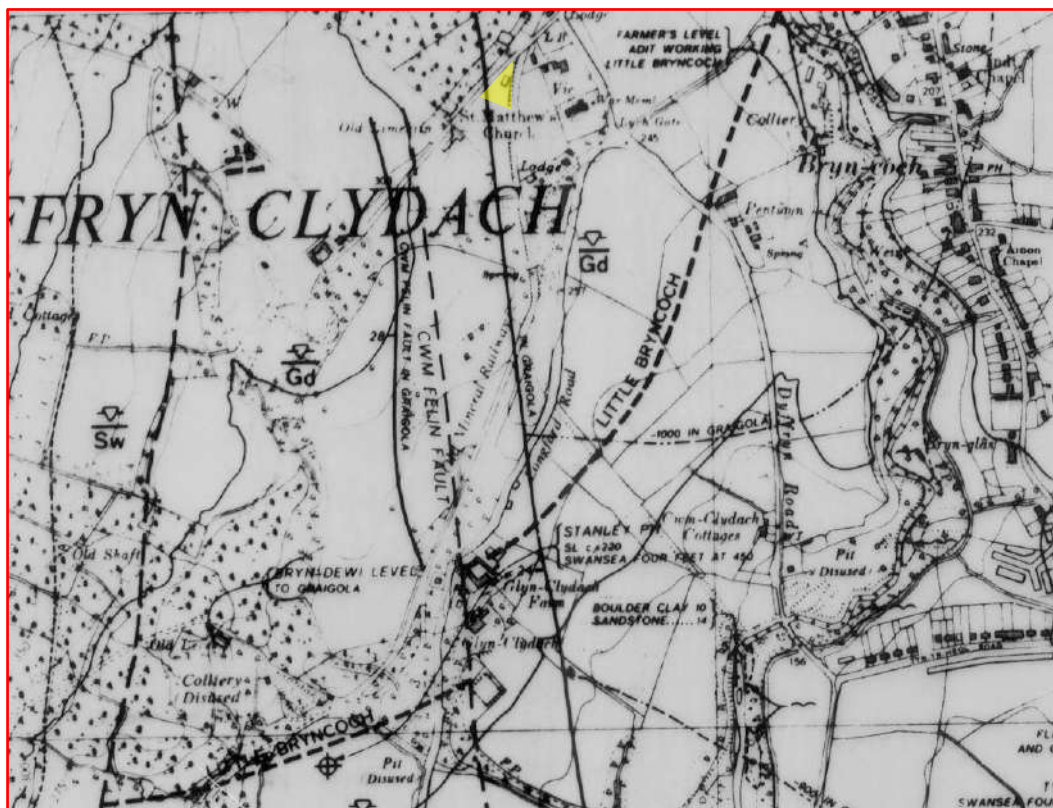


Figure 2: BGS Sheet SS79NW Extract ©NERC [Not to Scale]

2.3 Hydrogeology and Hydrology

The superficial soil deposits are a 'Secondary Undifferentiated' Aquifer. In general, these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.

Bedrock on site has been identified as a 'Secondary A' aquifer which is described as permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.

The site lies within the Surface Water Body Catchment as defined by the Water Framework Directive (WFD) as a 'River Catchment' of the River Clydach. It also falls within a WFD Groundwater Body area owing to the underlying Coal Measures bedrock.

2.4 Statutory Service Information

A complete set of Service plans were provided by the Client prior to starting the site works. QGL undertook full Cable Avoidance Tool (CAT) scans of each exploratory hole location before breaking the ground. Safe digging practices in accordance with HS(G)47 were employed when breaking and excavating grounds with all traceable services demarcated prior to works commencing.

3.0 FIELDWORK

3.1 General

In June, July and October 2025, Spencer Quantum Ltd (SQL) undertook a Ground Investigation at the Paddock, Dyffryn, Neath. Site supervision and attendance by an Engineering Geologist from SQL was undertaken on a part time basis of the site works and subsequent reinstatement works of all exploratory hole locations. All Site Personnel were inducted by SQL and briefed of the pertinent Risk Assessments and Method Statements relating to the tasks to be undertaken. No incidents or near misses were recorded during the fieldworks, with the works being incident free.

No deviations from the Standards and Procedures adopted for the works were recorded.

All exploratory hole locations were subject to the hand excavation of a 1.2m deep service/ utility inspection pit prior to any drilling. Also, each area of investigation was fully CAT ('Cable Avoidance Tool') scanned prior to breaking ground.

A summary of the fieldworks completed is outlined below.

Standard Geotechnical and Geo-Environmental Investigation

- 3 No. Windowless Sample Boreholes
- 5 No. Trial Pits

Shallow Mine Working and Mine Entry Investigation

- 3 No. Rotary Probe Boreholes

Ground Gas Assessment

- 3 No. Ground Gas / Water Monitoring Installations with Continuous Ground Gas monitoring
- 2 No. Ground Gas / Water Monitoring Installations with Spot Monitoring

3.2 Exploratory Hole Locations

The exploratory hole locations were set out by a SQL Engineering Geologist at locations specified by SQL to obtain as best coverage of the site, to investigate the nature and extent of artificial ground identified within the PRA in the eastern area of the site, the potential for Made Ground in the Paddock area to the south of the site that may be associated with the nearby historic Lime Kiln and where access could be gained with the investigation equipment. An Exploratory Hole Location Plan is presented as Figure 1 in Appendix I.

The sampling strategy was designed in accordance with CLR4 and BS10175:2011+A2:2017 given consideration to the Preliminary Risk Assessment and the potential contamination sources and pathways.

No demolition material is present on site that may be associated with the demolition of the house which formerly occupied the site. Therefore no exploratory holes focused on the investigation of any such material.

3.3 Rotary Probe Boreholes

A total of 3 No. Rotary Percussive Boreholes (BH01-03) were undertaken during the site works to investigate any risk associated with historic shallow mine workings, within the area of the proposed house. The Rotary Probe Boreholes were drilled using a Comacchio 450 drill rig. All rotary probe boreholes were kept open using an ODEX system of 115mm casing. A combination of drilling systems were used to progress the boreholes through rock, with water flush used to clear the hole of returns and debris.

A summary of the Rotary Percussive Boreholes including termination details is presented in Table 1. A complete set of Engineering Geologist's Rotary Percussive Borehole logs are presented within Appendix II.

Table 1: Rotary Percussive Borehole Detail

Exploratory Hole ID	Terminated Depth (m.bgl)	Reason for Termination
BH01	27.00	Loss of flush
BH02	30.00	Scheduled Depth
BH03	27.00	Loss of flush

3.4 Windowless Sample Boreholes

A total of 3 No. Windowless Sample Boreholes (WS01-WS03) were undertaken on site. Windowless Sampling techniques involve a sampler dynamically driven down to depth using sampling tubes, nominally 116mm in diameter and reducing as depth increases. This technique allows a relatively undisturbed sample of soil to be taken in a plastic liner, or alternatively sub sampled as a disturbed jar sample. Within competent granular-cohesive soils the portable equipment used for Windowless Sampling is limited by the nature of the ground and robustness of the driving tool. The recovered sample liners were subsequently split and logged on site in accordance with BS5930: 2018; BS EN ISO 14688-1:2018 and BS EN ISO 14688-2:2018, by a Quantum Engineering Geologist. Each Windowless Sample location was reinstated with Bentonite and surface replaced as per pre-existing or a secure cover where installations were made.

The sequence of deposits encountered during the investigation is detailed within the Engineering Geologist's logs presented within Appendix III. The logs highlight the nature of the soils encountered and provide descriptions of the strata revealed at the site. Details of the Windowless Sample Boreholes, including final depths in metres below ground level (m bgl) are summarised below in Table 2.

Table 2: Windowless Sample Borehole Summary

Exploratory Hole ID	Terminated Depth (m.bgl)	Reason for Termination
WS02	2.0	Refusal
WS03	3.2	Refusal
WS04	3.2	Refusal

A set of Engineer's Windowless Sample Borehole logs and photographs are presented within Appendix III.

3.5 Trial Pits

9 No. machine excavated trial pits were undertaken across the site. Three were excavated close to the eastern site boundary to investigate the nature and extent of possible Made Ground associated with an historic railway. Four were undertaken within the paddock area in the southern area of the site to investigate the potential presence of Made Ground associated with the nearby Lime Kiln. Two further trial pits were undertaken in the central area of the site to provide general site coverage. The Trial Pits were excavated using a 1.5T and 3.0T tracked excavator supplied by the Client.

The trial pitting method of investigation allows direct sampling of the near surface deposits for identification purposes, as well as assessment of any salient features, foundations and Made Ground or disturbed ground. The trial pits were logged in accordance with BS5930:2015+A1:2020; BS EN ISO 14688-1:2002 and BS EN ISO 14688-2:2004, and supervised at all times by an Engineering Geologist from SQL. All the trial pits were backfilled with compacted layers of arisings upon completion.

Details of the Trial Pits including final depths in metres below ground level (mbgl) are provided in Table 3.

Table 3: Trial Pit Detail

Exploratory Hole ID	Trial Pit Type	Terminated Depth (mbgl)	Reason for Termination
TP01	Machine Excavated	1.40	Natural Ground Proven
TP02	Machine Excavated	1.70	Natural Ground Proven
TP03	Machine Excavated	1.40	Natural Ground Proven
TP04	Machine Excavated	0.60	Natural Ground Proven
TP05	Machine Excavated	0.50	Natural Ground Proven
TP201	Machine Excavated	1.0	Natural Ground Proven

TP202	Machine Excavated	1.0	Natural Ground Proven
TP203	Machine Excavated	1.0	Natural Ground Proven
TP204	Machine Excavated	1.0	Natural Ground Proven

A set of Engineer's trial pit logs and photographs are presented within Appendix IV.

3.6 Standard Penetration Tests (SPTs)

Standard penetration tests (SPTs) were undertaken at 1.0m intervals in the windowless sample boreholes up to refusal.

This is a dynamic test as described in BS1377:1990 - Part 9 and is a measure of the density of the soil or rock. Within fine grained or cohesive soils, the test incorporates a small diameter tube (650mm length, 50mm external diameter and 35mm internal diameter) with a cutting shoe known as the 'split barrel sampler'. The sampler is forced into the soil dynamically using blows from a 63.5kg hammer dropped through 760mm. The sampler is initially advanced 150mm into the soil with seating blows, then the number of blows required to advance the sampler each 75mm increment up to a depth of 300mm is recorded. This cumulative total number of blows over the 300mm test is referred to as the "N" value. For coarse gravels and bedrock, the split barrel is replaced by a solid 60° cone.

SPT results can be found on the corresponding borehole logs in Appendix II & III.

3.7 Land gas and Groundwater Standpipe Installations

50mm internal diameter standpipes were installed in selected boreholes for the purposes of land gas and groundwater monitoring and sampling.

Monitoring standpipes consist of plastic pipework set in filter aggregate (pea gravel) forming a well. The filter is sealed at one or both ends by use of bentonite pellets which 'go off' and become watertight. Parts of the pipe itself are slotted, allowing the infiltration of groundwater which can then be accessed through the pipe from ground level. Slotted sections are covered by 'geo-sock' to reduce the intrusion of silt into the standpipes and the range of depths at which the groundwater is intercepted is known as the 'response zone'.

Standpipes were installed using a combination of 1m and 3m lengths of pipework (threaded at either end) fitted together and lowered into the borehole. The boreholes were then filled with either pea gravel or bentonite pellets (depending on which zone or level) and cemented in place at ground level with a steel flush cover.

Each standpipe installation was designed by the Investigation Supervisor and instructed on site, after the

completion of each borehole. All standpipe installations were sealed above the response zone by a minimum of 0.50m of bentonite pellets.

A summary of the pipe installation details is presented in Table 4.

Table 4: Borehole Installation Details

Exploratory Hole ID	Installation Pipe ID	Standpipe Diameter (Internal mm)	Response Zone (mbgl)		Total Standpipe Length (m)
			Top	Bottom	
BH01	A	50	19.00	25.00	25.00
BH02	A	50	18.00	24.00	24.00
BH03	A	50	15.00	24.50	24.50
WS01	A	50	1.00	2.00	2.00
WS02	A	50	1.00	3.20	3.20

4.0 LABORATORY TESTING

4.1 General

The laboratory testing was scheduled by SQL and comprised several geotechnical, geo-chemical and environmental tests on selected soil and soil derived leachate samples obtained during the investigation.

4.2 Geotechnical Laboratory Testing

Due to ground conditions encountered, no geotechnical laboratory testing was undertaken as part of this investigation.

4.3 Geo-Environmental Laboratory Testing

Geo-environmental testing was carried out on selected soil and soil leachate derived samples gained from the ground investigation. The purpose of the testing is to gain a holistic view of any raised levels of contaminants that may exist onsite. Table 5 below details Geo-environmental tests undertaken on selected soil samples.

Table 5: Geo-environmental tests undertaken on soil and soil leachate samples

Heavy Metals			
• Arsenic	• Barium	• Beryllium	• Boron
• Cadmium	• Chromium (VI)	• Copper	• Lead
• Mercury	• Nickel	• Selenium	• Vanadium
• Zinc			
Inorganics			
• pH	• Total Sulphate	• Soluble Sulphate	• Sulphide
• Sulphur	• Organic Matter (soil only)	• Total Cyanide	• Complex Cyanide
• Free Cyanide	• Asbestos (soil only)		
Poly Aromatic Hydrocarbons			
• Naphthalene	• Acenaphthylene	• Acenaphthene	• Fluorene
• Phenanthrene	• Anthracene	• Fluoranthene	• Pyrene
• Benzo(a)anthracene	• Chrysene	• Benzo(b)fluoranthene	• Benzo(k)fluoranthene
• Benzo(a)pyrene	• Indeno(1,2,3-cd) pyrene	• Dibenz(a,h)anthracene	• Benzo(ghi)perylene
Total Petroleum Hydrocarbons			
<i>TPH-CWG Aliphatic Split:</i>	• EC5 – EC6	• EC6 – EC8	• EC8 – EC10
• EC10 – EC12	• EC12 – EC16	• EC16 – EC21	• EC21 – EC35
<i>TPH-CWG Aromatic Split:</i>	• EC5 – EC7	• EC7 – EC8	• EC8 – EC10
• EC10 – EC12	• EC12 – EC16	• EC16 – EC21	• EC21 – EC35
Aromatic, Monoaromatics & Oxygenates			
• Phenol	• Benzene	• Toluene	• Ethylbenzene
• p & m – xylene	• o – xylene	• MTBE	
Additional Tests for Soil Leachate			
• Hardness			
Specialist Tests			
• Organochlorine Pesticides	• Organonitrogen Pesticides	• Organophosphorus Pesticides	

A full set of geo-environmental laboratory test certificates are provided within Appendix V.

5.0 GROUND CONDITIONS ENCOUNTERED

5.1 General

The sequence of deposits encountered during the investigation is detailed within the Engineering Geologist's logs presented within Appendix II, III and IV. The following sections summarise the findings of the exploratory holes.

5.2 Ground Conditions

5.2.1 Overview of Strata Encountered

The site study area is underlain by Topsoil over Glacial Till (cohesive) overlying Bedrock containing Intact Coal and soft ground / possible collapsed Mine Workings. A localised pocket / thin layer of Made Ground was present below the Topsoil in the eastern area of the site.

Table 6 summarises ground conditions encountered.

Table 6: Generalised Stratigraphic Sequence Encountered Across Site

Strata	Depth to base of strata (mbgl)							
	Eastern Area of Site – Location of Historic Tramway			Southern Area of Site (The Paddock) – Vicinity of Off-Site Lime Kiln / Mapped Made Ground				
	TP01	TP02	TP03	TP201	TP202	TP203	TP204	
MADE GROUND - Demolition Material	--	--	--	--	--	--	--	
TOPSOIL	0.2	0.3	0.2	0.35	0.35	0.5	0.3	
MADE GROUND	1.2	1.0	0.9	--	--	--	--	
SUPERFICIAL DRIFT - Glacial Till (Cohesive)	1.4+	1.7+	1.4+	1.0+	1.0+	1.0+	1.0+	
Strata	Depth to base of strata (mbgl)							
	Central and Northern Areas of Site							
	BH01	BH02	BH03	TP04	TP0 5	WS01	WS02	WS03
MADE GROUND - Demolition Material	0.2	--	--	--	--	--	--	--
TOPSOIL	0.5	0.4	0.4	0.4	0.3	0.4	0.9	0.8
MADE GROUND	--	--	--	--	--	--	1.2	--
SUPERFICIAL DRIFT - Glacial Till (Cohesive)	10.0	10.0	9.5	0.6+	0.5+	2.0+	3.2+	3.2+

SOUTH WALES COAL MEASURES - Mudstone with Sandstone Bands	21.5	22.0	21.0	--	--	--	--	--
SOUTH WALES COAL MEASURES - Coal	--	23.0	--	--	--	--	--	--
SOUTH WALES COAL MEASURES - Soft Drill / Possible Collapsed Mine Workings	24.0	--	23.0					
SOUTH WALES COAL MEASURES - Mudstone	27.0+	29.75	27.0+					
SOUTH WALES COAL MEASURES - Sandstone	--	30.0+	--					

G.L. = Ground Level

+ = Base of Strata not proven

Topsoil

Topsoil was encountered within each of the exploratory holes undertaken across the site, to depths of between 0.3 and 0.9mbgl.

Made Ground

A thin layer / pocket (0.3m thick) of Made Ground was encountered underlying the Topsoil within WS03, drilled to the south of the former building. Made Ground, interpreted to be demolition material associated with the removal of the former building, was encountered between ground level and 0.2mbgl in BH01, drilled to the east of the former building.

Made Ground was encountered within the Trial Pits undertaken close to the eastern site boundary, likely to be associated with the historic railway line present within a cutting as shown on the historic mapping of the site. The Made Ground was present to depths of between 0.9 and 1.2mbgl and was generally described as light greyish brown sandy Gravel, with gravell of Sandstone. Within Trial Pit TP01, the northern most Trail Pit, a layer of grey ashy sandy Gravel was encountered between 0.9 and 1.2mbgl.

No Made Ground was encountered in the Paddock area in the southern area of the site.

Superficial Deposits

- Glacial Till (Cohesive)

The Glacial Till (cohesive) was encountered within each exploratory hole below the Topsoil and Made Ground. The strata was generally described as greyish brown locally orange slightly silty gravelly Clay

Rotary probe boreholes proved a maximum depth of Glacial Till of 10.0m.

Bedrock (Solid Geology)

The underlying bedrock geology that occupies the site study area is that of the South Wales Upper Coal

Measures Formation. The strata was generally described as mudstone with sandstone bands.

Between 22.0 and 23.0mbgl, coal anticipated to be the Little Bryncoch Seam was encountered within BH02. Soft drill, possibly collapsed historic mine workings, were encountered within BH01 between 21.5 and 24.0mbgl and within BH03 between 21.0 and 23.0mbgl.

5.2.2 Groundwater Conditions

Groundwater was not encountered within any of the exploratory holes during the ground investigation. Post fieldwork monitoring measured groundwater levels of between 20.4 and 23.02mbgl within the Borehole standpipes. Monitoring standpipes installed within the superficial deposits at shallow depths were found to be dry.

It should be noted that groundwater levels are subject to diurnal, seasonal and climatic conditions or may vary due to other causes.

5.2.3 Buried Structures

No buried structures were identified during the ground investigation.

5.2.4 Visual & Olfactory Evidence of Soil Contamination

No visual or olfactory evidence of soil contamination was encountered during the fieldworks.

5.2.5 Visual & Olfactory Evidence of Groundwater & Surface Water Contamination

No visual or olfactory evidence of groundwater contamination was encountered during the fieldworks.

6.0 GEOTECHNICAL ENGINEERING APPRAISAL

6.1 General

The purpose of this Ground Investigation and subsequent reporting is to determine and assess the existing ground conditions on site and to establish if the existing raft foundation is suitable for the proposed redevelopment of the site.

6.2 Engineering Properties of Strata

The site study area is underlain by an upper oyer of Topsoil, with localised thin layers of Made Ground over Glacial Till. Bedrock encountered was strata of the South Wales Upper Coal Measures Formation, with Coal and possibly collapsed historic mine workings at depths of between 21.0 and 24.0mbgl.

6.2.1 Standard Penetration Tests (SPTs)

Results of the in situ SPT tests were corrected (to N_{60} values) using the equipment's energy ratio (E_r) found on their corresponding calibration certificates (in accordance with BS EN ISO 22476-3). SPT values are summarised in Table 7.

Table 7: Summary of SPT 'N' values vs depth and ground type

Test Depth (m)	WS02 N value	WS03 N value	WS04 N value
1.20	71	31	57
2.20		46	26
3.20		71	71

 - Natural Ground

6.2.2 Strata Summary

Topsoil / Made Ground

No geotechnical laboratory testing or in-situ testing has been undertaken on the Topsoil or Made Ground and therefore no design parameters are provided.

Glacial Till (Cohesive)

Based on the strata descriptions and the in-situ test results the following design parameters have been determined:

The SPT tests undertaken within the Glacial Till measured SPT 'N' Values between 26 and 71
= Presumed Allowable Bearing Capacity in excess of 100kN/m²

Upper Coal Measures

Two of the three boreholes revealed soft zones, interpreted to possibly be collapsed historic coal mine workings without any voids, within Boreholes BH01 and BH03.

Borehole BH01 revealed superficial soils (Glacial Till) to 10.0mbgl, underlain by Mudstone with Sandstone bands to 21.5mbgl where the soft zone was identified to a depth of 24.0mbgl.

Borehole BH03 revealed superficial soils (Glacial Till) to 9.5mbgl, underlain by Mudstone with Sandstone bands to 21.0mbgl where the soft zone was identified to a depth of 23.0mbgl.

Borehole BH02 revealed superficial soils (Glacial Till) to 10.0mbgl, underlain by Mudstone with Sandstone bands to 22.0mbgl. Coal interpreted to be the Little Bryncoch Coal seam was found between 22.0 and 23.0mbgl.

The coal workings were found to be collapsed or possibly backfilled, this owing to the length of time since the seam may have been last worked and the nature of how they traditionally would have mined along the working face and deliberately collapsed the workings behind as they progressed. It is considered likely that ground movements associated with such workings will have long ceased and the absence of any voids, the risk potential for further upward void migration is considered very low.

6.3 Earthworks

6.3.1 Site Preparation

Earthworks shall be carried out in accordance with BS 6031: 2009 Code of Practice for Earthworks. Workmanship for excavation shall comply with BS 8000: Part 1, sections 3.1, 3.2 and 3.3.

Prior to commencing any earthworks / groundwork for the development, any live services on and in the vicinity of the site should be accurately located and protected, or if required diverted.

Any exposed formations should be protected from the effects of the weather, site traffic, or water in order to prevent deterioration of this surface. It is recommended that any exposed formations be protected with a minimum thickness of up to 200mm of suitable granular material or a thin layer of blinding concrete, which should be placed immediately after excavation and exposure.

Depending on the foundation option adopted for the scheme, physical treatment in the form of proof rolling, excavating hard spots, re-engineering of the superficial deposits may be required. This however would need further discussion depending on the foundation opted for.

6.3.2 Excavation Plant

From observations made during the investigation, it is considered that excavations within the near surface

Glacial Deposits should be possible with the correct capacity/size 360 tracked excavators, utilising suitable excavating buckets.

6.3.3 Stability of Excavation Sides

Due to the predominately cohesive nature of the Glacial Till encountered across the site, excavations within these deposits should remain stable in the short term, although some instability may be expected in the overlying Topsoil. If excavation sides are to remain open over a prolonged period of time, they should be battered back to a suitably designed safe angle. Where site constraints do not allow this, alternative methods of stabilising the excavations will be required.

Reference should be made to CIRIA Report No. 97 'Trenching Practise' and BS 8004 'Foundations' for guidance on excavation works.

6.3.4 Control of Groundwater

Care should be taken when low plastic soils, such as tills when wet, as they can slurry up and become unworkable. Tills often contain water-bearing granular layers or lenses which assist the slurry up process. All earthworks should be undertaken with the possible presence of water in mind, likely as run-off from rainfall and steps taken to minimise its impact.

Excavations are unlikely to encounter significant quantities of groundwater. Sump pumping should control and limited groundwater inflow or surface water ingress.

6.4 Preliminary Geotechnical Assessment

6.4.1 Foundation Recommendations & Shallow Mine Workings Stability Assessment

The shallow firm to stiff Glacial Till deposits will provide a suitable founding strata for the proposed development and will provide an allowable bearing capacity in excess of 100kN/m². The existing floor slab / foundations should be founded on the Glacial Till Deposits or a suitable Engineered Fill.

In terms of the risk from historic shallow mine workings, a soft zone was identified within the Upper Coal Measures in two of the three boreholes drilled, which have been interpreted to possibly be collapsed historic mine workings. No voids were revealed. The shallowest possible collapsed mine workings were identified between 21.0 and 23.0mbgl within BH03. At 21.0mbgl, there is 9.5m of soil cover and 11.5m of bedrock cover. With no 'open' voided workings revealed, the risk of substantial collapse or subsidence at surface is therefore considered to be very low, particularly with 11.5m of overlying bedrock.

Based on the ground conditions identified, we would recommend any development on the site includes a rafted reinforced slab type foundation, capable of spanning a 3m void, and mitigate any potential minor ground movement, albeit the risk is considered low.

It is understood the existing slab from the previous building that occupied the site and the proposed extension

that remains in-situ comprises a 200mm thick reinforced raft. A Structural Engineer should confirm that the existing slab is suitable.

7.0 GEO-ENVIRONMENTAL CONSIDERATIONS

7.1 General

The Preliminary Risk Assessment did not identify a potential contamination source on-site, however given the nearby off-site potential contamination sources identified, sampling and subsequent testing of the near surface soils has been undertaken. As no groundwater was encountered, no testing of groundwater has been undertaken. The following Section assesses the findings of the geo-environmental laboratory test results from samples obtained during the ground investigation. The risks to human health and the environment are both considered herein. The following assessment is solely based on the results of laboratory testing of soil samples obtained during the intrusive investigation.

7.2 Human Health Risk Assessment Criteria

For the purposes of Spencer Quantum Ltd assessments, the most recent and applicable SGVs, GACs, SU4Ls and C4SLs are used based on site end use and development and overall suitability. These are all referenced within the text. SU4Ls take precedence in SQL assessments. Where these are not available or suitable, C4SLs are adopted.

By adopting the CLEA approach to human health risk assessment as defined in CLR11, a human health risk assessment has been undertaken for the proposed development adopting the most applicable model of **Residential with Plant Uptake** threshold values.

The assessment criteria used in this assessment is that presented by LQM/CIEH in their publication *The LQM/CIEH S4ULs for Human Health Risk Assessment (2015)*. The *S4ULs* (Suitable for Use Levels) used have been derived in accordance with UK legislation, national as well as Environment Agency policy and using a modified version of the Environment Agency CLEA software and available guidance provided to the contaminated land practitioner community for the purpose of deriving Generic Assessment Criteria (GAC).

The LQM/CIEH *S4ULs* are intended for use in assessing potential risks posed to human health by contaminants in soil and as transparently derived and cautious 'trigger values' above which further assessment or remedial action may be necessary. By using the LQM/CIEH *S4ULs*, Quantum Geotechnical acknowledges *Copyright Land Quality Management Ltd reproduced with permission; Publication Number S4AUL3409. All Rights Reserved.*

7.3 Soil Sample Test Results Comparisons

The results of chemical laboratory testing on 6 No. selected soil samples from the shallow lying soils are presented and discussed within this Section.

7.3.1 Heavy Metal and Inorganic Compounds

The results of levels of potential contaminants have been compared to generic assessment criteria as described above, for Residential end use with plant uptake. The test certificates are included in Appendix V. The concentrations of heavy metal and inorganic compounds are summarised in the table 8 below.

Table 8: Summary of Heavy Metals and Inorganic Soil Test Results

Determinant	Results Range (mg/kg)	LQM/CIEH (2015) GAC (mg/kg) Residential with plant uptake End Use ⁽¹⁾	Exceedances
Arsenic	7.0 – 36	37	0
Cadmium	0.28 – 1.6	11	0
Chromium	4.1 – 19	910	0
Copper	15 – 88	2,400	0
Lead ³	14 – 200	200	0
Mercury	<0.05 – <0.17	40	0
Nickel	5.4 – 26	130	0
Zinc	33 – 199	3,700	0

Notes:

(1). GAC from LQM/CIEH S4ULs 2015. (2). GAC from LQM/CIEH 2009 & 2015. (3). GAC from DEFRA C4SL. (4). GAC from at Risk adopting most sensitive end use for acute risk.

7.3.2 Polycyclic Aromatic Hydrocarbons

The results of levels of potential Polycyclic Aromatic Hydrocarbon contaminants have been compared to generic assessment criteria as described, for Residential with plant uptake End Use. The concentrations of speciated Polycyclic Aromatic Hydrocarbon are summarised and compared in Table 9.

Table 9: Summary of Polycyclic Aromatic Hydrocarbon Soil Test Results

Determinant	Site Results Range (mg/kg)	LQM/CIEH (2015) GAC ⁽¹⁾ Residential with plant uptake End Use (mg/kg)	
		1% SOM	Exceedances
<i>Total Organic Carbon</i>	1.5 – 79		
Acenaphthene	<0.10 – 0.25	210	0
Acenaphthylene	0.02 – <0.10	170	0
Anthracene	<0.02 – 0.6	2,400	0
Benzo(a)anthracene	<0.04 – 1.20	7.20	0
Benzo(a)pyrene	<0.04 – 1.30	2.20	0
Benzo(b)fluoranthene	<0.05 – 1.70	2.60	0
Benzo(ghi)perylene	<0.05 – 1.2	320	0
Benzo(k)fluoranthene	<0.07 – 1.1	77	0
Chrysene	<0.06 – 1.20	15	0
Dibenz(a,h)anthracene	<0.04 – 0.47	0.24	1 WS02 at 1.0mbgl
Fluoranthene	<0.08 – 2.20	280	0
Fluorene	<0.01 – 0.54	170	0
Indeno(1,2,3-cd)pyrene	<0.03 – 1.20	27	0
Naphthalene	<0.03 – 4.80	2.30	1 WS02 1.0mbgl

Phenanthrene	<0.03 – 6.10	95	0
Pyrene	<0.08 – 1.51	620	0

Notes: (1). GAC from LQM/CIEH S4ULs 2015.

7.3.3 Total Petroleum Hydrocarbons

The results of levels of potential petroleum hydrocarbon contaminants have been compared to generic assessment criteria as described, for a Residential with Plant Uptake End Use and for a Soil Organic Matter (SOM) content of 1% due to lowest recorded value of 1.5%. The concentrations of speciated Petroleum Hydrocarbons are summarised and compared in Table 10.

Table 10: Summary of Petroleum Hydrocarbon Soil Test Results

Determinand	Site Results Range (mg/kg)	LQM/CIEH (2015) GAC (mg/kg) Residential with plant uptake End Use ⁽¹⁾	
		1% SOM	Exceedances
TPH – Aliphatic EC5-6	<0.01 - <0.05	42	0
TPH – Aliphatic >EC6-8	<0.01 – <0.10	100	0
TPH – Aliphatic >EC8-10	<0.05 - <1	17	0
TPH – Aliphatic >EC10-12	<1.0 - <2.0	130	0
TPH – Aliphatic >EC12-16	<1.0	1,100	0
TPH – Aliphatic >EC16-21	<1.0 – 5.0	6,500	0
TPH – Aliphatic >EC21-35	<3.0 – 49	6,500	0
TPH – Aromatic >EC5-7	<0.01 - <0.05	70	0
TPH – Aromatic >EC7-8	<0.01 - <0.05	130	0
TPH – Aromatic >EC8-10	<0.05 - <1	34	0
TPH – Aromatic >EC10-12	<1.0 – 1.1	74	0
TPH – Aromatic >EC12-16	<1.0 – 8.4	140	0
TPH – Aromatic >EC16-21	<1.0 - 45.0	260	0
TPH – Aromatic >EC21-35	1.0 - 46.0	1,100	0

Notes: (1). GAC from LQM/CIEH S4ULs 2015. (2). GAC for C16 – C35 only quoted. NA – Not available

7.3.4 BTEX Compounds

Not Required.

7.3.5 Total Phenols

Total Phenols (monohydric) recorded values of <0.1mg/kg.

7.3.6 Asbestos

An Asbestos screen was undertaken on all sample tested, including those collected from the shallow Topsoil surrounding the area of the demolished building. No asbestos fibres were detected.

There was no demolition material encountered or identified that may be associated with the demolition of the former building that would have the potential to contain Asbestos containing material.

7.4 Environmental Risk Assessment

Due to the absence of a significant groundwater body at shallow depths and the significant thickness of low permeability Superficial Deposits, the risk to controlled waters from any unidentified contamination source that may be present on-site is considered to be negligible. Therefore no leachate or groundwater testing was undertaken.

7.5 Recommendations on Contaminated Land Appraisal

7.5.1 Human Health Risk of Site End Users

The ground investigation and subsequent testing has revealed raised contaminants within the Made Ground on site.

Dibenz(a,h)anthracene and Naphthalene concentrations within one sample of Made Ground, encountered within WS02 at a depth of between 0.9 and 1.2mbgl were above the relevant assessment criteria and may pose a potential risk to human health. No other exceedances were identified in the laboratory testing results.

No potentially significantly elevated potential contaminant concentrations were measured within the Made Ground present along the route of the historic railway in the eastern area of the site.

No potentially significantly elevated potential contaminant concentrations were measured in samples collected from the Paddock area of the site, within the vicinity of the off-site lime kiln.

No Asbestos was detected in the laboratory testing.

Risk to Construction Workers

The geo-environmental laboratory testing showed raised potential contamination concentrations within the Made Ground deposits, therefore a risk to construction operatives from chemical contaminants from the shallow ground may exist.

Operatives working with, or likely to come into contact with Made Ground with the potential to harness raised concentrations of contaminants, should observe particular precautions concerning personal hygiene. They should be issued with the appropriate personal protective equipment and should be instructed in safe working methods.

In addition, instructions should be issued in the recognition of potentially hazardous materials including oily and odorous soil and water and also any discoloured or fibrous substances for example. Operatives should be warned to avoid contact between hands and mouth before washing. The consumption of food must be confined to designated clean areas with suitable welfare including washing facilities should be provided.

Risk to Future Site Users

Based on the laboratory test results from the intrusive investigation, elevated concentrations of Dibenz(a,h)anthracene and Phenanthrene within the Made Ground in WS02 between 0.9 and 1.2mbgl present within WS02 undertaken to the south of the former building.

No other potentially significantly elevated potential contaminant concentrations were measured.

The Made Ground containing potentially significantly elevated Dibenz(a,h)anthracene and Phenanthrene concentrations was a 0.3m thick layer encountered in a single exploratory and is therefore considered to be a contamination 'hotspot'. As this Made Ground is overlain by 0.9m of Topsoil that does not contain potentially significantly elevated potential contaminant concentrations, the risk to future site users from this Made Ground through dermal contact or ingestion is considered to be negligible. PID readings showed no Isobutylene levels and therefore, there is not considered to be a risk from volatile contaminants.

If ground levels are to be reduced, the risk to receptors from the potentially contaminated Made Ground may be increased and further assessment will be required.

If expected potentially contaminated soil is encountered during the development, SQL and the Local Authorities Contaminated Land Officer should be informed and additional testing as assessment undertaken.

Summary Assessment of Risk to Controlled Waters

The risk to controlled waters, i.e. nearby water courses, is defined by the potential for any contaminants present on site to leach from the soils beneath the site, or to migrate from underground storage apparatus.

Based on the findings of the ground investigation, with the absence of shallow water bodies and the presence of a significant thickness of low permeability Glacial Till (Superficial Deposits designated as a Secondary Undifferentiated Aquifer), the potential for leachate generation and migration is considered to be negligible.

The ground conditions do not lend themselves to the use of soakaway drainage, due to the low permeability soils however, if the suitability of soakaways is to be assessed further, leachate testing of the soils is recommended.

7.6 Ground Gas Monitoring Results and Discussion

Spot monitoring of shallow installations within Superficial Deposits

Three post-fieldwork monitoring spot ground gas visits have been undertaken by SQL on the shallow standpipes installed within the windowless sample boreholes WS01 and WS02 to supplement the continuous monitoring results and allow a preliminary assessment to be undertaken of any potential for gas generation within the Superficial Deposits, or to establish if gaseous phase migration from the potential mine gas

generation at depth is occurring. Appendix VI presents the monitoring records with the results discussed below.

The results show maximum CH₄ concentrations of 0.1%v/v and CO₂ concentrations of 0.2%v/v. Maximum measured flow rate was recorded as 0.1 l/hr whilst O₂ levels ranged between 20.1 and 20.8%v/v. Carbon Monoxide (CO) recorded 0ppm and H₂S recorded at 0ppm.

Continuous monitoring of installations within coal deposits and possible collapsed mine workings

A rigorous ground gas risk assessment has been undertaken by GGS for the site, associated with the potential risk from mine gas. The full findings are presented in their report included in full in Appendix VII.

GGS undertook a ground gas monitoring programme at the site to assess the risk from mines gas associated with shallow mine workings. A short technical commentary of the lines of evidence gathered by GGS is presented below.

Periodic monitoring

During GGS periodic monitoring, steady state gas flow rates remained <0.1 l/hr at all three locations. Methane remained at <0.1 % at all locations, as did carbon dioxide at BH02 and BH03. It was recorded at a steady state of 0.1% at BH01. Trace gases were measured in all three wells prior to deployment, with a maximum of 11 ppm of hydrogen sulphide and 53ppm of carbon monoxide in BH01. It is possible that ground pressure or hydrogen gas has affected the sensors used for trace gas detection.

Continuous monitoring

At all three locations, concentrations of methane and carbon dioxide remained below the limit of detection or at negligible levels for the 3-week monitoring period. Carbon dioxide was recorded at <0.1 % v/v for the full duration along with methane at BH02. Concentrations for methane peaked at 0.3% v/v at BH01 and 0.2 % v/v at BH03. Carbon monoxide was recorded by all three continuous monitoring instruments, up to 168ppm/v. It is noted that all followed the same trend of tailing off to <10 ppm/v after the first week following deployment. This is common in newly installed monitoring wells that have not been allowed to settle for a short period before use. It is also worth noting that carbon monoxide was not measured above 1 ppm during periodic monitoring completed during the collection visit.

Flow

Negligible levels of flow were present at all locations during the entire monitoring period. The peak flow recorded was 0.35 l/h at BH02. There is discrete evidence that positive steady flow is related to falling atmospheric pressure.

Atmospheric pressure analysis

The atmospheric pressure regime during the monitoring period was variable with periods of high and sustained normal pressure along with periods of rising and slow falling pressure. Normal pressure conditions accounted for 82.5% of the monitoring period, whilst the other 13.5% is attributed to a high-pressure regime. No rapid or very rapid falls were observed during the monitoring period and a worst-case falling pressure threshold was not exceeded. Although rapid or low-pressure events are typically associated with an increased potential for ground gas ingress, the presence of multiple slow falling pressure phases still represents a dynamic pressure environment.

Summary

Considering the lines of evidence, including periodic monitoring and continuous monitoring, the assessment provides a level of confidence to a low risk from mines gas. Negligible concentrations of permanent ground

gases were recorded in both periodic and continuous monitoring at all three locations for the 3-week monitoring period. While carbon monoxide was detected, levels decreased after the first week and when the monitoring well returned to equilibrium state. For example, the monitoring wells were installed the day before GGS's deployment visit, and it is likely that the electrochemical sensor/s used for trace gas detection were likely affected by low volumes of hydrogen or discrete ground pressures. As such, the detection of carbon monoxide is not an indication of a ground gas source. Despite the monitoring period not capturing any rapid falls or worst-case conditions, the monitoring period captured a variable atmospheric pressure regime, and it is likely that mines gas, if present, would have been detected at the surface during the monitoring period. While additional monitoring that captures a higher rate of fall/s would provide a higher confidence level, an extended monitoring programme is unlikely to change the overall conclusions of the assessment.

Lines of evidence summary and Assessment

The initial Generic Screening Risk Assessment indicates that the 'Worst Credible' classification is CS1 (very low risk classification), where no protective measures are considered necessary.

A generic screening assessment does not take into account the full lines of evidence and does not consider the gCSM. The following conclusions can be made:

- Low volumes of ground gas and negligible flow rates have been observed across the site, including in monitoring locations within identified coal seams and possible collapsed mine workings at depth and within the superficial deposits. The lines of evidence support the conclusion that both current and future gas generation potential is low.
- There is no indication of significant volumes of gas migrating from depth toward the surface, demonstrated by the results of the spot monitoring from within the shallow superficial deposits.
- The only potentially viable gas source that could pose a risk to the development is associated with historical mine workings however, there is an absence of significant gas concentrations or flow rates within the possible collapsed mine workings.
- A significant thickness (over 10m) of low permeability superficial deposits have been proven to overlie the bedrock, which will remove the migratory pathway if mine gas within the possible collapsed mine workings is generated.
- Any gas migration from depth is most likely to be driven by a concentration gradient and diffusive processes. This process is unlikely to contribute significant gas volumes in near surface soils.
- Given the significant thickness of low permeability deposits, it is considered unlikely seasonal groundwater fluctuations within the bedrock may alter potential migration pathways, particularly within shallow soils.

Based on the ground conditions proven, along with the readings from the gas monitoring undertaken, the site may be classified as a Characteristic Situation CS1. No protective measures are required.

7.7 Revised Conceptual Site Model

The Conceptual Site Model (CSM) is a representation of the current understanding of the site and its surrounding environment with regards to geology, groundwater, surface waters, and potential contamination on-site and adjacent off-site and any migration pathways.

The potential risks to the proposed development and adjacent land have been assessed by consideration of the potential pollution linkages. For a risk to exist there must be a source of contamination, a receptor that may be harmed, and a pathway by which the receptor could be exposed to the contaminant. Only when all three factors are present (i.e. source, pathway, and receptor) can a pollution linkage, and consequently an unacceptable risk, exist. The CSM considers all three elements and the potential for pollution linkages that may exist. If no linkage is identified, then there is no or negligible risk.

The CSM established as part of the PRA has been revised based on the findings of the Ground Investigation.

Sources

A thin pocket / layer of Made Ground underlying 0.9m of Topsoil has been found to contain potentially significant Dibenz(a,h)anthracene and Naphthalene concentrations and identified as a potential contamination source on site.

No significantly elevated mine gas or ground concentrations were measured during post fieldwork monitoring.

No evidence of contamination was identified in the near surface deposits, including Made Ground along the route of the historic tramway, which may be associated with historic on-site or off-site land uses.

Receptors

Considering the proposed site end use (Residential), there are a number of receptors. These are summarised as follows:

On-site

- Future site users – construction workers (during development), Residential Homeowners

No controlled waters were identified that may be at risk from potentially mobile contaminants.

Pathways

Completing the pollutant linkage between source and receptor are pathways – the way in which they are connected. The type of sources identified have a range of ways of contaminating the receptors, and typically fall into the following categories:

- Direct contact – including dermal contact and ingestion
- Consumption of plant material (vegetable patch etc) grown on site

The Topsoil over the potentially contaminated Made Ground identified within WS02 will remove the potential pathway.

Although no elevated concentrations of mine gases were measured, the significant thickness of low

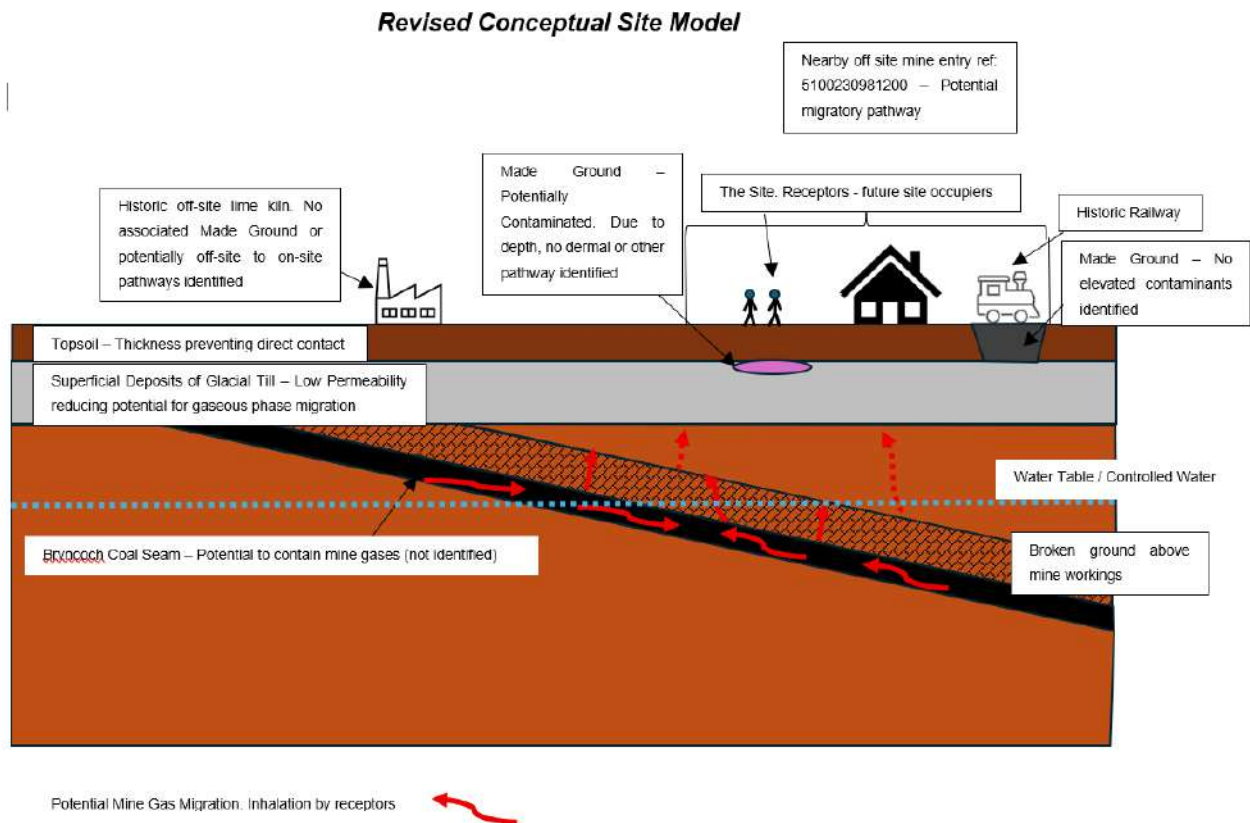
permeability superficial deposits will remove the potential migratory pathway.

The Conceptual Site Model established within the Preliminary Risk Assessment can be developed as tabulated below and illustrated in figure 3.

Table 11: Conceptual Site Model Summary

Sources		
S1	Soils/Made Ground	A localised pocket / layer of potentially contaminated Made Ground is below Topsoil at a depth of 0.9mbgl
S2	Mine Gas	No elevated mine gas concentrations measured
Pathways		
P1	Direct Contact	Direct contact with soils will possibly occur during the development of the site by Groundworkers. Mitigation by site protocols, use of the correct PPE and welfare arrangement will limit this risk. Post development, the Made Ground will be below Topsoil which will significantly reduce the potential for Direct contact.
P2	Gaseous phase / inhalation	If mine gas concentrations were to increase in possible collapsed mine workings, significant thickness of low permeability superficial deposits will remove gaseous phase migratory pathway
Receptors		
R2	Site Workers	Workers may come into contact with the soils on site. Therefore, good practice and correct handling protocols should be established as part of any Construction Phase Plan use of the correct PPE and welfare arrangements provided to reduce and minimise any potential contact with the soils.
R3	End Users	Post development, there should be no pathways present to allow direct contact or inhalation with users of the site

Figure 3: Revised Conceptual Model



8.0 REFERENCES

British Geological Survey:

- British Geological Survey (BGS) Sheet 247 'Swansea' 1:50,000.
- Geological Sheet SN-51-SE 1:10,560
- BGS Lexicon of Named Rock Units (www.bgs.ac.uk/lexicon)
- BGS Geology of Britain Viewer (www.bgs.ac.uk)

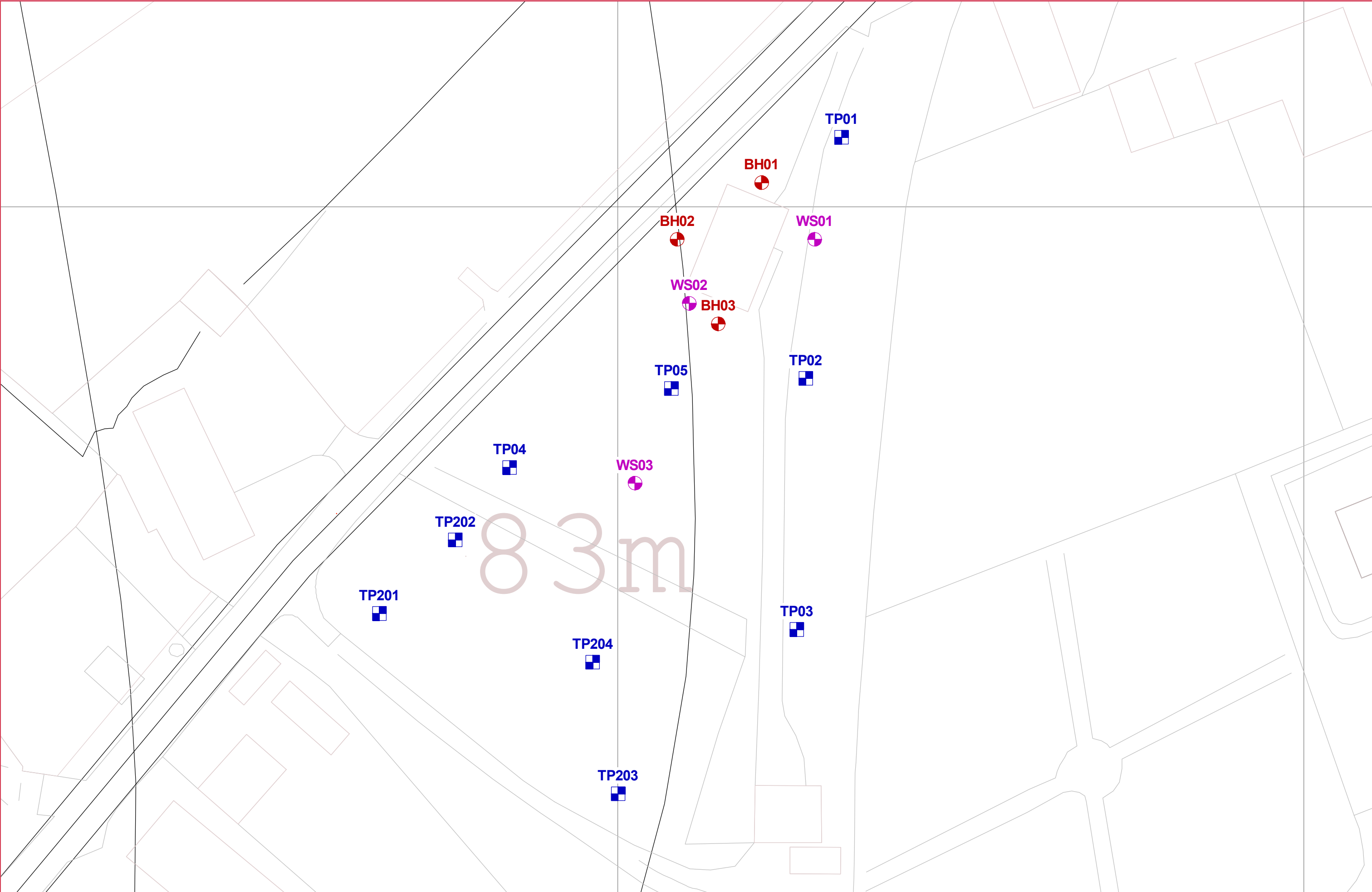
Specialist Publications:-

- British Code of Practice BS 5930:2015+A1:2020 '*Code of Practice for Site Investigations*'
- British Code of Practice BS 1377:1990 '*Methods of test for soils for civil engineering purposes*'.
- British Code of Practice BS 10175:2011 '*Code of Practice for Investigation of Potentially Contaminated Sites*'
- British Code of Practice BS EN ISO 14688-1:2018 Geotechnical investigation and testing. Identification and classification of soil. Identification and description
- British Code of Practice BS EN ISO 14688-2:2018 Geotechnical investigation and testing. Identification and classification of soil. Principles for a classification.
- British Code of Practice BS EN ISO 14689-1:2003 Ground Investigation and Testing – Identification and classification of rock
- Health and Safety Executive Guidance Note EH40/90
- BRE (2005) Special Digest 1:2005, 3rd Edition, Concrete in aggressive ground. BRE, Garston.
- BS 6031: 2009 Code of Practice for Earthworks.
- ICE UK Specification for Ground Investigation Second Edition.
- Specification for Highways Works Series 600 Earthworks
- Environment Agency Science Report SC050021/[various] (2009) *Soil Guideline Values*
- LQM/CIEH Publication S4UL3409 (2015) '*Generic Assessment Criteria for Human Health Risk Assessment*'
- World Health Organisation (2011) '*Guidelines for drinking-water quality, 4th edition*'
- Statutory Instruments (UK Legislation) 2016 No. 614 '*The Water Supply (Water Quality) Regulations*' retrieved from www.legislation.gov.uk/2016/614
- Statutory Instruments (UK Legislation) 2015 No. 1623 '*The Water Framework Directive (Standards and Classification) Directions (England and Wales)*'
- CIRIA C665 (2007) Assessing risks posed by hazardous ground gases to buildings.

Site Study Area Report(s):-

- QGL Phase I Preliminary Risk Assessment (Report Ref: Q0353/PRA)

APPENDIX I – SITE PLANS & FIGURES



KEY

 Borehole

 Trial Pit

 Dynamic Probe

 In-situ Test

 Window Sample

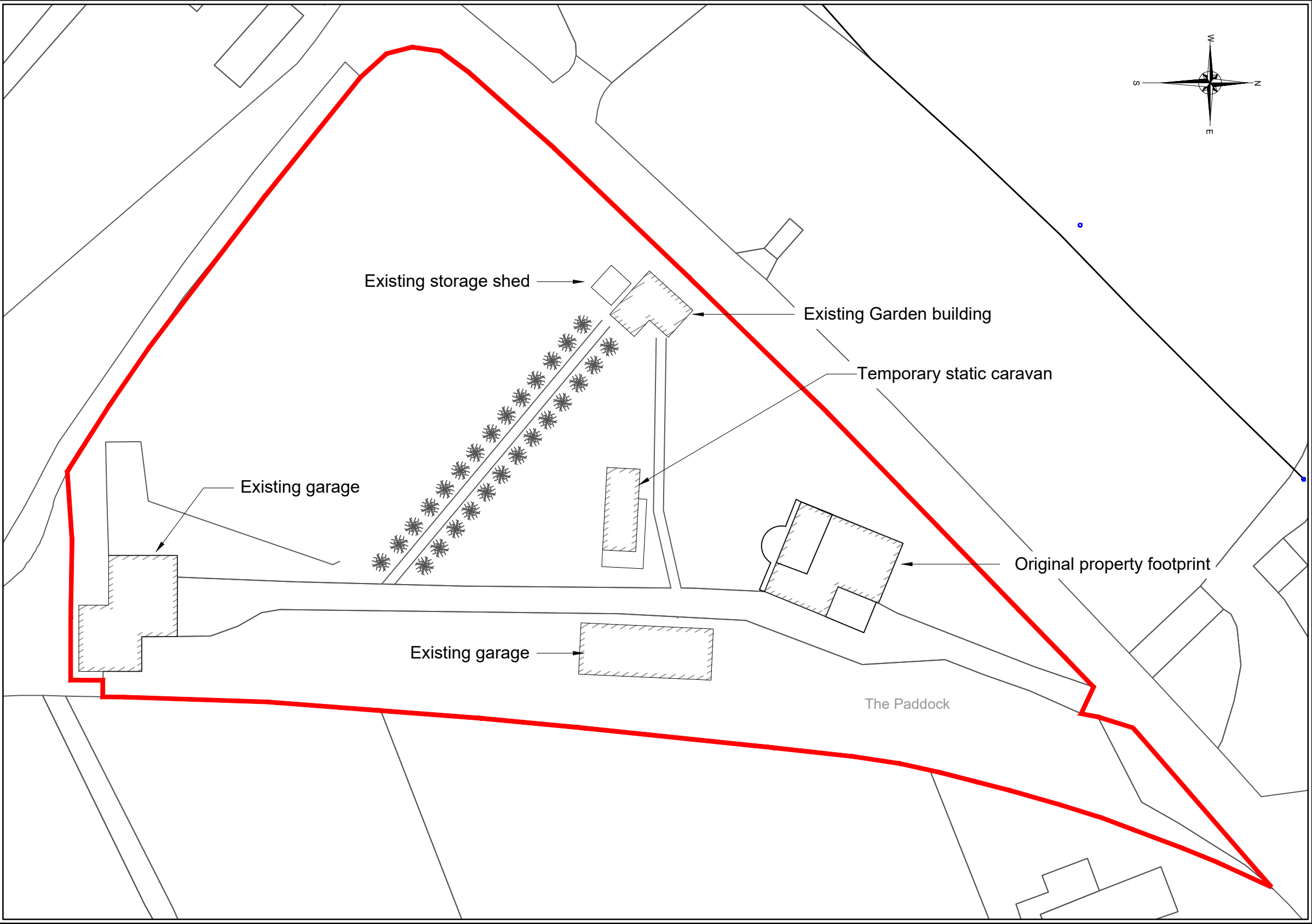
 Sampling Point

 Historical Borehole

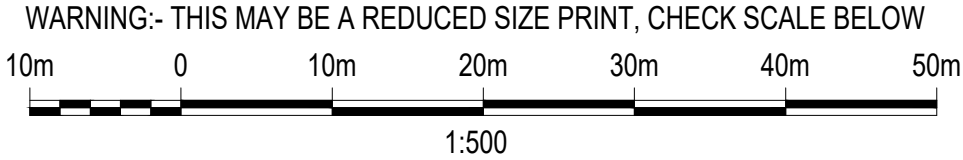
PROJECT
THE PADDOCK

DRAWING TITLE:
EXPLORATORY HOLE
LOCATION PLAN

JOB NO. Q1813	FIGURE NO. 1
DATE 17/04/26	SCALE 1:500



Location plan
Scale - 1:500



Notes :

All dimensions are to be site checked and confirmed prior to order and manufacture of components and prior to the commencement of works on site.

Material, workmanship & construction are to conform with current British Standards, Codes of Practice, Agreement Certificates & Manufacturers recommended specifications and are to fully comply with the Building Regulation, related approved documents and legislation.

All services are to be installed in accordance with statutory authority regulations and by-laws.

SAFETY :

All builder practices are to comply with :

- * The Health & Safety at Work Act (1974)
- * The Management of Health and Safety at Work (1999)
- * The Construction (Health & Safety Welfare) regs. (1996)
- * The Construction (Lifting Operations) regs. (1961)
- * The Construction (Head Protection) regs. (1989)
- * The Construction (Design & Management) regs. (2007)
- * COSHH regs
- * PUWER regs
- * PPE regs
- * Manual Handling regs

Go to www.hse.gov.uk for further information.

01	First issue	Feb'25
REV	DESCRIPTION	DATE
Client Mr & Mrs A. Follant		
Title Block plan		
Scheme Demolition of existing property and construction of new dwelling at 'The Paddock', Duffryn, Neath, SA10 7BQ		
Scale (A3) As shown	Drawing No. AF-200	Issue 01

APPENDIX II – ROTARY PROBEHOLE LOGS

Contract : The Paddock Client : Mr and Mrs Pollard											Borehole No. BH01		
Dates : 16/7/25 - 17/7/25 Location : The Paddock					Job Number : Q1813 Engineer : SQL					Ground Level : Coordinates: 273720.97 E 199903.52 N <i>Co-ordinates to National Grid</i>			

m B.G.L.	Run Details				Fractures		Samples		Strata				Water	Install/ Backfill
	Core Run	TCR %	SCR %	RQD %	Min Avg Max	FI	Depth	Type No. Blows	Depth (Thickness)	Description	Legend	Depth (Thickness)		
0									(0.20)	Brick and Concrete Fill - Drillers Description (Demolition Material - Engineers interpretation)		(0.20)		
1									0.20			0.20		
2									(0.30)	Topsoil - Drillers Description		(0.30)		
3									0.50	Clay, Cobbles and Boulders (Glacial Till) - Driller Description		0.50		
4														
5														
6									(9.50)			(9.50)		
7														
8														
9														
10									10.00	Mudstone and Sandstone Bands - Drillers Description		10.00		
11														
12														
13														
14														
15														
16									(11.50)			(11.50)		
17														
18														
19														
20														
21														
22									21.50	Soft Drill - Drillers Description (Possible weak coal or collapsed mine workings - Engineers Interpretation)		21.50		
23									(2.50)			(2.50)		
24									24.00	Hard Drill with loss of flush - Drillers Description		24.00		
25														
26									(3.00)			(3.00)		
27									27.00	Terminated at 27.0mbgl		27.00		
28														
29														
30														
31														
32														
33														
34														

Hole Progress / Water Obs				Casing		Groundwater				Flush		
Date / Time	H. Depth	C. Depth	Water	Depth	Diam.	Struck	Rose To	Behaviour	Sealed	Depth	Type	Returns
								No Groundwater Encountered		0.00 - 24.00	Water	100
										24.00 - 27.00	Water	0

Plant: Commachio 450
Remarks:

	Plas Newydd SA4 0FQ Tel: 01554 744880 email: enquiries@spencerquantum.co.uk	Operator:	Logged By:	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	
		SQL	R Morgan	1 Of 1	35		

Contract : The Paddock Client : Mr and Mrs Pollard											Borehole No. BH02		
Dates : 14/7/25 - 15/7/25 Location : The Paddock						Job Number : Q1813 Engineer : SQL				Ground Level : Coordinates: 273708.66 E 199895.26 N <i>Co-ordinates to National Grid</i>			

m B.G.L.	Run Details				Fractures		Samples		Strata				Water	Install/ Backfill
	Core Run	TCR %	SCR %	RQD %	Min Avg Max	FI	Depth	Type No. Blows	Depth (Thick-ness)	Description	Legend	Depth (Thick-ness)		
0									(0.40)	Topsoil - Drillers Description		(0.40)		
1									0.40	Clay and Boulders (Glacial Till) - Drillers Description		0.40		
2														
3														
4														
5														
6									(9.60)			(9.60)		
7														
8														
9														
10									10.00	Mudstone and Sandstone Bands - Drillers Description		10.00		
11														
12														
13														
14														
15									(10.50)			(10.50)		
16														
17														
18														
19														
20									20.50	Mudstone - Drillers Description		20.50		
21									(1.50)			(1.50)		
22									22.00	Coal - Drillers Description		22.00		
23									(1.00)			(1.00)		
24									23.00	Mudstone - Drillers Description		23.00		
25														
26														
27									(6.75)			(6.75)		
28														
29														
30									29.75	Sandstone - Drillers Description		29.75		
31									(0.25)	Terminated at 30.0mbgl		(0.25)		
32									30.00			30.00		
33														
34														

Hole Progress / Water Obs				Casing		Groundwater				Flush		
Date / Time	H. Depth	C. Depth	Water	Depth	Diam.	Struck	Rose To	Behaviour	Sealed	Depth	Type	Returns
								No Groundwater Encountered		0.00 - 30.00	Water	100

Plant: Commachio 450
Remarks:

	Plas Newydd SA4 0FQ Tel: 01554 744880 email: enquiries@spencerquantum.co.uk	Operator:	Logged By:	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	
		SQL	P Darby	1 Of 1	35		

Contract : The Paddock Client : Mr and Mrs Pollard											Borehole No. BH03		
Dates : 15/7/25 - 16/7/25 Location : The Paddock						Job Number : Q1813 Engineer : SQL				Ground Level : Coordinates: 273714.64 E 199882.94 N <i>Co-ordinates to National Grid</i>			

m B.G.L.	Run Details				Fractures		Samples		Strata				Water	Install/ Backfill
	Core Run	TCR %	SCR %	RQD %	Min Avg Max	FI	Depth	Type No. Blows	Depth (Thick-ness)	Description	Legend	Depth (Thick-ness)		
0									(0.40)	Topsoil - Drillers Description		(0.40)		
1									0.40	Clay and Boulders (Glacial Till) - Drillers Description		0.40		
2														
3														
4														
5									(9.10)			(9.10)		
6														
7														
8														
9														
10									9.50	Mudstone and Sandstone Bands - Drillers Description		9.50		
11														
12														
13														
14														
15									(11.50)			(11.50)		
16														
17														
18														
19														
20														
21									21.00	Soft Drill with loss of flush - Drillers Description		21.00		
22									(2.00)	(Possible weak coal or collapsed mine workings - Engineers Interpretation)		(2.00)		
23									23.00	Hard Drill - Drillers Description		23.00		
24														
25									(4.00)			(4.00)		
26														
27									27.00	Terminated at 27.0mbgl		27.00		
28														
29														
30														
31														
32														
33														
34														

Hole Progress / Water Obs				Casing		Groundwater				Flush		
Date / Time	H. Depth	C. Depth	Water	Depth	Diam.	Struck	Rose To	Behaviour	Sealed	Depth	Type	Returns
								No Groundwater Encountered		0.00 - 21.00	Water	100
										21.00 - 27.00	Water	0

Plant: Commachio 450
Remarks:

	Plas Newydd SA4 0FQ Tel: 01554 744880 email: enquiries@spencerquantum.co.uk	Operator:	Logged By:	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	
		SQL	R Morgan	1 Of 1	35		

APPENDIX III – WINDOWLESS SAMPLE LOGS

Contract : The Paddock Client : Mr and Mrs Pollard										Window Sample No. WS01			
Dates : 26/6/25 - 26/6/25 Location : The Paddock					Job Number : Q1813 Engineer : SQL			Ground Level : Coordinates: 273728.70 E 199895.26 N <i>Co-ordinates to National Grid</i>					
	Samples		Sample Run		Depth	Tests SPT & Hand Vane Results	Depth (Thickness)	STRATA		Water			
	Depth	Type No.	Diam. (mm)	Recovery (%)				DESCRIPTION	Legend		Depth (Thickness)		
1	0.30	ES 1					(0.40)	TOPSOIL: Grass overlain dark brown slightly clayey SILT with many rootlets within the top 15cm.		(0.40)			
							0.40	Brown mottled orange slightly silty gravelly CLAY. Gravel is fine to medium angular to subangular sandstone and siltstone.		0.40			
2	1.00	ES 2						PID at 1.0mbgl - 0ppm					
	1.20 - 2.00	B 1			1.20	SPT (S) 50/239mm (4-4-5-4-30-11/14mm)	(1.60)			(1.60)			
				70									
							2.00	Window Sample Terminated Upon Refusal...		2.00			
Equipment / plant used: Remarks: No Groundwater Encountered													
 Plas Newydd SA4 0FQ Tel: 01554 744880 email: enquiries@spencerquantum.co.uk					Operator:		Logged By:		Sheet No. 1 Of 1		m Per Page 4	All measurements in metres unless otherwise stated	

Contract : The Paddock Client : Mr and Mrs Pollard							Window Sample No. WS02				
Dates : 26/6/25 - 26/6/25 Location : The Paddock				Job Number : Q1813 Engineer : SQL		Ground Level : Coordinates: 273710.42 E 199885.93 N <i>Co-ordinates to National Grid</i>					
Samples		Sample Run		Tests		STRATA					
Depth	Type No.	Diam. (mm)	Recovery (%)	Depth	SPT & Hand Vane Results	Depth (Thickness)	DESCRIPTION	Legend	Depth (Thickness)	Water	
0.30	ES 1					(0.90)	TOPSOIL: Grass overlain brownish grey silty slightly gravelly CLAY with many rootlets within top 15cm. Gravel is fine to coarse angular to sub-rounded sandstone and siltstone. PID at 0.3mbgl - 0ppm		(0.90)		
1.00	ES 2					0.90 (0.30)	MADE GROUND: Black silty fine to medium angular to subangular GRAVEL. PID at 1.0mbgl - 0ppm		0.90 (0.30)		
1.20 - 3.20	B 1			1.20	SPT (S) 24 (4-2-7-5-5-7)	1.20	Greyish brown locally orange slightly silty gravelly CLAY. Gravel is fine to coarse angular to subangular sandstone and siltstone.		1.20		
			100								
				2.20	SPT (S) 36 (3-8-14-10-8-4)	(2.00)			(2.00)		
			60								
				3.20	SPT (S) 50/274mm (2-8-13-13-15-9/49mm)	3.20	Window Sample Terminated Upon Refusal...		3.20		
Equipment / plant used: Remarks: No Groundwater Encountered											
Plas Newydd SA4 0FQ Tel: 01554 744880 email: enquiries@spencerquantum.co.uk				Operator:		Logged By:		Sheet No. 1 Of 1		m Per Page 4	All measurements in metres unless otherwise stated

Contract : The Paddock Client : Mr and Mrs Pollard								Window Sample No. WS03			
Dates : 26/6/25 - 26/6/25 Location : The Paddock				Job Number : Q1813 Engineer : SQL		Ground Level : Coordinates: 273702.51 E 199859.73 N <i>Co-ordinates to National Grid</i>					
	Samples		Sample Run		Depth	Tests SPT & Hand Vane Results	Depth (Thickness)	STRATA DESCRIPTION	Legend	Depth (Thickness)	Water
	Depth	Type No.	Diam. (mm)	Recovery (%)							
1	0.30	ES 1						TOPSOIL: Grass overlain brownish grey slightly silty gravelly CLAY with many rootlets within top 10cm. Gravel is fine to coarse angular to subangular siltstone and sandstone. PID at 0.3mbgl - 0ppm		(0.80)	
	1.00	ES 2					0.80	Greyish brown slightly silty gravelly CLAY. Gravel is fine to coarse angular to subangular siltstone and sandstone. PID at 1.0mbgl - 0ppm		0.80	
	1.20 - 2.60	B 1			1.20	SPT (S) 44 (4-4-12-12-10-10)	(1.80)			(1.80)	
2				100							
					2.20	SPT (S) 20 (3-4-4-6-4-6)					
3	2.60 - 3.00	D 1		100			2.60	Greyish brown slightly silty fissured CLAY.		2.60	
					3.20	SPT (S) 50/92mm (10-12-27-23/17mm-)	3.20	Window Sample Terminated Upon Refusal...		3.20	
Equipment / plant used: Remarks: No Groundwater Encountered											
Plas Newydd SA4 0FQ Tel: 01554 744880 email: enquiries@spencerquantum.co.uk						Operator:	Logged By:	Sheet No. 1 Of 1	m Per Page 4	All measurements in metres unless otherwise stated	

APPENDIX IV – TRIAL PIT LOGS

Contract : The Paddock Client : Mr and Mrs Pollard							Trial Pit No. TP01	
Dates : 23/10/25 - 23/10/25 Location : The Paddock Eastern Boundary			Job Number : Q1813 Engineer : SQL			Ground Level : Coordinates: 273732.62 E 199910.12 N <i>Co-ordinates to National Grid</i>		

m B.G.L.	Samples		Tests		Strata			WATER
	Depth	Type No.	Depth	Test Results	Depth (Thickness)	Description	Legend	
1	0.40 -	ES1			0.20	TOPSOIL - Dark brown silty CLAY with many rootlets.		(0.20)
					0.20	MADE GROUND - Light greyish brown sandy GRAVEL. Gravel is fine to coarse angular to sub-angular sandstone.		0.20
			0.70				(0.70)	
	1.00 -	ES2			0.90	MADE GROUND - Dark grey ashy sandy GRAVEL. Gravel is fine to coarse angular to sub-angular burnt mudstone.		0.90
					0.30			(0.30)
		1.20	Firm brown gravelly CLAY with low cobble content. Gravel is fine to coarse sub-angular to sub-rounded sandstone. Cobbles are sub-rounded sandstone. (GLACIAL TILL)		1.20			
		0.20				(0.20)		
		1.40	Terminated at 1.4mbgl			1.40		

PLAN 	Groundwater: No Groundwater Encountered Stability: Stable Shoring: N/A	Remarks:
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Equipment Used: 1.5 tonne excavator

 Plas Newydd SA4 0FQ Tel: 01554 744880 email: enquiries@spencerquantum.co.uk	Operator: Client	Logged By: P Darby	Sheet No. 1 Of 2	m Per Page 4	All measurements in metres unless otherwise stated	
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Form Name: TP LOG. Version 2.11.100, 27/11/20 Output By: Phil Darby. Library File: C:\USERS\PHIL_\ONEDRIVE - SPENCER QUANTUM LTD\QUANTUM 4.GLB.

Contract : The Paddock Client : Mr and Mrs Pollard		Trial Pit No. TP01
Dates : 23/10/25 - 23/10/25 Location : The Paddock Eastern Boundary	Job Number : Q1813 Engineer : SQL	Ground Level : Coordinates: 273732.62 E 199910.12 N <i>Co-ordinates to National Grid</i>



 Quantum Geotech	Plas Newydd SA4 0FQ Tel: 01554 744880 email: enquiries@spencerquantum.co.uk	Operator: Client	Logged By: P Darby	Sheet No. 2 Of 2	m Per Page	All measurements in metres unless otherwise stated	 AGS
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Contract : The Paddock Client : Mr and Mrs Pollard							Trial Pit No. TP02	
Dates : 23/10/25 - 23/10/25 Location : The Paddock Eastern Boundary			Job Number : Q1813 Engineer : SQL			Ground Level : Coordinates: 273727.40 E 199875.01 N <i>Co-ordinates to National Grid</i>		

m B.G.L.	Samples		Tests		Strata			WATER
	Depth	Type No.	Depth	Test Results	Depth (Thickness)	Description	Legend	
1	0.40 -	ES1			0.40	TOPSOIL - Dark brown silty CLAY with many rootlets.		(0.40)
					0.40	MADE GROUND - Light greyish brown sandy GRAVEL. Gravel is fine to coarse angular to sub-angular sandstone.		0.40
			0.60	(0.60)				
	1.20 -	ES2			1.00	POSSIBLE MADE GROUND - Grey sandy GRAVEL. Gravel is fine to coarse angular to sub-angular sandstone.		1.00
					0.50			(0.50)
		1.50	Firm brown gravelly CLAY with low cobble content. Gravel is fine to coarse sub-angular to sub-rounded sandstone. Cobbles are sub-rounded sandstone. (GLACIAL TILL)		1.50			
		0.20				(0.20)		
		1.70			1.70	Terminated at 1.7mbgl		1.70

PLAN 		Groundwater: No Groundwater Encountered Stability: Shoring:	Remarks:
Equipment Used:			

Plas Newydd SA4 0FQ Tel: 01554 744880 email: enquiries@spencerquantum.co.uk	Operator:	Logged By:	Sheet No. 1 Of 2	m Per Page 4	All measurements in metres unless otherwise stated	
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Contract : The Paddock Client : Mr and Mrs Pollard		Trial Pit No. TP02
Dates : 23/10/25 - 23/10/25 Location : The Paddock Eastern Boundary	Job Number : Q1813 Engineer : SQL	Ground Level : Coordinates: 273727.40 E 199875.01 N <i>Co-ordinates to National Grid</i>



Contract : The Paddock Client : Mr and Mrs Pollard							Trial Pit No. TP03	
Dates : 23/10/25 - 23/10/25 Location : The Paddock Eastern Boundary			Job Number : Q1813 Engineer : SQL			Ground Level : Coordinates: 273726.09 E 199838.40 N <i>Co-ordinates to National Grid</i>		

m B.G.L.	Samples		Tests		Strata			WATER
	Depth	Type No.	Depth	Test Results	Depth (Thickness)	Description	Legend	
1	0.50 -	ES1			0.20	TOPSOIL - Dark brown silty CLAY with many rootlets.		(0.20)
					0.20	MADE GROUND - Light greyish brown sandy GRAVEL. Gravel is fine to coarse angular to sub-angular sandstone.		0.20
					0.70			(0.70)
					0.90			Firm brown gravelly CLAY with low cobble content. Gravel is fine to coarse sub-angular to sub-rounded sandstone. Cobbles are sub-rounded sandstone. (GLACIAL TILL)
					0.50	(0.50)		
		1.40	Terminated at 1.4mbgl		1.40			

PLAN 		Groundwater: No Groundwater Encountered Stability: Stable Shoring: N/A		Remarks:	
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Equipment Used: 1.5 tonne excavator

Quantum Geotech Plas Newydd SA4 0FQ Tel: 01554 744880 email: enquiries@spencerquantum.co.uk	Operator: Client	Logged By: P Darby	Sheet No. 1 Of 2	m Per Page 4	All measurements in metres unless otherwise stated	
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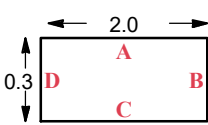
Form Name: TP LOG. Version 2.11.100, 27/11/20 Output By: Phil Darby. Library File: C:\USERS\PHIL_\ONEDRIVE - SPENCER QUANTUM LTD\QUANTUM 4.GLB.

Contract : The Paddock Client : Mr and Mrs Pollard		Trial Pit No. TP03
Dates : 23/10/25 - 23/10/25 Location : The Paddock Eastern Boundary	Job Number : Q1813 Engineer : SQL	Ground Level : Coordinates: 273726.09 E 199838.40 N <i>Co-ordinates to National Grid</i>



Contract : The Paddock Client : Mr and Mrs Pollard							Trial Pit No. TP04	
Dates : 23/10/25 - 23/10/25 Location : The Paddock Eastern Boundary			Job Number : Q1813 Engineer : SQL			Ground Level : Coordinates: 273684.23 E 199862.01 N <i>Co-ordinates to National Grid</i>		

m B.G.L.	Samples		Tests		Strata			WATER
	Depth	Type No.	Depth	Test Results	Depth (Thickness)	Description	Legend	
					0.40	TOPSOIL - Dark brown silty CLAY with many rootlets.		(0.40)
					0.40	Firm brown gravelly CLAY with low cobble content. Gravel is fine to coarse sub-angular to sub-rounded sandstone. Cobbles are sub-rounded sandstone. (GLACIAL TILL) Terminated at 0.6mbgl		0.40
					0.20			(0.20)
					0.60			0.60

PLAN 		Groundwater: No Groundwater Encountered Stability: Shoring:		Remarks:	
Equipment Used: 1.5 tonne excavator					

	Plas Newydd SA4 0FQ Tel: 01554 744880 email: enquiries@spencerquantum.co.uk	Operator: Client	Logged By: P Darby	Sheet No. 1 Of 2	m Per Page 4	All measurements in metres unless otherwise stated	
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Contract : The Paddock Client : Mr and Mrs Pollard		Trial Pit No. TP04
Dates : 23/10/25 - 23/10/25 Location :	Job Number : Q1813 Engineer : SQL	Ground Level : Coordinates: 273684.23 E 199862.01 N <i>Co-ordinates to National Grid</i>

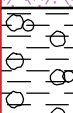


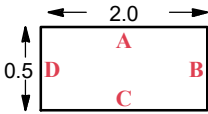
Contract : The Paddock Client : Mr and Mrs Pollard							Trial Pit No. TP05				
Dates : 23/10/25 - 23/10/25 Location :			Job Number : Q1813 Engineer : SQL			Ground Level : Coordinates: 273707.80 E 199873.51 N <i>Co-ordinates to National Grid</i>					
m B.G.L.	Samples		Tests		Strata				WATER		
	Depth	Type No.	Depth	Test Results	Depth (Thickness)	Description	Legend	Depth (Thickness)			
					0.30	TOPSOIL - Dark brown silty CLAY with many rootlets.		(0.30)			
					0.30	Firm brown gravelly CLAY with low cobble content. Gravel is fine to coarse sub-angular to sub-rounded sandstone. Cobbles are sub-rounded sandstone. (GLACIAL TILL) Terminated at 0.6mbgl		0.30			
					0.20			(0.20)			
					0.50			0.50			
PLAN 			Groundwater: No Groundwater Encountered Stability: Stable Shoring: N/A			Remarks:					
Equipment Used: 1.5 tonne excavator											
Plas Newydd SA4 0FQ Tel: 01554 744880 email: enquiries@spencerquantum.co.uk			Operator: Client		Logged By: P Darby		Sheet No. 1 Of 2		m Per Page 4	All measurements in metres unless otherwise stated	

Contract : The Paddock Client : Mr and Mrs Pollard		Trial Pit No. TP05
Dates : 23/10/25 - 23/10/25 Location : The Paddock Eastern Boundary	Job Number : Q1813 Engineer : SQL	Ground Level : Coordinates: 273707.80 E 199873.51 N <i>Co-ordinates to National Grid</i>



Contract : The Paddock Client : Mr and Mrs Pollard							Trial Pit No. TP201	
Dates : 14/4/26 - 14/4/26 Location : The Paddock			Job Number : Q1813 Engineer : SQL			Ground Level : Coordinates: 273665.25 E 199840.73 N <i>Co-ordinates to National Grid</i>		

m B.G.L.	Samples		Tests		Strata			WATER
	Depth	Type No.	Depth	Test Results	Depth (Thick-ness)	Description	Legend	
1	0.10 -	ES1			0.35	TOPSOIL - Dark brown organic slightly gravelly clayey SILT with many rootlets. Gravel is fine to medium sub-angular sandstone.		(0.35)
	0.50 -	ES2			0.35	Firm grey mottled brown gravelly CLAY with low to medium sub-rounded sandstone cobble content. Gravel is fine to coarse sub-rounded to sub-angular sandstone. (GLACIAL TILL)		0.35
					0.65			(0.65)
					1.00	Terminated at 1.0mbgl		1.00

PLAN 		Groundwater: Slight seepage ground level to 0.35mbgl Stability: Stable Shoring: N/A	Remarks:
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Equipment Used: 2.5t tracked excavator

 Plas Newydd SA4 0FQ Tel: 01554 744880 email: enquiries@spencerquantum.co.uk	Operator: Client	Logged By: PD	Sheet No. 1 Of 2	m Per Page 4	All measurements in metres unless otherwise stated	
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Contract : The Paddock

Client : Mr and Mrs Pollard

Trial Pit No.

TP201

Dates : 14/4/26 - 14/4/26

Job Number : Q1813

Ground Level :

Location : The Paddock

Engineer : SQL

Coordinates: 273665.25 E
199840.73 N
Co-ordinates to National Grid



Plas Newydd
SA4 0FQ
Tel: 01554 744880
email: enquiries@spencerquantum.co.uk

Operator:
Client

Logged By:
PD

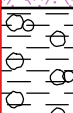
Sheet No.
2 Of 2

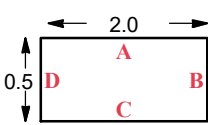
m Per
Page

All measurements in
metres unless
otherwise stated



Contract : The Paddock Client : Mr and Mrs Pollard							Trial Pit No. TP202	
Dates : 14/4/26 - 14/4/26 Location : The Paddock			Job Number : Q1813 Engineer : SQL			Ground Level : Coordinates: 273676.32 E 199851.46 N <i>Co-ordinates to National Grid</i>		

m B.G.L.	Samples		Tests		Strata			WATER
	Depth	Type No.	Depth	Test Results	Depth (Thickness)	Description	Legend	
1	0.20 -	ES1			0.35	TOPSOIL - Dark brown organic slightly gravelly clayey SILT with many rootlets. Gravel is fine to medium sub-angular sandstone.		(0.35)
					0.35	Firm grey mottled brown gravelly CLAY with low to medium sub-rounded sandstone cobble content. Gravel is fine to coarse sub-rounded to sub-angular sandstone. (GLACIAL TILL)		0.35
					0.65			(0.65)
					1.00	Terminated at 1.0mbgl		1.00

PLAN 		Groundwater: No Groundwater Encountered Stability: Stable Shoring: N/A		Remarks:	
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Equipment Used: 2.5t tracked excavator

 Quantum Geotech Plas Newydd SA4 0FQ Tel: 01554 744880 email: enquiries@spencerquantum.co.uk	Operator: Client	Logged By: PD	Sheet No. 1 Of 2	m Per Page 4	All measurements in metres unless otherwise stated	
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Contract : The Paddock
Client : Mr and Mrs Pollard

Trial Pit No.
TP202

Dates : 14/4/26 - 14/4/26

Job Number : Q1813

Ground Level :

Location : The Paddock

Engineer : SQL

Coordinates: 273676.32 E
199851.46 N
Co-ordinates to National Grid



Plas Newydd
SA4 0FQ
Tel: 01554 744880
email: enquiries@spencerquantum.co.uk

Operator:
Client

Logged By.
PD

Sheet No.
2 Of 2

m Per
Page

All measurements in
metres unless
otherwise stated



Contract : The Paddock Client : Mr and Mrs Pollard							Trial Pit No. TP203	
Dates : 14/4/26 - 14/4/26 Location : The Paddock			Job Number : Q1813 Engineer : SQL			Ground Level : Coordinates: 273700.05 E 199814.46 N <i>Co-ordinates to National Grid</i>		

m B.G.L.	Samples		Tests		Strata			WATER
	Depth	Type No.	Depth	Test Results	Depth (Thick-ness)	Description	Legend	
1	0.30 -	ES1			0.50	TOPSOIL - Dark brown organic slightly gravelly clayey SILT with many rootlets. Gravel is fine to medium sub-angular sandstone and occasional brick.		(0.50)
					0.50	Firm grey mottled brown gravelly CLAY with low to medium sub-rounded sandstone cobble content. Gravel is fine to coarse sub-rounded to sub-angular sandstone. (GLACIAL TILL)		0.50
					0.50			(0.50)
					1.00	Terminated at 1.0mbgl		1.00

PLAN 		Groundwater: No Groundwater Encountered Stability: Stable Shoring: N/A		Remarks:	
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Equipment Used: 2.5t tracked excavator

	Plas Newydd SA4 0FQ Tel: 01554 744880 email: enquiries@spencerquantum.co.uk	Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	
		Client	PD	1 Of 2	4		

Form Name: TP LOG. Version 2.11.100, 27/11/20 Output By: Phil Darby. Library File: C:\USERS\PHIL_\ONEDRIVE - SPENCER QUANTUM LTD\QUANTUM 4.GLB.

Contract : The Paddock
Client : Mr and Mrs Pollard

Trial Pit No.
TP203

Dates : 14/4/26 - 14/4/26

Job Number : Q1813

Ground Level :

Location : The Paddock

Engineer : SQL

Coordinates: 273700.05 E
199814.46 N
Co-ordinates to National Grid



Plas Newydd
SA4 0FQ
Tel: 01554 744880
email: enquiries@spencerquantum.co.uk

Operator:
Client

Logged By:
PD

Sheet No.
2 Of 2

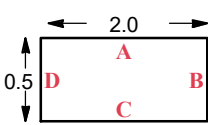
m Per
Page

All measurements in
metres unless
otherwise stated



Contract : The Paddock Client : Mr and Mrs Pollard							Trial Pit No. TP204	
Dates : 14/4/26 - 14/4/26 Location : The Paddock			Job Number : Q1813 Engineer : SQL			Ground Level : Coordinates: 273696.35 E 199833.63 N <i>Co-ordinates to National Grid</i>		

m B.G.L.	Samples		Tests		Strata			WATER
	Depth	Type No.	Depth	Test Results	Depth (Thickness)	Description	Legend	
1	0.30 -	ES1			0.30	TOPSOIL - Dark brown organic slightly gravelly clayey SILT with many rootlets. Gravel is fine to medium sub-angular sandstone.		(0.30)
					0.30	Firm grey mottled brown gravelly CLAY with low to medium sub-rounded sandstone cobble content. Gravel is fine to coarse sub-rounded to sub-angular sandstone. (GLACIAL TILL)		0.30
					0.70			(0.70)
					1.00	Terminated at 1.0mbgl		1.00

PLAN 		Groundwater: No Groundwater Encountered Stability: Stable Shoring: N/A		Remarks:	
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Equipment Used: 2.5t tracked excavator

 Quantum Geotech Plas Newydd SA4 0FQ Tel: 01554 744880 email: enquiries@spencerquantum.co.uk	Operator: Client	Logged By: PD	Sheet No. 1 Of 2	m Per Page 4	All measurements in metres unless otherwise stated	
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Contract : The Paddock
Client : Mr and Mrs Pollard

Trial Pit No.
TP204

Dates : 14/4/26 - 14/4/26

Job Number : Q1813

Ground Level :

Location : The Paddock

Engineer : SQL

Coordinates: 273696.35 E
199833.63 N
Co-ordinates to National Grid



Plas Newydd
SA4 0FQ
Tel: 01554 744880
email: enquiries@spencerquantum.co.uk

Operator:
Client

Logged By:
PD

Sheet No.
2 Of 2

m Per
Page

All measurements in
metres unless
otherwise stated



APPENDIX V – CHEMICAL TEST RESULTS

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 25/12542
Issue Number: 1

Date: 11 November, 2025

Client: Spencer Quantum Ltd
Parcau Farm
Penrhiwllan
Llandysul
Ceredigion
UK
SA44 5NW

Project Manager: Phil Darby (Wales Office)
Project Name: The Paddock
Project Ref: Q1813
Order No: Q1813
Date Samples Received: 03/11/25
Date Instructions Received: 03/11/25
Date Analysis Completed: 11/11/25

Approved by:



Amy Riding
Client Manager

Envirolab Job Number: 25/12542

Client Project Name: The Paddock

Client Project Ref: Q1813

Lab Sample ID	25/12542/1	25/12542/2	25/12542/3					Units	Limit of Detection	Method ref
Client Sample No	1	2	1							
Client Sample ID	TP01	TP01	TP02							
Depth to Top	0.40	1.00	0.40							
Depth To Bottom										
Date Sampled	23-Oct-25	23-Oct-25	23-Oct-25							
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES							
Sample Matrix Code	4AE	4AE	4AE							
% Stones >10mm _A	<0.1	10.1	11.6					% w/w	0.1	A-T-044
pH _D ^{M#}	5.45	7.17	6.73					pH	0.01	A-T-031s
Sulphate (water sol 2:1) _D ^{M#}	0.01	0.03	0.08					g/l	0.01	A-T-026s
Cyanide (total) _A ^{M#}	<1	<1	<1					mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC _A	<0.2	<0.2	<0.2					mg/kg	0.2	A-T-050s
Organic Matter _D ^{M#}	3.14	43.9	6.46					% w/w	0.14	A-T-032s
Arsenic _D ^{M#}	24	20	26					mg/kg	1	A-T-024s
Boron (water soluble) _D ^{M#}	<1.0	<1.0	<1.0					mg/kg	1	A-T-027s
Cadmium _D	<1.0	<1.0	1.6					mg/kg	1	A-T-024s
Copper _D ^{M#}	42	42	88					mg/kg	1	A-T-024s
Chromium _D ^{M#}	14	10	11					mg/kg	1	A-T-024s
Lead _D ^{M#}	28	58	80					mg/kg	1	A-T-024s
Mercury _D	<0.17	<0.17	<0.17					mg/kg	0.17	A-T-024s
Nickel _D ^{M#}	26	24	25					mg/kg	1	A-T-024s
Zinc _D ^{M#}	110	199	165					mg/kg	1	A-T-024s

Envirolab Job Number: 25/12542

Client Project Name: The Paddock

Client Project Ref: Q1813

Lab Sample ID	25/12542/1	25/12542/2	25/12542/3					Units	Limit of Detection	Method ref
Client Sample No	1	2	1							
Client Sample ID	TP01	TP01	TP02							
Depth to Top	0.40	1.00	0.40							
Depth To Bottom										
Date Sampled	23-Oct-25	23-Oct-25	23-Oct-25							
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES							
Sample Matrix Code	4AE	4AE	4AE							
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil [#]	NAD	NAD	NAD							A-T-045
Asbestos Matrix (visual) _D	-	-	-							A-T-045
Asbestos Matrix (microscope) _D	-	-	-							A-T-045
Asbestos ACM - Suitable for Water Absorption Test? _D	N/A	N/A	N/A							A-T-045

Envirolab Job Number: 25/12542

Client Project Name: The Paddock

Client Project Ref: Q1813

Lab Sample ID	25/12542/1	25/12542/2	25/12542/3					Units	Limit of Detection	Method ref
Client Sample No	1	2	1							
Client Sample ID	TP01	TP01	TP02							
Depth to Top	0.40	1.00	0.40							
Depth To Bottom										
Date Sampled	23-Oct-25	23-Oct-25	23-Oct-25							
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES							
Sample Matrix Code	4AE	4AE	4AE							
PAH-16MS										
Acenaphthene _A ^{M#}	0.03	0.03	0.01					mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	0.03	0.07	0.02					mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	0.20	0.14	0.05					mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	0.87	0.85	0.24					mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	0.85	1.06	0.29					mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	0.86	1.11	0.33					mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	0.56	0.78	0.24					mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	0.32	0.41	0.12					mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	0.87	0.90	0.29					mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A ^{M#}	0.14	0.21	0.06					mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	1.73	1.28	0.40					mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	0.02	0.04	0.02					mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	0.66	0.93	0.26					mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	<0.03	0.12	<0.03					mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	0.38	0.46	0.20					mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	1.51	1.15	0.37					mg/kg	0.07	A-T-019s
Total PAH-16MS _A ^{M#}	9.03	9.54	2.90					mg/kg	0.01	A-T-019s

Envirolab Job Number: 25/12542

Client Project Name: The Paddock

Client Project Ref: Q1813

Lab Sample ID	25/12542/1	25/12542/2	25/12542/3					Units	Limit of Detection	Method ref
Client Sample No	1	2	1							
Client Sample ID	TP01	TP01	TP02							
Depth to Top	0.40	1.00	0.40							
Depth To Bottom										
Date Sampled	23-Oct-25	23-Oct-25	23-Oct-25							
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES							
Sample Matrix Code	4AE	4AE	4AE							
TPH CWG with Clean Up										
Ali >C5-C6 _A	<0.01	<0.05	<0.01					mg/kg	0.01	A-T-022s
Ali >C6-C8 _A	<0.01	<0.05	<0.01					mg/kg	0.01	A-T-022s
Ali >C8-C10 _A	<1	<1	<1					mg/kg	1	A-T-055s
Ali >C10-C12 _A ^{M#}	<1	<1	<1					mg/kg	1	A-T-055s
Ali >C12-C16 _A ^{M#}	<1	<1	<1					mg/kg	1	A-T-055s
Ali >C16-C21 _A ^{M#}	<1	<1	<1					mg/kg	1	A-T-055s
Ali >C21-C35 _A ^{M#}	2	4	8					mg/kg	1	A-T-055s
Total Aliphatics _A	2	4	8					mg/kg	1	Calc-As Recd
Aro >C5-C7 _A [#]	<0.01	<0.05	<0.01					mg/kg	0.01	A-T-022s
Aro >C7-C8 _A [#]	<0.01	<0.05	<0.01					mg/kg	0.01	A-T-022s
Aro >C8-C10 _A	<1	<1	1					mg/kg	1	A-T-055s
Aro >C10-C12 _A	<1	<1	<1					mg/kg	1	A-T-055s
Aro >C12-C16 _A	<1	1	2					mg/kg	1	A-T-055s
Aro >C16-C21 _A ^{M#}	<1	2	2					mg/kg	1	A-T-055s
Aro >C21-C35 _A ^{M#}	1	5	15					mg/kg	1	A-T-055s
Total Aromatics _A	1	8	20					mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C35) _A	3	12	29					mg/kg	1	Calc-As Recd
BTEX - Benzene _A [#]	<0.01	<0.05	<0.01					mg/kg	0.01	A-T-022s
BTEX - Toluene _A [#]	<0.01	<0.05	<0.01					mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene _A [#]	<0.01	<0.05	<0.01					mg/kg	0.01	A-T-022s
BTEX - m & p Xylene _A [#]	<0.01	<0.05	<0.01					mg/kg	0.01	A-T-022s
BTEX - o Xylene _A [#]	<0.01	<0.05	<0.01					mg/kg	0.01	A-T-022s
MTBE _A [#]	<0.01	<0.05	<0.01					mg/kg	0.01	A-T-022s

Report Notes

General

- This report shall not be reproduced, except in full, without written approval from Envirolab.
- The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client and can affect the validity of results.
- The results reported herein relate only to the material supplied to the laboratory.
- The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
- Analytical results reflect the quality of the sample at the time of analysis only.
- Opinions and Interpretations expressed are outside our scope of accreditation.
- A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
- If a sample is outside of the calibration range or affected by interferences then it may need diluting. This will result in the limit of detection (LOD) being raised.
- Subcontracted Analysis: Please see the appended report for any deviations, current LODs and accreditation status of the test.

Key

Superscript “#”	Accredited to ISO 17025
Superscript “M”	Accredited to MCertS
Superscript “U”	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript “A”	Analysis performed on as-received Sample
Subscript “D”	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript “D” on Asbestos	Analysis performed on a dried aliquot of sample provided.
Subscript “A”	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
Trace	Asbestos found not suitable for Gravimetric Quantification – not enough to accurately weigh.
N/A	Not applicable

Asbestos

Identification: Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.

Stones etc. are not removed from the sample prior to analysis

“Trace Asbestos Identified” will be reported if there is not enough present to verify the type.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs

Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.

Soil Chemical Analysis:

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as “% stones >10mm”.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts

All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any “D” subscripts.

TPH by method A-T-007:

For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.

Results “with Clean up” indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:

EPH CWG results have humics mathematically subtracted through instrument calculation.

Where these humic substances have been identified in any IDs from “TPH CWG with clean up” please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client:	Spencer Quantum Ltd , Parcau Farm, Penrhiwllan, Llandysul, Ceredigion, UK, SA44 5NW	Project No:	25/12542
Project:	The Paddock	Date Received:	03/11/2025 (am)
Clients Project No:	Q1813	Cool Box Temperatures (°C):	10.5

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	25/12542/1	25/12542/2	25/12542/3
Client Sample No	1	2	1
Client Sample ID/Depth	TP01 0.40m	TP01 1.00m	TP02 0.40m
Date Sampled	23/10/25	23/10/25	23/10/25
A-T-019s	05/11/2025	05/11/2025	05/11/2025
A-T-022s	05/11/2025	07/11/2025	05/11/2025
A-T-024s	11/11/2025	11/11/2025	11/11/2025
A-T-026s	06/11/2025	06/11/2025	06/11/2025
A-T-027s	07/11/2025	07/11/2025	07/11/2025
A-T-031s	06/11/2025	06/11/2025	06/11/2025
A-T-032s	06/11/2025	06/11/2025	06/11/2025
A-T-042sTCN	07/11/2025	07/11/2025	07/11/2025
A-T-044	05/11/2025	05/11/2025	05/11/2025
A-T-045	04/11/2025	04/11/2025	04/11/2025
A-T-050s	07/11/2025	07/11/2025	07/11/2025
A-T-055s	05/11/2025	05/11/2025	05/11/2025
Calc-As Recd	05/11/2025	07/11/2025	05/11/2025

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

Envirolab Job Number: 26/04588
Client: Spencer Quantum Ltd
Client Project Name: The Paddock
Client Project Ref: Q1813

Lab Sample ID				26/04588/1	26/04588/2	26/04588/3	26/04588/4
Client Sample No				1	2	1	1
Client Sample ID				TP201	TP201	TP202	TP203
Depth to Top				0.10	0.50	0.20	0.20
Depth to Bottom							
Date Sampled				14-Apr-26	14-Apr-26	14-Apr-26	14-Apr-26
Sample Type				Soil - ES	Soil - ES	Soil - ES	Soil - ES
Sample Matrix Code	Units	Limit of Detection	Method	6AE	5A	6AE	5AE
% Stones >10mm	% w/w	0.1	A-T-044	<0.1	<0.1	<0.1	<0.1
pH	pH	0.01	A-T-031s	7.85	7.28	7.61	7.45
Sulphate (water sol 2:1)	g/l	0.01	A-T-026s	<0.01	0.02	<0.01	<0.01
Cyanide (total)	mg/kg	1	A-T-042sTCN	<1	<1	<1	<1
Arsenic	mg/kg	1	A-T-024s	34	7	21	15
Boron (water soluble)	mg/kg	1	A-T-027s	<1.0	<1.0	<1.0	<1.0
Cadmium	mg/kg	1	A-T-024s	<1.0	<1.0	<1.0	1.1
Copper	mg/kg	1	A-T-024s	42	14	45	55
Chromium	mg/kg	1	A-T-024s	10	16	12	10
Lead	mg/kg	1	A-T-024s	50	12	37	60
Mercury	mg/kg	0.17	A-T-024s	<0.17	<0.17	<0.17	<0.17
Nickel	mg/kg	1	A-T-024s	12	17	9	19
Zinc	mg/kg	1	A-T-024s	65	33	60	78
Asbestos in Soil (inc. matrix) ^							
Asbestos in soil			A-T-045	NAD	NAD	NAD	NAD
Asbestos ACM - Suitable for Water Absorption Test?			A-T-045	N/A	N/A	N/A	N/A
PAH-16MS							
Acenaphthene	mg/kg	0.01	A-T-019s	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	mg/kg	0.01	A-T-019s	<0.01	<0.01	<0.01	<0.01
Anthracene	mg/kg	0.02	A-T-019s	0.03	<0.02	<0.02	<0.02
Benzo(a)anthracene	mg/kg	0.04	A-T-019s	0.12	<0.04	<0.04	<0.04
Benzo(a)pyrene	mg/kg	0.04	A-T-019s	0.1	<0.04	<0.04	<0.04
Benzo(b)fluoranthene	mg/kg	0.05	A-T-019s	0.18	<0.05	<0.05	0.08
Benzo(ghi)perylene	mg/kg	0.05	A-T-019s	0.09	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	mg/kg	0.07	A-T-019s	<0.07	<0.07	<0.07	<0.07
Chrysene	mg/kg	0.06	A-T-019s	0.18	<0.06	<0.06	0.09
Dibenzo(ah)anthracene	mg/kg	0.04	A-T-019s	<0.04	<0.04	<0.04	<0.04
Fluoranthene	mg/kg	0.08	A-T-019s	0.23	<0.08	<0.08	<0.08
Fluorene	mg/kg	0.01	A-T-019s	<0.01	<0.01	<0.01	<0.01
Indeno(123-cd)pyrene	mg/kg	0.03	A-T-019s	0.12	<0.03	<0.03	0.04
Naphthalene	mg/kg	0.03	A-T-019s	<0.03	<0.03	<0.03	<0.03
Phenanthrene	mg/kg	0.03	A-T-019s	0.1	<0.03	0.07	0.04
Pyrene	mg/kg	0.07	A-T-019s	0.18	<0.07	<0.07	<0.07
Total PAH-16MS	mg/kg	0.01	A-T-019s	1.33	<0.08	<0.08	0.25
TPH CWG with Clean Up							
Ali >C5-C6	mg/kg	0.01	A-T-022s	<0.01	<0.01	<0.01	<0.01
Ali >C6-C8	mg/kg	0.01	A-T-022s	<0.01	<0.01	<0.01	<0.01
Ali >C8-C10	mg/kg	1	A-T-055s	<1	<1	<1	<1
Ali >C10-C12	mg/kg	1	A-T-055s	<1	<1	<1	<1
Ali >C12-C16	mg/kg	1	A-T-055s	<1	<1	<1	<1
Ali >C16-C21	mg/kg	1	A-T-055s	<1	<1	<1	<1
Ali >C21-C35	mg/kg	1	A-T-055s	4	<1	5	5
Total Aliphatics	mg/kg	1	Calc-As Recd	4	<1	5	5
Aro >C5-C7	mg/kg	0.01	A-T-022s	<0.01	<0.01	<0.01	<0.01
Aro >C7-C8	mg/kg	0.01	A-T-022s	<0.01	<0.01	<0.01	<0.01
Aro >C8-C10	mg/kg	1	A-T-055s	<1	<1	<1	<1
Aro >C10-C12	mg/kg	1	A-T-055s	<1	<1	<1	<1
Aro >C12-C16	mg/kg	1	A-T-055s	<1	<1	<1	<1
Aro >C16-C21	mg/kg	1	A-T-055s	<1	<1	<1	3
Aro >C21-C35	mg/kg	1	A-T-055s	5	<1	5	10
Total Aromatics	mg/kg	1	Calc-As Recd	5	<1	5	13
TPH (Ali & Aro >C5-C35)	mg/kg	1	Calc-As Recd	9	<1	10	18
BTEX - Benzene	mg/kg	0.01	A-T-022s	<0.01	<0.01	<0.01	<0.01
BTEX - Toluene	mg/kg	0.01	A-T-022s	<0.01	<0.01	<0.01	<0.01
BTEX - Ethyl Benzene	mg/kg	0.01	A-T-022s	<0.01	<0.01	<0.01	<0.01
BTEX - m & p Xylene	mg/kg	0.01	A-T-022s	<0.01	<0.01	<0.01	<0.01
BTEX - o Xylene	mg/kg	0.01	A-T-022s	<0.01	<0.01	<0.01	<0.01
MTBE	mg/kg	0.01	A-T-022s	<0.01	<0.01	<0.01	<0.01



Final Report

Report No.: 25-23948-1

Initial Date of Issue: 04-Aug-2025

Re-Issue Details:

Client *Spencer Quantum Ltd*

Client Address: *Parcau Farm
Penrhiwllan
Llandysul
Ceredigion
SA44 5NW*

Contact(s): *Luci Draper*

Project *Q1813 The Paddock, Neath*

Quotation No.: **Date Received:** 21-Jul-2025

Order No.: **Date Instructed:** 21-Jul-2025

No. of Samples: 6

Turnaround (Wkdays): 10 **Results Due:** 30-Jul-2025

Date Approved: 04-Aug-2025

Approved By:

Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: Q1813 The Paddock, Neath

Client: Spencer Quantum Ltd		Chemtest Job No.:				25-23948	25-23948	25-23948	25-23948	25-23948	25-23948
Quotation No.:		Chemtest Sample ID.:				2003887	2003888	2003889	2003890	2003891	2003892
		Client Sample ID.:				1	2	1	2	1	2
		Client Reference:				WS01	WS01	WS02	WS02	WS03	WS03
		Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):				0.3	1	0.3	1	0.3	1
		Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD						
ACM Type		N	2192		N/A	-	-	-	-	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	16	16	7.9	12	24	12
Soil Colour		N	2030		N/A	Brown	Brown	Brown	Brown	Brown	Brown
Other Material		N	2030		N/A	Stones and Roots	Stones and Roots	Stones and Roots	Stones	Stones and Roots	Stones
Soil Texture		N	2030		N/A	Loam	Clay	Sand	Loam	Clay	Clay
pH at 20C		M	2010		4.0	8.4	7.7	10.0	8.4	7.3	7.8
pH (2.5:1) at 20C		N	2010		4.0	8.7			8.3		7.9
Boron (Hot Water Soluble)		M	2120	mg/kg	0.40	0.58	0.41	0.58	< 0.40	0.57	< 0.40
Magnesium (Water Soluble)		N	2120	g/l	0.010	< 0.010			< 0.010		< 0.010
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.15	0.036	0.22	0.018	0.030	< 0.010
Total Sulphur		U	2175	%	0.010	0.050			0.29		0.020
Chloride (Water Soluble)		M	2220	g/l	0.010	0.015			< 0.010		< 0.010
Nitrate (Water Soluble)		N	2220	g/l	0.010	0.013			0.011		< 0.010
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Sulphate (Acid Soluble)		U	2430	%	0.010	0.067			0.022		< 0.010
Arsenic		M	2455	mg/kg	0.5	27	17	15	36	9.7	13
Cadmium		M	2455	mg/kg	0.10	0.46	0.31	0.51	1.0	0.39	0.28
Chromium		M	2455	mg/kg	0.5	15	19	18	10	4.1	19
Copper		M	2455	mg/kg	0.50	36	18	27	62	15	19
Mercury		M	2455	mg/kg	0.05	0.07	0.06	< 0.05	0.08	< 0.05	0.07
Nickel		M	2455	mg/kg	0.50	16	10	12	19	5.4	20
Lead		M	2455	mg/kg	0.50	42	14	200	32	20	16
Zinc		M	2455	mg/kg	0.50	74	36	84	150	48	65
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Aliphatic VPH >C5-C6	HS 2D AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	HS 2D AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	HS 2D AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS 2D AL	N	2780	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic VPH >C8-C10	HS 2D AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS 2D AL	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12 MC	EH 2D AL #1	M	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Aliphatic EPH >C12-C16 MC	EH 2D AL #1	M	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic EPH >C16-C21 MC	EH 2D AL #1	M	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	2.6	< 2.0	< 2.0
Aliphatic EPH >C21-C35 MC	EH 2D AL #1	M	2690	mg/kg	3.00	29	5.2	49	26	38	< 3.0
Aliphatic EPH >C35-C40 MC	EH 2D AL #1	N	2690	mg/kg	10.00	< 10	< 10	15	< 10	< 10	< 10
Total Aliphatic EPH >C10-C35 MC	EH 2D AL #1	M	2690	mg/kg	5.00	30	6.8	51	31	41	< 5.0
Total Aliphatic EPH >C10-C40 MC	EH 2D AL #1	N	2690	mg/kg	10.00	30	< 10	66	31	41	< 10
Aromatic VPH >C5-C7	HS 2D AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	HS 2D AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Results - Soil

Project: Q1813 The Paddock, Neath

Client: Spencer Quantum Ltd		Chemtest Job No.:	25-23948	25-23948	25-23948	25-23948	25-23948	25-23948
Quotation No.:		Chemtest Sample ID.:	2003887	2003888	2003889	2003890	2003891	2003892
		Client Sample ID.:	1	2	1	2	1	2
		Client Reference:	WS01	WS01	WS02	WS02	WS03	WS03
		Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):	0.3	1	0.3	1	0.3	1
		Asbestos Lab:	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD			
Aromatic VPH >C8-C10	HS 2D AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	HS 2D AR	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25
Aromatic EPH >C10-C12 MC	EH 2D AR #1	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0
Aromatic EPH >C12-C16 MC	EH 2D AR #1	U	2690	mg/kg	1.00	1.1	1.4	< 1.0
Aromatic EPH >C16-C21 MC	EH 2D AR #1	U	2690	mg/kg	2.00	3.8	2.8	6.3
Aromatic EPH >C21-C35 MC	EH 2D AR #1	U	2690	mg/kg	2.00	4.6	< 2.0	23
Aromatic EPH >C35-C40 MC	EH 2D AR #1	N	2690	mg/kg	1.00	< 1.0	1.2	31
Total Aromatic EPH >C10-C35 MC	EH 2D AR #1	U	2690	mg/kg	5.00	9.4	< 5.0	30
Total Aromatic EPH >C10-C40 MC	EH 2D AR #1	N	2690	mg/kg	10.00	< 10	< 10	61
Total VPH >C5-C10	HS 2D Total	U	2780	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Total EPH >C10-C35 MC	EH 2D Total #1	U	2690	mg/kg	10.00	39	11	81
Total EPH >C10-C40 MC	EH 2D Total #1	N	2690	mg/kg	10.00	39	13	130
Organic Matter		M	2625	%	0.40	5.6	1.5	8.4
Naphthalene		M	2800	mg/kg	0.10	0.29	< 0.10	0.74
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10	< 0.10	0.25
Fluorene		M	2800	mg/kg	0.10	< 0.10	< 0.10	0.14
Phenanthrene		M	2800	mg/kg	0.10	0.36	< 0.10	1.0
Anthracene		M	2800	mg/kg	0.10	< 0.10	< 0.10	0.30
Fluoranthene		M	2800	mg/kg	0.10	0.78	< 0.10	1.3
Pyrene		M	2800	mg/kg	0.10	0.57	< 0.10	1.2
Benzo[a]anthracene		M	2800	mg/kg	0.10	0.43	< 0.10	1.2
Chrysene		M	2800	mg/kg	0.10	0.52	< 0.10	1.2
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	0.64	< 0.10	1.4
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	0.20	< 0.10	1.1
Benzo[a]pyrene		M	2800	mg/kg	0.10	0.46	< 0.10	1.3
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	< 0.10	< 0.10	1.2
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	< 0.10	< 0.10	1.2
Total Of 16 PAH's		N	2800	mg/kg	2.0	4.3	< 2.0	14
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2220	Water soluble Chloride in Soils	Chloride	Aqueous extraction and measurement by 'Aquakem 600' Discrete Analyser using ferric nitrate / mercuric thiocyanate.	
2300	Cyanides & Thiocyanate in Soils	Free (or easily liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35–C40 Aromatics: >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35–C40	Acetone/Heptane extraction / GCxGC FID detection	
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7, >C7–C8, >C8–C10 Aromatics: >C5–C7, >C7–C8, >C8–C10	Water extraction / Headspace GCxGC FID detection	
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene*; Chrysene*; Dibenz[ah]Anthracene*; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and Trimethylphenols Note: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Text example All items indicated in italic font represent customer-supplied information that may not be independently verified by the laboratory

This report shall not be reproduced except in full, and only with the prior approval of the laboratory.

Any comments or interpretations are outside the scope of UKAS accreditation.

The Laboratory is not accredited for any sampling activities and reported results relate to the samples 'as received' at the laboratory.

Uncertainty of measurement for the determinands tested are available upon request .

None of the results in this report have been recovery corrected.

All results are expressed on a dry weight basis.

The following tests were analysed on samples 'as received' and the results subsequently corrected to a dry weight basis EPH, VPH, TPH, BTEX, VOCs, SVOCs, PCBs, Phenols.

For all other tests the samples were dried at $\leq 30^{\circ}\text{C}$ prior to analysis.

All Asbestos testing is performed at the indicated laboratory .

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1.

NEW_ASB	Eurofins Chemtest Limited, 11 Depot Road, Newmarket, CB8 0AL
DURHAM	Eurofins Chemtest Limited, Unit A North Wing, Prospect Business Park, Crookhall Lane, Consett, Co Durham, DH8 7PW

Sample Deviation Codes

As a result of any of the below deviations applying, the test results may be unreliable

A - Date of sampling not supplied

B - Sample age exceeds stability time (sampling to extraction)

C - Sample not received in appropriate containers

D - Broken Container

E - The required amount of sample for analysis was not received

H - Appropriate cooling measures were not taken for sample transportation

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt.

All water samples will be retained for 14 days from the date of receipt.

Report Information

Charges may apply to extended sample storage.

Water Sample Category Key for Accreditation

DW - Drinking Water
GW - Ground Water
LE - Land Leachate
NA - Not Applicable
PL - Prepared Leachate
PW - Processed Water
RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

HWOL Acronym System

HS - Headspace analysis
EH - Extractable hydrocarbons – i.e. everything extracted by the solvent
CU - Clean-up – e.g. by Florisil, silica gel
1D - GC – Single coil gas chromatography
Total - Aliphatics & Aromatics
AL - Aliphatics only
AR - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

Asbestos Tests LOD = LOQ

Limit of Detection = Limit of Quantification for asbestos results only

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

**APPENDIX VI – SPOT GROUND GAS / WATER MONITORING RECORDS
(STANDPIPES WITHIN SUPERFICIAL DEPOSITS)**

Page 1 of 1

Project Name:	Cwmavon, Heol Tabor
Project No.:	Q1218
BH/TP No.:	WS01
Instruments Used:	Water Dip Meter Probe, GA2000 Gas Analyser

Installation Date:				
GL (mAOD)	Pipe	Type	Installation Depth (mbgl)	Response Zone (mbgl)
	A	50mm standpipe	2.00	1.00 - 2.00

[illegible]

Page 1 of 1

Project Name:	Cwmavon, Heol Tabor
Project No.:	Q1218
BH/TP No.:	WS02
Instruments Used:	Water Dip Meter Probe, GA2000 Gas Analyser

Installation Date:				
GL (mAOD)	Pipe	Type	Installation Depth (mbgl)	Response Zone (mbgl)
	A	50mm standpipe	3.20	1.00 - 3.20

[illegible]

APPENDIX VII – GGS REPORT 4085



DataPack Plus[®]

Understanding the hazards and risks at your site

GGs4085 The Paddocks, Dyffryn Farm, Neath

Ref: GGS4085DPP01

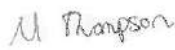
Issue: Final

Date: August 2025



Document Control Page

Client	Spencer Quantum Limited, Spring Lodge 172 Chester Road, Helsby, Cheshire, England, WA6 0AR.
Project Title	GGG DataPack Plus® GGG4085 The Paddocks, Dyffryn Farm, Neath
Report Ref	GGG4085DPP01
Project Revision	-
Revision Detail	-
Issue Status	FINAL

	Name		Position	Signature	Date
Prepared by:	Matthew Thompson	BSc (Hons) MSc	Geo- Environmental Specialist		28/08/2025
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FOREWORD

This report has been prepared based on information made available to Ground-Gas Solutions, trading as GGS, at the time of the reporting using all reasonable skill, care and diligence and within the limitations of the scope of works agreed with, and resources provided by, the client.

GGS has relied on information provided by others and has prepared this report on the basis of this information being accurate.

The report and recommendations therein are provided based on information available to GGS at the time of preparing the report and completed to recognised UK guidance and legislation. GGS will not accept any liability for inaccurate or incomplete information provided to GGS or any liability arising from the future change of any such guidance or legislation.

GGS is not obliged and disclaims any obligation to carry out further works or update the report for events occurring after such works have been carried out, and / or report issued in final form. This also applies to transfer of the report to other parties.

This report must be issued as final and be signed by the author and approved by a company director or senior management before the report may be relied upon by the client and subject to full payment for our services being made.

Any third parties using or relying on the information, comments, conclusions and recommendations do so at their own risk. Should any third party wish to use or rely upon the content of the report, written approval must be sought from a GGS Director; a charge may be levied against such approval.

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Appendices

Appendix A

Site & Monitoring Location Plan

Appendix B

Site Photographs

Appendix C

Periodic Monitoring Data

Appendix D

Time Series Data

Appendix E

Calibration Certificates

Appendix F

GasClam® Overview & Deployment information

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1 Introduction

GGG Limited has been commissioned by Spencer Quantum Limited to undertake continuous ground gas monitoring at The Paddocks, Dyffryn Farm, Neath ('the site'), and provide a GGS DataPack Plus® report containing the following information:

- Periodic monitoring records.
- Continuous monitoring data and graphs.
- Atmospheric pressure trend analysis.
- Technical commentary.
- Instrument calibration certificates.

1.1 Scope of works

The scope of works is set out below:

- A site visit by a GGS specialist on the 23rd of July 2025 to; install 3 No. raised headworks, complete periodic monitoring of 3 No. monitoring well locations and deploy continuous ground gas monitoring instruments at 3 No. monitoring well locations for a 3-week period.
- A site visit by GGS specialists on the 13th of August 2025 to collect continuous ground gas monitoring instruments from 3 No. monitoring well locations.
- Provision of a GGS DataPack Plus® report.

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2 Site Characteristics

2.1 Site Description

Table 2.1 below details the site description. A site and monitoring location plan is presented in Appendix A, whilst selected site photographs are presented in Appendix B.

Table 2.1 Site description

Description	Details
Address	The Paddock, Dyffryn Farm, Neath, SA10 7BQ.
National grid Reference (approximate centre of site)	SS 73714 99892
Overview	A new dwelling is planned to be constructed on the site, with the demolition of an existing property. The site is located in an area at risk from shallow mine workings with associated mines gas risk. Rotary boreholes have been installed to facilitate ground gas monitoring infrastructure. GGS have been requested to monitor the 3 No. borehole locations for a 3-week period.
North of the site	The site is bound to the north by an extensive woodland and some housing.
South of the site	The site is bound to the south by some housing and large open fields.
East of the site	The site is bound to the east by St Matthews Church, Dyffryn Road and Longford Road.
West of the site	Residential housing and open fields lie immediately to the west of the site.

Figure 1 below presents selected GGS site photographs. Additional site photographs are presented in Appendix B.

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Figure 1 Selected GGS site photographs (July 2025). Image top left: general site photograph. Image top right: monitoring well before GGS headwork installation. Image bottom left: continuous monitoring instrument deployed. Image bottom right: headworks secured.

3 Methodology

3.1 Periodic monitoring of well locations

GGG undertook periodic ground gas monitoring of 3 No. monitoring well locations, prior to the deployment of the continuous monitoring instrument. Concentrations of standard ground gases (methane, carbon dioxide, oxygen, carbon monoxide, and hydrogen sulphide), and flow, were recorded until steady state conditions were observed, or up to a maximum of 10 minutes.

GGG also recorded the depth to groundwater and the depth to base of the monitoring well using a geotechnical dip meter. Monitoring data was recorded on individual proforma records, along with all pertinent observations.

A summary of the periodic monitoring records is presented in Section 4.1, whilst the full periodic monitoring records are presented in Appendix C.

3.2 Continuous ground gas monitoring

3.2.1 Definition

When the frequency of sampling matches, or is greater than, the frequency of a parameter change, the data collected can be termed 'continuous'. A continuous data set will therefore capture the full range of variation in the parameter being recorded.

3.2.2 Benefits of continuous data

The collection of time series data of permanent gases and other environmental parameters provides a wealth of information significantly assisting the assessor to identify the dominant processes of gas generation and migration. This leads to a more detailed understanding of the ground-gas regime and allows for an accurate and truly site-specific risk assessment to be completed.

3.2.3 Methodology

GGG deployed continuous ground gas monitoring instruments within 3 No. monitoring well locations for a 4-week period during July and August 2025. The instruments were configured to record standard ground gases (methane, carbon dioxide, oxygen, carbon monoxide and

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hydrogen sulphide), along with atmospheric pressure, atmospheric temperature, and borehole flow, at a 60-minute monitoring frequency.

Figure 2 below presents selected site photographs of the continuous monitoring instruments deployed and secured on site, whilst Table 3.1 details the continuous monitoring schedule.

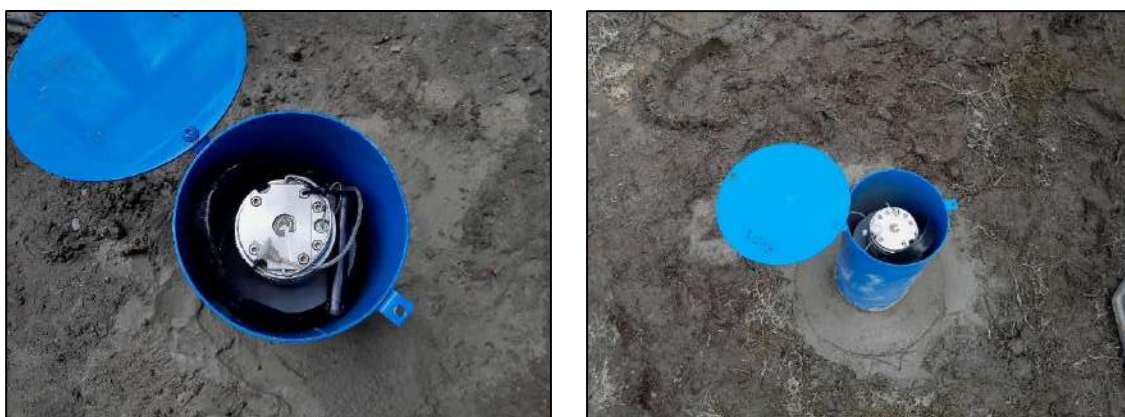


Figure 2 Selected GGS site photographs the continuous ground gas monitoring instruments deployed and secured on site.

Table 3.1 Continuous monitoring schedule

Location ID	Instrument Serial No.	Dates monitored
BH01	GC 000061/02/20 FD03	23/07/2025 – 13/08/2025
BH02	GC 00059/02/20 FD02	23/07/2025 – 13/08/2025
BH03	GC 00050/06/18 FD01	23/07/2025 – 13/08/2025

Continuous monitoring graphs are presented in Section 4.2, and the raw data is presented in Appendix D. Calibration certificates for the instruments used are presented in Appendix E, whilst Gas Clam® overview & deployment information is presented in Appendix F.

4 Results

4.1 Summary of periodic monitoring of well locations

Table 4.1 below presents a summary of the periodic monitoring completed by GGS. The full periodic monitoring records are presented in Appendix C.

Table 4.1 Periodic gas monitoring results and comment summary

Monitoring Location	Date	Max. Steady Positive Flow Rate (l/hr)	Max. CH ₄ (% v/v)	Max. CO ₂ (% v/v)	Min O ₂ (% v/v)	Max. CO (ppmv)	Max. H ₂ S (ppmv)	Standing water level (m bgl)	Comments
BH01	23/07/2025	<0.1	<0.1	0.1	20.5	48	11	20.40	Well installed day before so CO measurement likely a result of this. Electrochemical sensors used to detect CO can be susceptible to pressure or other trace gases, such as hydrogen. CO is often recorded when a monitoring well isn't allowed to settle after installation.
BH02	23/07/2025	<0.1	<0.1	<0.1	20.8	3	<1	22.90	No silt at base.
BH03	23/07/2025	<0.1	<0.1	<0.1	20.6	53	11	23.02	Brown silt at base. Well installed day before so CO measurement likely a result of this.

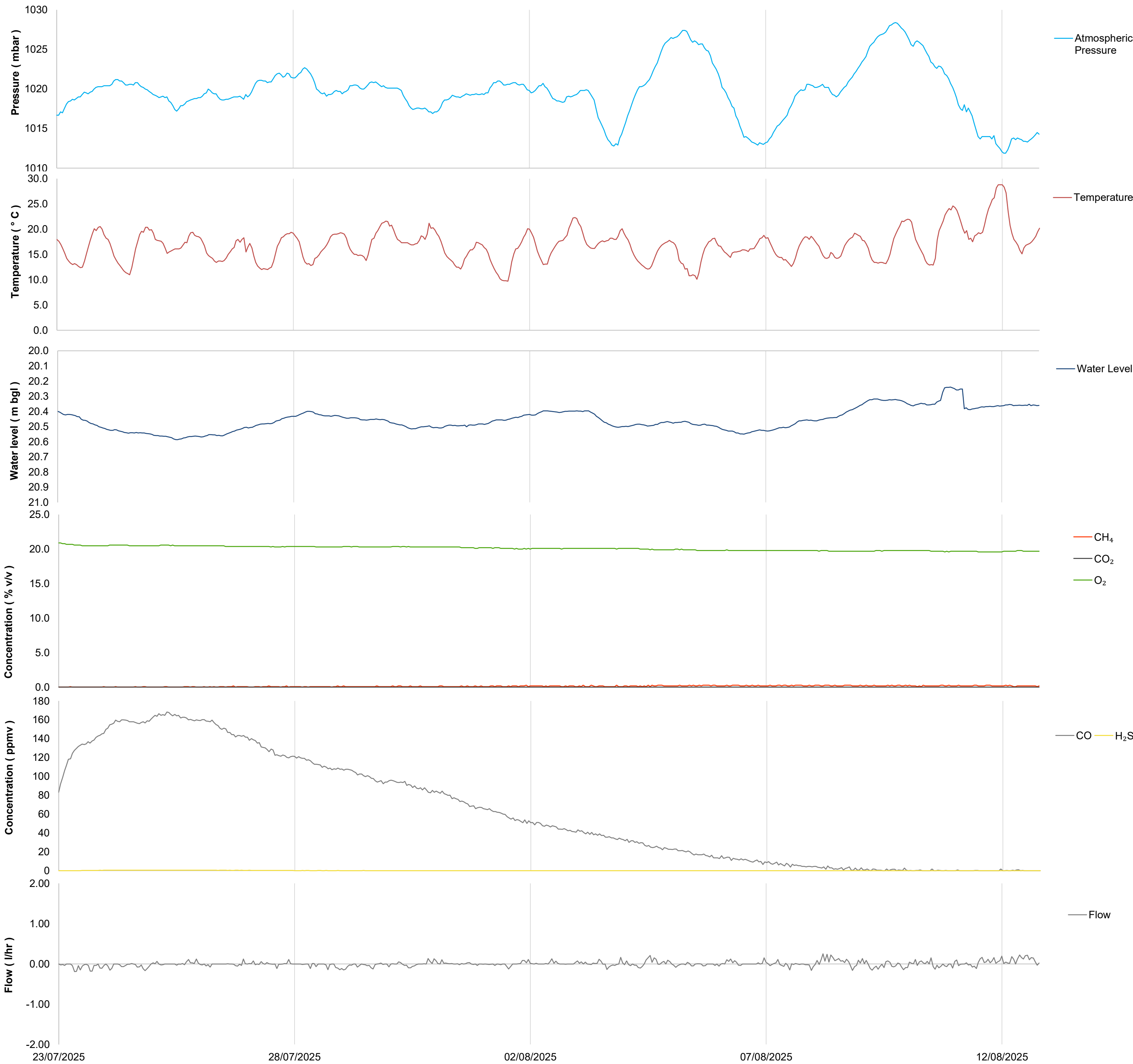
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4.2 Continuous monitoring results

GGs DataPack Plus® analysis involves converting raw data files from instruments into spread sheets. The data is then plotted as time series data graphs, showing ground-gas concentrations, gas flow, atmospheric pressure and atmospheric temperature against time. The graphs also contain a minimum and maximum values table.

The time series graphs are presented on the following pages, whilst the raw time series data is presented in Appendix D.



Title:
BH01 - Time Series Graphs

Project:
GGs4085 The Paddocks, Dyffryn Farm, Neath

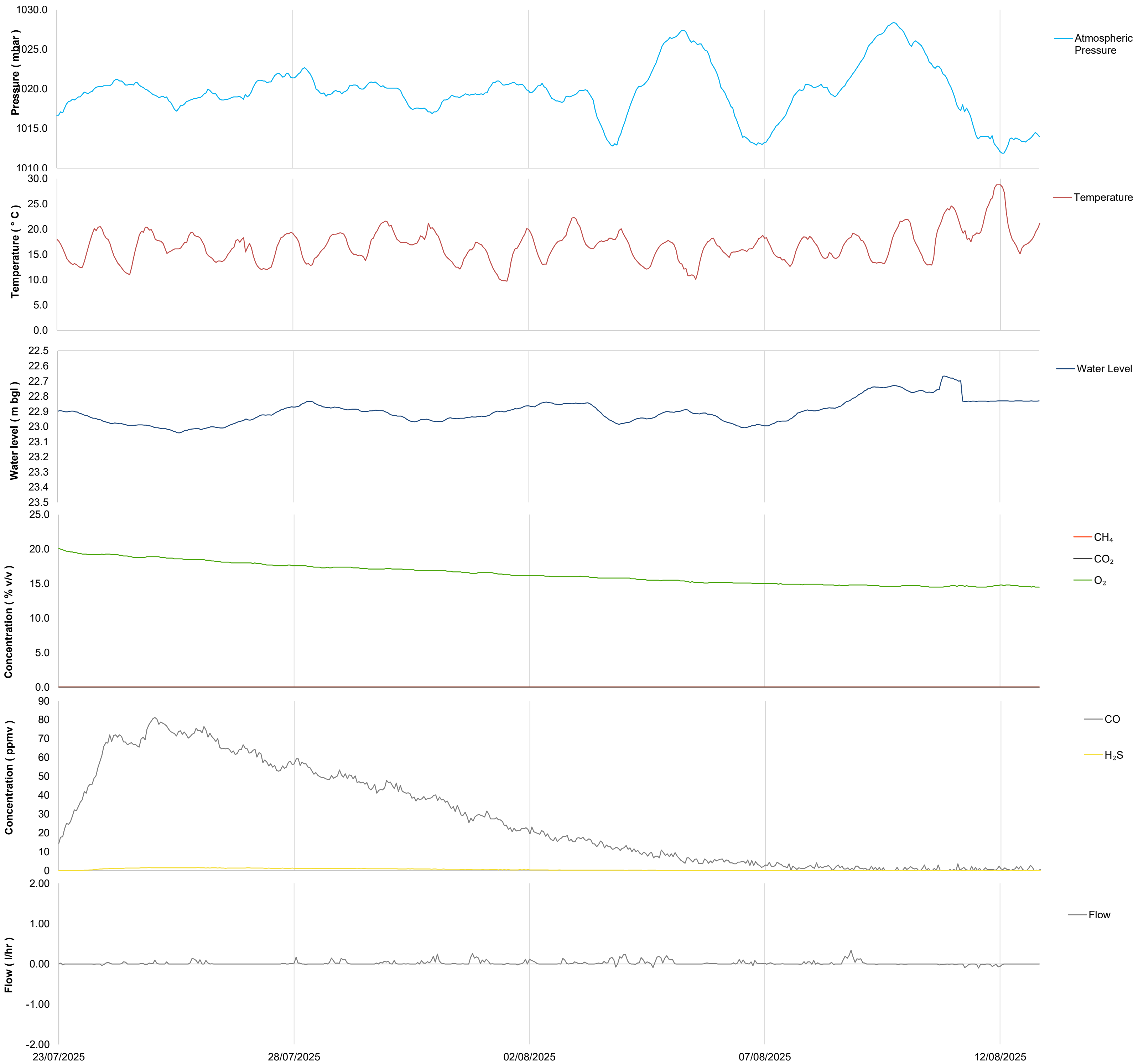
Client:
Spencer Quantum

Minimum / Maximum Table		
Parameter	Minimum	Maximum
CH ₄ (% v/v)	0.0	0.3
CO ₂ (% v/v)	0.0	0.0
O ₂ (% v/v)	19.6	20.9
Hydrogen Sulphide (ppmv)	0	1
Carbon Monoxide (ppmv)	0	168
Atmospheric Pressure (mbar)	1012	1028
Temperature (° C)	9.7	28.8
Flow (l/hr)	0.25	-0.19
Water level (m bgl)	20.24	20.59

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Title:
BH02 - Time Series Graphs

Project:
GGs4085 The Paddocks, Dyffryn Farm, Neath

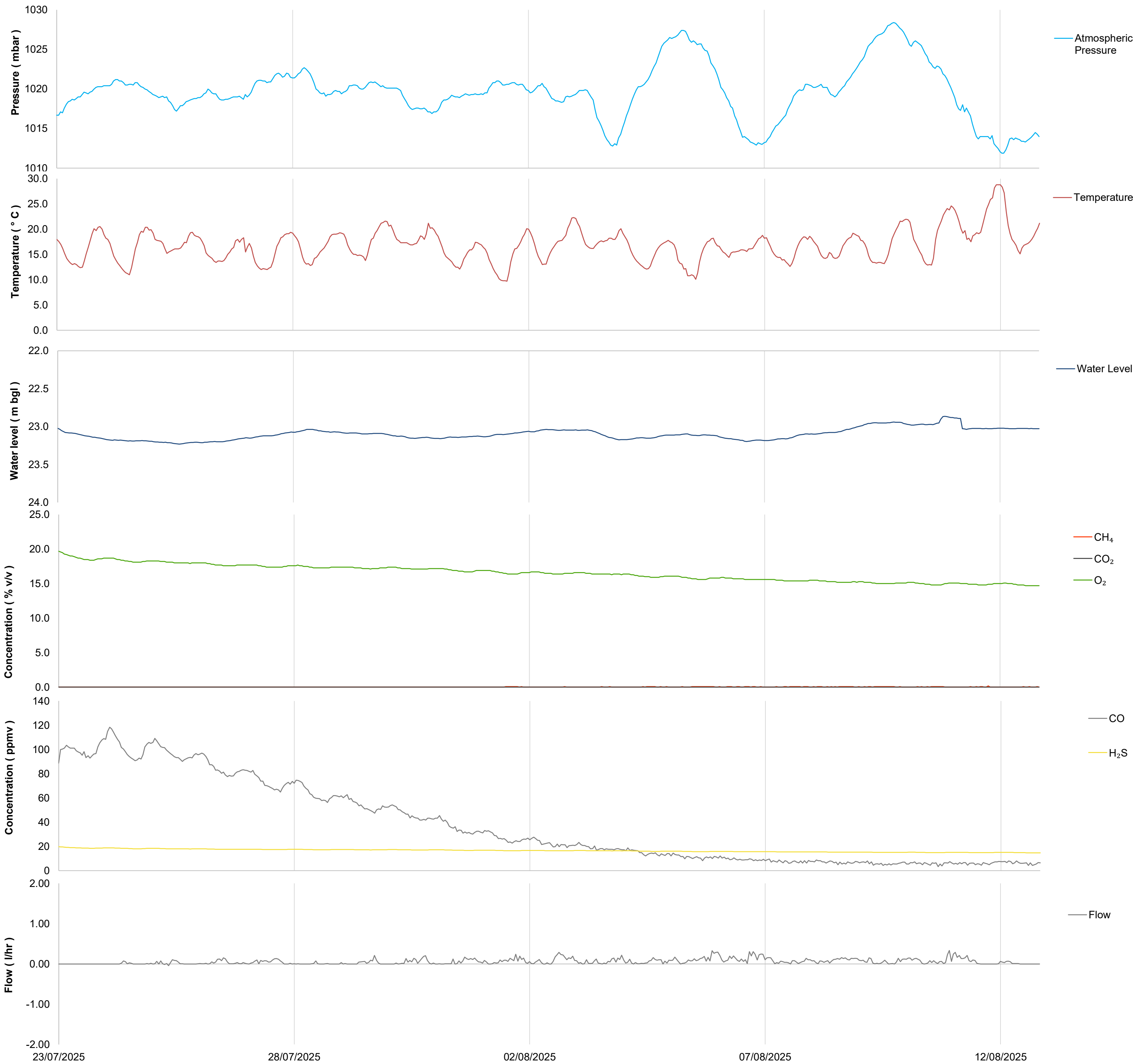
Client:
Spencer Quantum

Minimum / Maximum Table		
Parameter	Minimum	Maximum
CH ₄ (% v/v)	0.0	0.0
CO ₂ (% v/v)	0.0	0.0
O ₂ (% v/v)	14.5	20.1
Hydrogen Sulphide (ppmv)	0	2
Carbon Monoxide (ppmv)	0	81
Atmospheric Pressure (mbar)	1012	1028
Temperature (° C)	9.7	28.8
Flow (l/hr)	0.34	-0.10
Water level (m bgl)	22.67	23.04

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Title:
BH03, Time Series Graphs

Project:
GGs4085 The Paddocks, Dyffryn Farm, Neath

Client:
Spencer Quantum

Minimum / Maximum Table		
Parameter	Minimum	Maximum
CH ₄ (% v/v)	0.0	0.2
CO ₂ (% v/v)	0.0	0.0
O ₂ (% v/v)	14.7	19.7
Hydrogen Sulphide (ppmv)	15	20
Carbon Monoxide (ppmv)	3	118
Atmospheric Pressure (mbar)	1012	1028
Temperature (° C)	9.7	28.8
Flow (l/hr)	-0.04	0.33
Water level (m bgl)	22.87	23.23

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4.3 Atmospheric Pressure Analysis

The relationship between atmospheric pressure and ground gas can form a critical part of the source-pathway-receptor pollutant linkage model, which is noted in numerous guidance documents. Specifically, it is falling atmospheric pressure, and the rate in which it is falling along with the duration of the fall, that are two of most important factors to consider. A third important factor is low atmospheric pressure.

GGG has undertaken a site-specific analysis for atmospheric pressure during the GGS continuous monitoring period in July and August 2025.

To capture potential 'worst case' conditions with respect to falling atmospheric pressure, monitoring should include both short and longer duration falling pressure events at a rate exceeding a sites specific monthly threshold¹. This is calculated as an average rate of fall over an 8-hour reference period. For context, the annual UK average worst-case rate of fall is 1.15 ± 0.06 millibars per hour. The worst-case monthly specific threshold for the Site is 0.78 ± 0.05 millibars per hour, calculated using GGS' atmospheric pressure threshold tool. The rate of atmospheric pressure change over an 8-hour reference period is presented in Figure 4 on the following page/s.

For weather forecasting in the UK, The Meteorological Office² records falling pressure tendency over a 3-hour period, whereby every hour the change in atmospheric pressure over the proceeding 3 hours is noted as being:

- Stable <0.1 millibars
- Falling (or rising) slowly >0.1 millibars
- Falling (or rising) >1.6 millibars
- Falling (or rising) rapidly >3.6 millibars
- Falling (or rising) very rapidly >6 millibars

¹ GGSWP03 Atmospheric Pressure and a Simplified Approach to Determine Worst-Case Conditions for Ground Gas Monitoring in the UK, 2025, GGS Limited, <https://ggs-uk.com>

² https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/library-and-archive/library/publications/factsheets/factsheet_8-shipping-forecast.pdf

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This provides a clear numerical assessment of the pressure trend at the point of measurement. Similarly, The British Coal Technical Department³ considered a sharp fall in pressure to be between 4 and 8 millibars over a 3-hour period. GGS has used the time series data to reference a 3-hour tendency throughout the continuous monitoring period using the Met Office criteria listed above. A time series graph of the 3-hour pressure tendency is also presented in Figure 4 on the following page/s, which provides time reference/occurrences to atmospheric pressure falling, falling rapidly and/or falling very rapidly.

The standard mean sea level pressure (MSLP) in the UK is defined as 1013.25 millibars⁴, which provides a common value to compare atmospheric pressure across different locations and elevations. With consideration to the site's geographical location, the annual average atmospheric pressure is calculated as 1014.7 millibars. Atmospheric pressure can also be segmented into five distinct categories as follows⁵:

- Very high >1032.1 millibars
- High >1022.4 <1032.1 millibars
- Normal >1007.8 <1022.4 millibars
- Low >994.1 <1007.8 millibars
- Very low <994.1 millibars

The percentage distribution for the Met Office pressure tending criteria and defined statistical categories for very low to very high pressure during the continuous monitoring period is presented in Figure 3 on the following page. Although rising pressure will have a similar distribution to falling pressure, this is listed together.

Table 4.2 below provides a summary of the atmospheric pressure regime, including the percentage time in which pressure was low or very low and falling.

³ British Coal Technical Department. 1990. Hazardous Gases Underground: Notes for Guidance NG/9. British Coal Technical Department.

⁴ <https://www.metoffice.gov.uk/weather/learn-about/weather/how-weather-works/high-and-low-pressure>

⁵ GGSWP03 Atmospheric Pressure and a Simplified Approach to Determine Worst-Case Conditions for Ground Gas Monitoring in the UK, 2025, GGS Limited, <https://ggs-uk.com>

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For the purpose of atmospheric pressure analysis, GGS has obtained historical weather data which is based on reanalysis datasets. A combination of weather station, aircraft, buoy, radar and satellite observations are used to create a comprehensive record of past weather conditions. These datasets are able to provide detailed historical weather data for locations which may not have a local weather station and for locations that may have gaps in observational weather data. All the assessed atmospheric pressure data is relative to sea level pressure.

Table 4.2 Atmospheric pressure regime

Atmospheric Pressure Analysis 23/07/25 – 13/08/25	
Range in atmospheric pressure (mbar)	1012.2 – 1028.4 (16.2 millibars)
Maximum average rate of fall over an 8-hour reference period	0.69 mbar/hour (03/08/2025 00:00 1019.1 mb to 04/08/2025 08:00 1013.6 mb)
Maximum change in pressure over a 3-hour period (pressure tendency)	2.6 millibars (04/08/2025 01:00 1018.8 mb to 04/08/2025 04:00 1016.2 mb)
Most significant atmospheric pressure fall greater than 8 hours	13.6 millibars over 41 hours (0.33 mbar/hour) (06/08/25 01:00 1026.9mb to 07/08/25 17:00 1013.3mb)
% time low or very low pressure and falling	0.0 %

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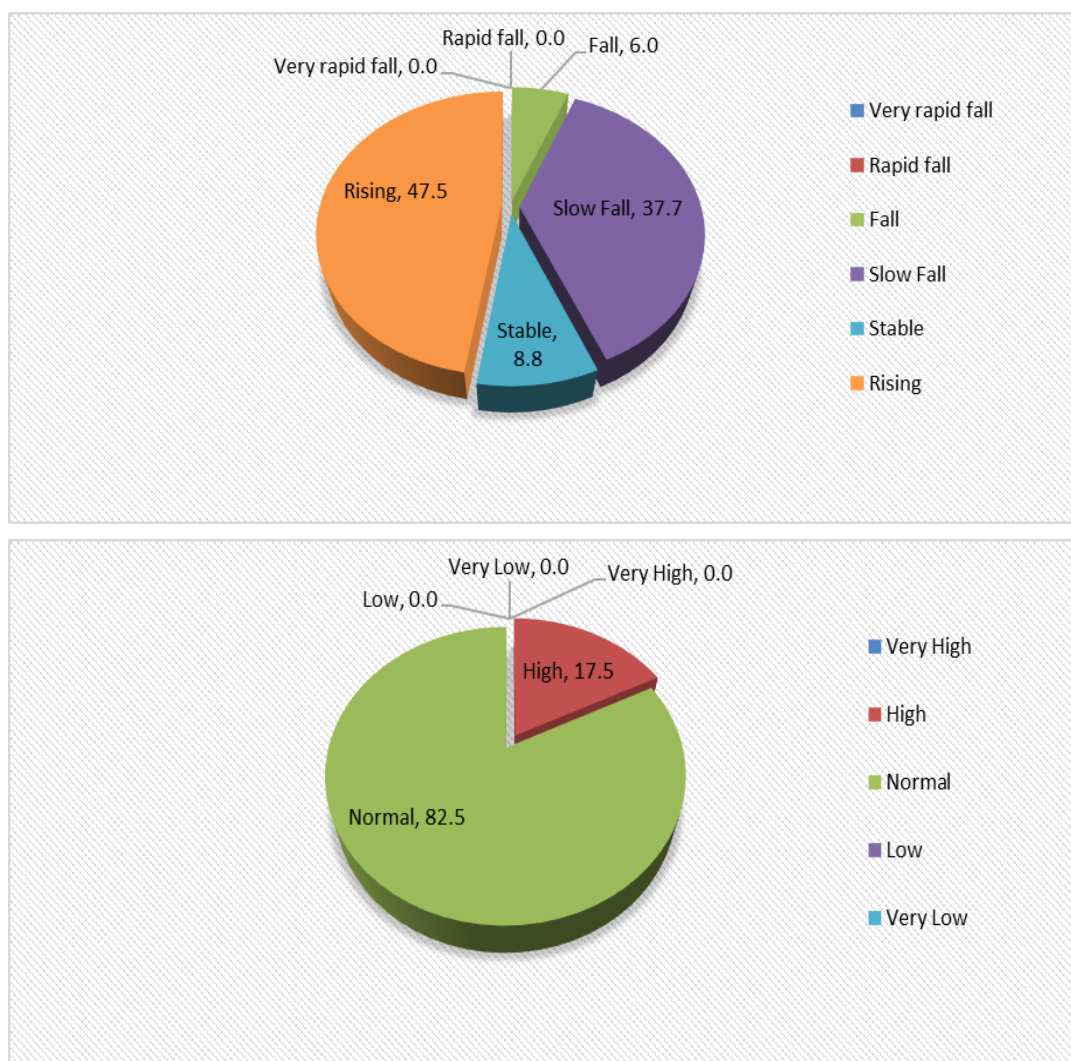


Figure 3 % distribution of 3-hour pressure tendency and low, normal and high pressure.

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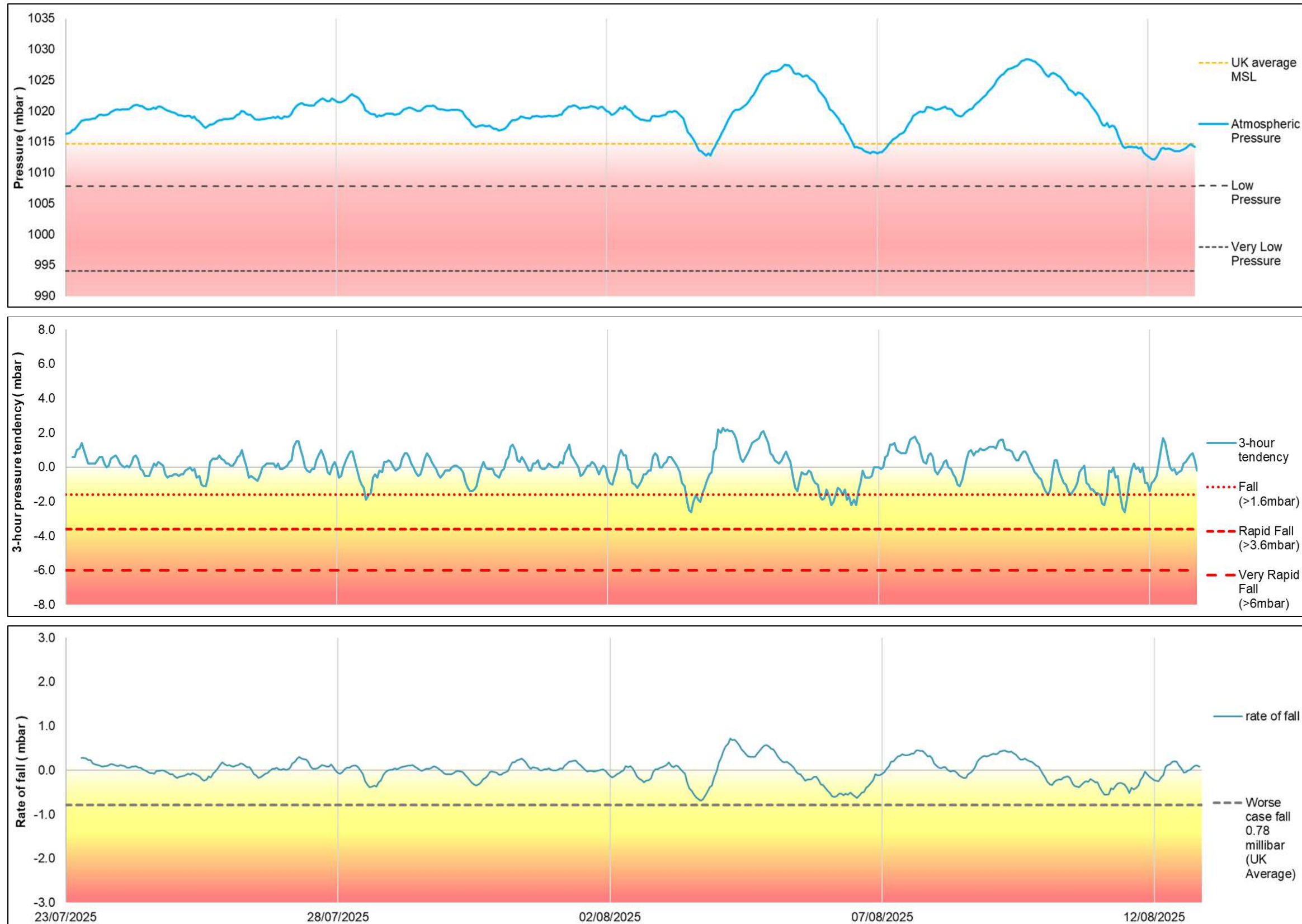


Figure 4 Time series atmospheric pressure presented with reference to standard UK mean sea level pressure, 3-hour pressure tendency and a maximum rate of fall averaged over an 8-hour reference period.

5 Technical Commentary

GGG undertook a ground gas monitoring programme at the site to assess the risk from mines gas associated with shallow mine workings. A short technical commentary of the lines of evidence gathered by GGG is presented below.

Periodic monitoring

During GGG periodic monitoring, steady state gas flow rates remained <0.1 l/hr at all three locations. Methane remained at <0.1 % at all locations, as did carbon dioxide at BH02 and BH03. It was recorded at a steady state of 0.1% at BH01. Trace gases were measured in all three wells prior to deployment, with a maximum of 11 ppm of hydrogen sulphide and 53 ppm of carbon monoxide in BH01. It is possible that ground pressure or hydrogen gas has affected the sensors used for trace gas detection.

Continuous monitoring

At all three locations, concentrations of methane and carbon dioxide remained below the limit of detection or at negligible levels for the 3-week monitoring period. Carbon dioxide was recorded at <0.1 % v/v for the full duration along with methane at BH02. Concentrations for methane peaked at 0.3% v/v at BH01 and 0.2 % v/v at BH03.

Carbon monoxide was recorded by all three continuous monitoring instruments, up to 168 ppm/v. It is noted that all followed the same trend of tailing off to <10 ppm/v after the first week following deployment. This is common in newly installed monitoring wells that have not been allowed to settle for a short period before use. It is also worth noting that carbon monoxide was not measured above 1 ppm during periodic monitoring completed during the collection visit.

Flow

Negligible levels of flow were present at all locations during the entire monitoring period. The peak flow recorded was 0.35 l/h at BH02. There is discrete evidence that positive steady flow is related to falling atmospheric pressure.

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Atmospheric pressure analysis

The atmospheric pressure regime during the monitoring period was variable with periods of high and sustained normal pressure along with periods of rising and slow falling pressure. Normal pressure conditions accounted for 82.5% of the monitoring period, whilst the other 13.5% is attributed to a high-pressure regime. No rapid or very rapid falls were observed during the monitoring period and a worst-case falling pressure threshold was not exceeded. Although rapid or low-pressure events are typically associated with an increased potential for ground gas ingress, the presence of multiple slow falling pressure phases still represents a dynamic pressure environment.

Summary

Considering the lines of evidence, including periodic monitoring and continuous monitoring, the assessment provides a level of confidence to a low risk from mines gas. Negligible concentrations of permanent ground gases were recorded in both periodic and continuous monitoring at all three locations for the 3-week monitoring period. While carbon monoxide was detected, levels decreased after the first week and when the monitoring well returned to equilibrium state. For example, the monitoring wells were installed the day before GGS's deployment visit, and it is likely that the electrochemical sensor/s used for trace gas detection were likely affected by low volumes of hydrogen or discrete ground pressures. As such, the detection of carbon monoxide is not an indication of a ground gas source. Despite the monitoring period not capturing any rapid falls or worst-case conditions, the monitoring period captured a variable atmospheric pressure regime, and it is likely that mines gas, if present, would have been detected at the surface during the monitoring period. While additional monitoring that captures a higher rate of fall/s would provide a higher confidence level, an extended monitoring programme is unlikely to change the overall conclusions of the assessment.

GGG DataPack®

GGG4085 The Paddocks, Dyffryn Farm, Neath

6 Instrumentation specifications

GGG instrumentation is maintained in accordance with the manufacturer recommendations and is serviced and calibrated annually. Note that for some instrumentation, cross sensitivity to other gases and significant environmental changes, such as temperature, pressure and humidity, should be taken into consideration when considering all site monitoring data.

The current calibration certificates for all equipment used on site are presented in Appendix E.

6.1 GasData GFM400 series

The GasData GFM 400 series gas analyser with flow meter measures borehole flow rates, bulk gas concentrations (methane, carbon dioxide and oxygen), trace gas concentrations (carbon monoxide and hydrogen sulphide) barometric and differential pressure.

The specification range of the GFM 400 series is as follows:

Table 6.1 GFM 400 series specification

Feature	Method / Type	Range	Resolution
Methane	Infrared	0 - 100%v/v	0.1%
Lower Detection Limit (LEL)	Infrared	0 - 100%v/v	0.1%
Carbon Dioxide	Infrared	0 - 100%v/v	0.1%
Oxygen	Electrochemical	0 - 25%v/v	0.1%
Hydrogen Sulphide	Electrochemical	0 - 5000ppm	1ppm
Carbon Monoxide	Electrochemical	0 - 2000ppm	1ppm
Atmospheric Pressure	Absolute Pressure Sensor	800 - 1200mb	1mb
Differential Pressure	Thermal Dissipation	±1250Pa	0.1Pa
Temperature	Bi-metal	-10°C to +100°C	1°C
Flow	Thermal Dissipation	-60 – 100 l/hr	0.1l/hr

6.2 Gas Clam® instrumentation

Instrument specification and overview information sheets are presented in Appendix F.

7 ISO Accreditation and Professional Insurances

GGs are accredited to the following international standards:

- ISO 9001:2015 (Quality Management System);
- ISO 14001:2015 (Environmental Management System), and;
- ISO 45001: 2018 (Occupational Health and Safety Management System).

8 Limitations

GGGS has prepared this factual report for the use of the Client and those parties whom a warranty agreement has been executed, or with whom an assignment has been agreed.

GGGS accepts no responsibility for the consequences of this document being used for any purpose or project other than for which it was commissioned or for the consequences arising from this document's use by any third party with whom an agreement has not been executed.

GGGS accept no responsibility for the interpretation of this factual data. A reviewer of the data provided must take into account other available information and the context in which this data was collected. For example, site setting, conceptual site model, environmental conditions, gases present (that are not monitored as part of this contract, but may interfere with the sensors used), building design and construction practices during the monitoring period.

GGGS accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Appendix A

Site & Monitoring Location Plan



1:25,000



1:10,000



1:2,500

TITLE: Site Location Plan

PROJECT: GGS4085 The Paddock, Dyffryn Farm, Neath

DRAWING REF: GGS4085_LP_20250828

Rev.	Date	Dwn	Description	App'd
0	28/08/25	DH	FINAL	AB

Note:
 - All locations are approximate.
 - Map & satellite imagery ©OpenStreetMap;
 © Google Maps 2025.



ggs
 Experts in Continuous Monitoring

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TITLE: Monitoring location plan
PROJECT: GGS4085 The Paddock, Dyffryn Farm, Neath
DRAWING REF: GGS4085_MLP_20250828
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Rev.	Date	Dwn	Description	App'd
0	28/08/25	DH	FINAL	AB

Note:

- All locations are approximate.
- Map & satellite imagery ©OpenStreetMap; © Google Maps 2025.





Experts in Continuous Monitoring

Ground gas solutions Ltd.
Pythia House (Unit 10),
Bamford Business Park,
Hibbert Street, Stockport
SK4 1PL

Appendix B

Site Photographs

GGG DataPack® Plus
GGG4085 the Paddocks, Dyffryn Farm, Neath



1. Standpipes left proud prior to GGS arrival.



2. Standpipes left proud prior to GGS arrival.



3. General site photograph.



4. Instrument deployed in raised headworks.



5. Headworks secured on site.



6. Headworks secured on site.

Appendix C

Periodic Monitoring Data



Experts in Continuous Monitoring

Site Name	The Paddocks, Dyffryn Farm, Neath
Project ID	GG54085
GGS Staff	PG
Monitoring Date	23/07/2025
Monitoring Start Time	11:47

Notes
Well installed day prior.

Time	Gas Flow	Gas Readings					
(seconds)	Litres/hour	CH ₄ (% v/v)	CO ₂ (% v/v)	O ₂ (% v/v)	BAL	CO (ppmv)	H ₂ S (ppmv)
Fresh Air	<0.1	<0.1	<0.1	20.9	79.1	<1	<1
Initial	<0.1	<0.1	0.1	20.7	79.2	2	5
30	<0.1	<0.1	0.1	20.6	79.3	34	7
60		<0.1	0.1	20.5	79.4	41	8
120		<0.1	0.1	20.5	79.4	48	11
180		<0.1	0.1	20.5	79.4	48	11
240		0.1	0.1	20.5	79.4	48	11
300							
360							
420							
480							
540							
600							
Fresh Air	<0.1	<0.1	<0.1	20.9	79.1	1	<1

STEADY STATE FINAL RESULTS							
Reult	Flow (l/hr)	CH ₄ (% v/v)	CO ₂ (% v/v)	O ₂ (% v/v)	BAL	CO (ppmv)	H ₂ S (ppmv)
Steady state time (s)	30	30	30	60	60	120	120
Steady state value	<0.1	<0.1	0.1	20.5	79.4	48	11
Peak Value (O ₂ Low)	<0.1	<0.1	0.1	20.5	79.4	48	11

KEY: <0.1= Below instrument limit of detection, NM = Not Measured, N/A = Not Applicable, %v/v = Percentage volume by volume, ppmv = parts per million by volume, mb = milibar, ltr/hr = litres per hour, mbgl = metres below ground level, OS = off scale of instrument

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Borehole Details	
Borehole ID	BH01
W3W	palace.types.trying
Area surrounding borehole	Dry
Headworks Type	Not Present
Rubber bung and valve in place?	Yes
Valve is clear and clean?	Yes
Standpipe Condition	Correct

BS8576 Visual Checks	
Concrete Cover	Missing
Bentonite Seal	Tamped
Gravel Fill	Not Visible

Borehole Measurements	
Groundwater Level (mbgl)	20.40
Depth to base (mbgl)	25.12

Pressure Readings	Start	End
Atmospheric Pressure (mb)	1017	1017

EQUIPMENT	
Model	Serial Number
GFM435	10356
Dip tape	N/A



Experts in Continuous Monitoring

Site Name	The Paddocks, Dyffryn Farm, Neath
Project ID	GG54085
GGS Staff	PG
Monitoring Date	23/07/2025
Monitoring Start Time	12:26

Borehole Details	
Borehole ID	BH02
W3W	fixed.supporter.bless
Area surrounding borehole	Dry
Headworks Type	Not Present
Rubber bung and valve in place?	Yes
Valve is clear and clean?	Yes
Standpipe Condition	Correct

BS8576 Visual Checks	
Concrete Cover	Missing
Bentonite Seal	Tamped
Gravel Fill	Not Visible

Borehole Measurements	
Groundwater Level (mbgl)	22.90
Depth to base (mbgl)	23.24

Pressure Readings	Start	End
Atmospheric Pressure (mb)	1017	1017

EQUIPMENT	
Model	Serial Number
GFM435	10356
Dip tape	N/A

Notes
No silt at base.

Time	Gas Flow	Gas Readings					
(seconds)	Litres/hour	CH ₄ (% v/v)	CO ₂ (% v/v)	O ₂ (% v/v)	BAL	CO (ppmv)	H ₂ S (ppmv)
Fresh Air	<0.1	<0.1	<0.1	20.9	79.1	2	<1
Initial	<0.1	<0.1	<0.1	20.8	79.2	3	<1
30	<0.1	<0.1	<0.1	20.8	79.2	2	<1
60		<0.1	<0.1	20.8	79.2	2	<1
120		<0.1	<0.1	20.8	79.2	2	<1
180							
240							
300							
360							
420							
480							
540							
600							
Fresh Air	<0.1	<0.1	<0.1	20.8	79.2	<1	<1

STEADY STATE FINAL RESULTS							
Reult	Flow (l/hr)	CH ₄ (% v/v)	CO ₂ (% v/v)	O ₂ (% v/v)	BAL	CO (ppmv)	H ₂ S (ppmv)
Steady state time (s)	30	30	30	30	30	30	30
Steady state value	<0.1	<0.1	<0.1	20.8	79.2	2	<1
Peak Value (O ₂ Low)	<0.1	<0.1	<0.1	20.8	79.2	3	<1

KEY: <0.1= Below instrument limit of detection, NM = Not Measured, N/A = Not Applicable, %v/v = Percentage volume by volume, ppmv = parts per million by volume, mb = milibar, ltr/hr = litres per hour, mbgl = metres below ground level, OS = off scale of instrument



Experts in Continuous Monitoring

Site Name	The Paddocks, Dyffryn Farm, Neath
Project ID	GG54085
GGS Staff	PG
Monitoring Date	23/07/2025
Monitoring Start Time	12:26

Borehole Details	
Borehole ID	BH03
W3W	filled.words.dared
Area surrounding borehole	Dry
Headworks Type	Not Present
Rubber bung and valve in place?	Yes
Valve is clear and clean?	Yes
Standpipe Condition	Correct

BS8576 Visual Checks	
Concrete Cover	Missing
Bentonite Seal	Tamped
Gravel Fill	Not Visible

Borehole Measurements	
Groundwater Level (mbgl)	23.02
Depth to base (mbgl)	24.51

Pressure Readings	Start	End
Atmospheric Pressure (mb)	1017	1017

EQUIPMENT	
Model	Serial Number
GFM435	10356
Dip tape	N/A

Notes
Brown silt at base.

Time	Gas Flow	Gas Readings					
(seconds)	Litres/hour	CH ₄ (% v/v)	CO ₂ (% v/v)	O ₂ (% v/v)	BAL	CO (ppmv)	H ₂ S (ppmv)
Fresh Air	<0.1	<0.1	<0.1	20.9	79.1	1	<1
Initial	<0.1	<0.1	<0.1	20.7	79.3	14	1
30	<0.1	<0.1	<0.1	20.7	79.3	30	4
60		<0.1	<0.1	20.6	79.4	44	7
120		<0.1	<0.1	20.6	79.4	50	11
180		<0.1	<0.1	20.6	79.4	53	11
240		<0.1	<0.1	20.6	79.4	53	11
300		<0.1	<0.1	20.6	79.4	53	11
360							
420							
480							
540							
600							
Fresh Air	<0.1	<0.1	<0.1	20.9	79.1	2	<1

STEADY STATE FINAL RESULTS							
Reult	Flow (l/hr)	CH ₄ (% v/v)	CO ₂ (% v/v)	O ₂ (% v/v)	BAL	CO (ppmv)	H ₂ S (ppmv)
Steady state time (s)	30	30	30	60	60	180	120
Steady state value	<0.1	<0.1	<0.1	20.6	79.4	53	11
Peak Value (O ₂ Low)	<0.1	<0.1	<0.1	20.6	79.3	53	11

KEY: <0.1= Below instrument limit of detection, NM = Not Measured, N/A = Not Applicable, %v/v = Percentage volume by volume, ppmv = parts per million by volume, mb = milibar, ltr/hr = litres per hour, mbgl = metres below ground level, OS = off scale of instrument

Appendix D

Time Series Data

Time Series Data

Project Ref:	GGGS4085
Project Name:	The Paddocks, Dyffryn Farm, Neath
Borehole ref:	BH01
Instrument Name and ID:	GC-61 + FD-03
Start Date:	23/07/2025 16:45
End Date:	13/08/2025 11:45
Days of monitoring:	21
Monitoring Frequency (mins):	01:00:00
Total samples taken:	500



Summary Table

	CH ₄	CO ₂	O ₂	CO	H ₂ S	Atmospheric Pressure	Average 8-hour atmospheric pressure change	Flow	Temperature	Water Level
Minimum	0.0	0.0	19.6	0	0	1011.9	-0.63	-0.19	9.7	20.24
Maximum	0.3	0.0	20.9	168	1	1028.4	0.64	0.25	28.8	20.59
Range	0.3	0.0	1.3	168	1	16.5	1.26	0.44	19.1	0.35

Date and Time	CH ₄ % v/v	CO ₂ % v/v	O ₂ % v/v	CO ppm/v	H ₂ S ppm/v	Atmospheric Pressure mbar	Average 8-hour atmospheric pressure change mbar	Flow Ltr/hr	Temperature °C	Water Level mbgl
23/07/2025 16:45	0.0	0.0	20.9	83	0	1016.7	N/A	0.00	18.0	20.40
23/07/2025 17:45	0.0	0.0	20.9	92	0	1016.7	N/A	-0.03	17.6	20.40
23/07/2025 18:45	0.0	0.0	20.8	99	0	1017.1	N/A	-0.01	17.0	20.41
23/07/2025 19:45	0.0	0.0	20.8	106	0	1017.0	N/A	-0.04	16.2	20.42
23/07/2025 20:45	0.0	0.0	20.7	112	0	1017.6	N/A	0.00	15.2	20.42
23/07/2025 21:45	0.0	0.0	20.7	118	0	1018.1	N/A	0.00	14.2	20.42
23/07/2025 22:45	0.1	0.0	20.7	119	0	1018.4	N/A	0.00	13.7	20.42
23/07/2025 23:45	0.0	0.0	20.7	124	0	1018.5	N/A	-0.05	13.3	20.42
24/07/2025 00:45	0.0	0.0	20.6	127	0	1018.7	0.25	-0.19	13.0	20.42
24/07/2025 01:45	0.0	0.0	20.6	130	0	1018.6	0.19	-0.19	13.2	20.43
24/07/2025 02:45	0.0	0.0	20.6	132	0	1018.8	0.22	-0.05	13.0	20.43
24/07/2025 03:45	0.0	0.0	20.6	133	0	1019.0	0.17	-0.15	12.6	20.44
24/07/2025 04:45	0.0	0.0	20.5	134	0	1019.0	0.11	-0.05	12.4	20.45
24/07/2025 05:45	0.0	0.0	20.5	134	0	1019.3	0.11	-0.02	12.5	20.46
24/07/2025 06:45	0.0	0.0	20.5	134	0	1019.6	0.14	-0.01	13.7	20.46
24/07/2025 07:45	0.0	0.0	20.5	137	0	1019.5	0.10	-0.04	15.1	20.46
24/07/2025 08:45	0.0	0.0	20.5	135	0	1019.4	0.10	-0.18	16.5	20.47
24/07/2025 09:45	0.0	0.0	20.5	138	0	1019.6	0.10	-0.18	17.8	20.48
24/07/2025 10:45	0.0	0.0	20.5	138	0	1019.7	0.09	-0.03	19.1	20.48
24/07/2025 11:45	0.0	0.0	20.5	141	0	1020.0	0.13	-0.04	20.1	20.49
24/07/2025 12:45	0.0	0.0	20.5	143	0	1020.2	0.11	0.00	19.7	20.49
24/07/2025 13:45	0.0	0.0	20.5	144	0	1020.3	0.09	-0.10	20.4	20.50
24/07/2025 14:45	0.0	0.0	20.5	145	0	1020.3	0.10	-0.11	20.5	20.50
24/07/2025 15:45	0.1	0.0	20.5	146	0	1020.3	0.11	-0.03	20.0	20.51
24/07/2025 16:45	0.0	0.0	20.5	150	0	1020.4	0.10	0.00	18.9	20.51
24/07/2025 17:45	0.0	0.0	20.5	151	0	1020.4	0.09	-0.05	18.2	20.52
24/07/2025 18:45	0.0	0.0	20.6	155	0	1020.4	0.05	-0.15	18.0	20.52
24/07/2025 19:45	0.0	0.0	20.6	155	0	1020.4	0.02	-0.11	17.2	20.52
24/07/2025 20:45	0.0	0.0	20.6	156	0	1020.6	0.04	0.00	15.9	20.52
24/07/2025 21:45	0.1	0.0	20.6	160	0	1021.0	0.09	0.00	14.7	20.52
24/07/2025 22:45	0.0	0.0	20.6	158	0	1021.2	0.11	0.00	14.0	20.52
24/07/2025 23:45	0.0	0.0	20.6	158	0	1021.2	0.10	-0.02	13.3	20.53
25/07/2025 00:45	0.0	0.0	20.6	160	0	1021.0	0.08	-0.07	12.8	20.53
25/07/2025 01:45	0.0	0.0	20.6	160	0	1021.0	0.08	-0.06	12.3	20.53
25/07/2025 02:45	0.0	0.0	20.6	160	0	1020.8	0.05	-0.03	11.8	20.54
25/07/2025 03:45	0.0	0.0	20.6	159	0	1020.5	-0.01	-0.01	11.4	20.54
25/07/2025 04:45	0.0	0.0	20.5	158	0	1020.5	-0.06	-0.01	11.2	20.54
25/07/2025 05:45	0.0	0.0	20.5	158	0	1020.6	-0.08	0.01	11.0	20.54
25/07/2025 06:45	0.0	0.0	20.5	158	0	1020.6	-0.08	0.00	12.4	20.54
25/07/2025 07:45	0.1	0.0	20.5	157	0	1020.5	-0.06	-0.01	14.2	20.54
25/07/2025 08:45	0.0	0.0	20.5	156	0	1020.8	-0.03	-0.08	16.1	20.54
25/07/2025 09:45	0.0	0.0	20.5	156	0	1020.8	0.00	-0.07	17.4	20.54
25/07/2025 10:45	0.0	0.0	20.5	157	0	1020.5	0.00	-0.03	18.9	20.54
25/07/2025 11:45	0.1	0.0	20.5	158	0	1020.3	-0.03	-0.12	19.6	20.54
25/07/2025 12:45	0.1	0.0	20.5	157	0	1020.2	-0.05	-0.17	19.4	20.54
25/07/2025 13:45	0.0	0.0	20.5	159	0	1020.0	-0.08	-0.11	20.4	20.54
25/07/2025 14:45	0.0	0.0	20.5	158	0	1019.9	-0.08	-0.06	20.4	20.55
25/07/2025 15:45	0.0	0.0	20.5	161	0	1019.7	-0.14	0.00	19.8	20.55
25/07/2025 16:45	0.0	0.0	20.5	163	0	1019.5	-0.16	0.03	19.9	20.55
25/07/2025 17:45	0.0	0.0	20.5	165	0	1019.3	-0.15	0.01	19.2	20.56
25/07/2025 18:45	0.0	0.0	20.5	164	1	1019.2	-0.14	0.06	18.0	20.56
25/07/2025 19:45	0.0	0.0	20.5	167	0	1019.1	-0.14	0.00	17.8	20.56
25/07/2025 20:45	0.0	0.0	20.6	165	0	1018.9	-0.14	-0.02	17.7	20.56
25/07/2025 21:45	0.0	0.0	20.6	165	0	1019.0	-0.11	-0.02	17.6	20.56
25/07/2025 22:45	0.1	0.0	20.6	165	0	1019.1	-0.08	0.00	17.2	20.56
25/07/2025 23:45	0.1	0.0	20.6	168	0	1018.9	-0.08	0.00	16.2	20.56
26/07/2025 00:45	0.0	0.0	20.6	168	0	1019.0	-0.04	0.00	15.2	20.57
26/07/2025 01:45	0.0	0.0	20.5	166	0	1018.5	-0.09	0.00	15.5	20.57
26/07/2025 02:45	0.0	0.0	20.6	164	0	1018.3	-0.10	0.00	15.7	20.57
26/07/2025 03:45	0.0	0.0	20.5	166	0	1017.9	-0.13	0.00	15.9	20.58
26/07/2025 04:45	0.0	0.0	20.5	164	0	1017.4	-0.20	-0.03	16.1	20.59
26/07/2025 05:45	0.0	0.0	20.5	165	0	1017.2	-0.24	0.00	16.1	20.59
26/07/2025 06:45	0.0	0.0	20.5	162	0	1017.5	-0.17	-0.01	16.1	20.58
26/07/2025 07:45	0.0	0.0	20.5	163	0	1017.9	-0.14	0.01	16.3	20.58
26/07/2025 08:45	0.1	0.0	20.5	163	0	1017.9	-0.08	-0.02	16.8	20.58
26/07/2025 09:45	0.1	0.0	20.5	162	0	1018.1	-0.02	0.05	17.4	20.57
26/07/2025 10:45	0.1	0.0	20.5	160	0	1018.4	0.06	0.11	17.3	20.57
26/07/2025 11:45	0.0	0.0	20.5	161	0	1018.5	0.14	0.03	18.6	20.57
26/07/2025 12:45	0.1	0.0	20.5	160	0	1018.6	0.17	0.03	19.3	20.57
26/07/2025 13:45	0.1	0.0	20.5	159	0	1018.7	0.15	0.01	19.4	20.56
26/07/2025 14:45	0.0	0.0	20.5	160	0	1018.8	0.11	0.12	18.8	20.56
26/07/2025 15:45	0.0	0.0	20.5	159	0	1018.8	0.11	0.02	18.6	20.56
26/07/2025 16:45	0.0	0.0	20.5	159	0	1018.9	0.10	-0.01	18.5	20.57
26/07/2025 17:45	0.0	0.0	20.5	160	0	1018.9	0.06	-0.02	18.2	20.57
26/07/2025 18:45	0.1	0.0	20.5	160	0	1019.1	0.08	0.00	17.5	20.57
26/07/2025 19:45	0.0	0.0	20.5	159	0	1019.4	0.10	-0.05	16.7	20.56
26/07/2025 20:45	0.0	0.0	20.5	158	0	1019.5	0.10	-0.02	15.3	20.56
26/07/2025 21:45	0.1	0.0	20.5	158	0	1020.0	0.15	-0.08	14.8	20.55
26/07/2025 22:45	0.0	0.0	20.5	160	0	1019.8	0.13	0.00	14.5	20.55
26/07/2025 23:45	0.1	0.0	20.5	157	0	1019.5	0.08	0.00	14.2	20.56
27/07/2025 00:45	0.0	0.0	20.5	155	0	1019.4	0.06	0.00	13.7	20.55
27/07/2025 01:45	0.0	0.0	20.5	154	0	1019.4	0.04	0.00	13.4	20.56
27/07/2025 02:45	0.1	0.0	20.5	151	0	1019.0	-0.05	0.00	13.7	20.56
27/07/2025 03:45	0.1	0.0	20.5	150	0	1018.7	-0.10	0.00	13.7	20.56
27/07/2025 04:45	0.1	0.0	20.5	151	0	1018.6	-0.17	0.00	13.6	20.56
27/07/2025 05:45	0.0	0.0	20.4	150	0	1018.6	-0.15	0.00	13.8	20.56
27/07/2025 06:45	0.1	0.0	20.4	147	0	1018.7	-0.10	0.01	14.3	20.55
27/07/2025 07:45	0.1	0.0	20.4	147	0	1018.7	-0.09	0.00	15.0	20.54
27/07/2025 08:45	0.1	0.0	20.4	144	0	1018.8	-0.08	0.00	15.5	20.54
27/07/2025 09:45	0.2	0.0	20.4	144	0	1018.9	-0.01	-0.01	16.1	20.53
27/07/2025 10:45	0.0	0.0	20.4	142	0	1019.0	0.04	-0.04	16.4	20.53
27/07/2025 11:45	0.1	0.0	20.4	143	0	1019.0	0.05	-0.05	17.7	20.52
27/07/2025 12:45	0.1	0.0	20.4	143	0	1019.0	0.05	-0.01	18.0	20.52
27/07/2025 13:45	0.1	0.0	20.4	143	0	1019.1	0.05	-0.03	17.4	20.52
27/07/2025 14:45	0.1	0.0	20.4	143	0	1018.9	0.02	0.12	18.0	20.51
27/07/2025 15:45	0.1	0.0	20.4	141	0	1018.7	-0.01	0.01	18.3	20.51
27/07/2025 16:45	0.1	0.0	20.4	141	0	1019.3	0.05	0.00	15.5	20.50
27/07/2025 17:45	0.0	0.0	20.4	138	0	1019.0	0.00	0.01	16.5	20.51
27/07/2025 18:45	0.0	0.0	20.4	140	0	1019.2	0.03	0.01	17.2	20.51
27/07/2025 19:45	0.0	0.0	20.4	139	0	1019.6	0.08	0.08	16.3	20.50
27/07/2025 20:45	0.1	0.0	20.4	138	0	1020.2	0.14	-0.02	14.7	20.50

Date and Time	CH ₄ % v/v	CO ₂ % v/v	O ₂ % v/v	CO ppm/v	H ₂ S ppm/v	Atmospheric Pressure mbar	Average 8-hour atmospheric pressure change mbar	Flow Ltr/hr	Temperature °C	Water Level mbgl
27/07/2025 21:45	0.1	0.0	20.4	135	0	1020.7	0.23	0.00	13.4	20.49
27/07/2025 22:45	0.1	0.0	20.4	136	0	1021.0	0.29	-0.01	12.7	20.49
27/07/2025 23:45	0.0	0.0	20.4	131	0	1021.1	0.23	0.06	12.3	20.48
28/07/2025 00:45	0.1	0.0	20.4	131	0	1021.1	0.26	0.01	12.0	20.48
28/07/2025 01:45	0.1	0.0	20.4	130	0	1021.0	0.22	-0.01	12.2	20.48
28/07/2025 02:45	0.1	0.0	20.4	128	0	1021.0	0.17	0.04	12.1	20.48
28/07/2025 03:45	0.2	0.0	20.4	126	0	1020.8	0.07	0.01	12.0	20.48
28/07/2025 04:45	0.1	0.0	20.3	129	0	1020.9	0.02	0.00	12.3	20.48
28/07/2025 05:45	0.1	0.0	20.4	128	0	1020.9	-0.01	-0.01	12.5	20.48
28/07/2025 06:45	0.1	0.0	20.3	122	0	1021.3	0.02	0.00	13.6	20.47
28/07/2025 07:45	0.1	0.0	20.3	123	0	1021.7	0.08	-0.11	15.1	20.46
28/07/2025 08:45	0.1	0.0	20.3	122	0	1021.9	0.11	-0.01	16.6	20.46
28/07/2025 09:45	0.0	0.0	20.3	121	0	1022.0	0.13	-0.01	17.4	20.46
28/07/2025 10:45	0.1	0.0	20.4	123	0	1021.8	0.13	0.00	18.3	20.45
28/07/2025 11:45	0.1	0.0	20.3	122	0	1021.5	0.08	0.01	18.5	20.45
28/07/2025 12:45	0.2	0.0	20.4	120	0	1021.6	0.09	0.01	18.9	20.44
28/07/2025 13:45	0.0	0.0	20.4	120	0	1022.0	0.09	0.11	19.1	20.44
28/07/2025 14:45	0.1	0.0	20.4	121	0	1021.9	0.02	0.01	19.1	20.44
28/07/2025 15:45	0.1	0.0	20.4	121	0	1021.5	-0.05	0.00	19.4	20.43
28/07/2025 16:45	0.1	0.0	20.4	121	0	1021.4	-0.08	0.00	19.2	20.43
28/07/2025 17:45	0.1	0.0	20.4	119	0	1021.4	-0.05	0.00	18.7	20.43
28/07/2025 18:45	0.1	0.0	20.4	121	0	1021.6	0.01	0.00	18.2	20.43
28/07/2025 19:45	0.1	0.0	20.4	120	0	1021.9	0.04	0.00	17.5	20.42
28/07/2025 20:45	0.0	0.0	20.4	119	0	1022.1	0.01	-0.01	16.0	20.41
28/07/2025 21:45	0.1	0.0	20.4	119	0	1022.5	0.08	-0.01	14.5	20.41
28/07/2025 22:45	0.1	0.0	20.4	117	0	1022.7	0.15	0.00	13.5	20.40
28/07/2025 23:45	0.0	0.0	20.4	118	0	1022.5	0.14	0.00	13.1	20.40
29/07/2025 00:45	0.1	0.0	20.4	117	0	1022.2	0.10	-0.11	13.2	20.40
29/07/2025 01:45	0.1	0.0	20.4	114	0	1021.9	0.04	0.01	12.8	20.40
29/07/2025 02:45	0.1	0.0	20.4	113	0	1021.4	-0.06	0.01	13.0	20.40
29/07/2025 03:45	0.1	0.0	20.3	113	0	1020.8	-0.16	-0.07	14.2	20.41
29/07/2025 04:45	0.1	0.0	20.3	113	0	1020.0	-0.31	0.00	14.4	20.42
29/07/2025 05:45	0.1	0.0	20.3	112	0	1019.8	-0.36	0.00	14.9	20.42
29/07/2025 06:45	0.1	0.0	20.3	110	0	1019.5	-0.38	0.00	15.5	20.42
29/07/2025 07:45	0.1	0.0	20.3	111	0	1019.4	-0.35	0.00	15.9	20.43
29/07/2025 08:45	0.1	0.0	20.3	110	0	1019.5	-0.30	-0.02	16.3	20.43
29/07/2025 09:45	0.1	0.0	20.3	108	0	1019.1	-0.29	-0.15	16.9	20.43
29/07/2025 10:45	0.1	0.0	20.3	109	0	1019.3	-0.19	-0.01	17.6	20.43
29/07/2025 11:45	0.0	0.0	20.3	107	0	1019.3	-0.09	0.00	18.5	20.43
29/07/2025 12:45	0.1	0.0	20.3	108	0	1019.4	-0.05	0.00	18.9	20.43
29/07/2025 13:45	0.1	0.0	20.3	107	0	1019.7	0.03	-0.09	19.0	20.43
29/07/2025 14:45	0.2	0.0	20.3	109	0	1019.8	0.05	-0.10	19.0	20.43
29/07/2025 15:45	0.1	0.0	20.3	107	0	1019.7	0.03	-0.14	19.1	20.43
29/07/2025 16:45	0.1	0.0	20.3	108	0	1019.7	0.08	-0.12	19.3	20.43
29/07/2025 17:45	0.2	0.0	20.4	107	0	1019.4	0.01	-0.15	19.2	20.44
29/07/2025 18:45	0.1	0.0	20.4	107	0	1019.6	0.04	-0.13	19.0	20.44
29/07/2025 19:45	0.1	0.0	20.4	107	0	1019.7	0.04	-0.06	18.2	20.44
29/07/2025 20:45	0.1	0.0	20.4	107	0	1019.9	0.02	-0.02	16.9	20.44
29/07/2025 21:45	0.1	0.0	20.3	106	0	1020.4	0.08	-0.03	16.0	20.44
29/07/2025 22:45	0.1	0.0	20.4	105	0	1020.4	0.09	0.00	15.4	20.44
29/07/2025 23:45	0.1	0.0	20.4	104	0	1020.5	0.10	0.00	15.0	20.44
30/07/2025 00:45	0.1	0.0	20.4	102	0	1020.5	0.14	-0.08	15.0	20.44
30/07/2025 01:45	0.1	0.0	20.3	103	0	1020.4	0.10	-0.04	14.8	20.45
30/07/2025 02:45	0.1	0.0	20.3	103	0	1020.1	0.05	0.00	14.9	20.45
30/07/2025 03:45	0.1	0.0	20.3	101	0	1020.0	0.01	-0.01	14.8	20.46
30/07/2025 04:45	0.1	0.0	20.3	100	0	1020.0	-0.05	-0.02	14.5	20.46
30/07/2025 05:45	0.1	0.0	20.3	101	0	1020.2	-0.02	-0.05	13.8	20.46
30/07/2025 06:45	0.1	0.0	20.3	100	0	1020.5	0.00	-0.03	14.9	20.46
30/07/2025 07:45	0.1	0.0	20.3	98	0	1020.8	0.04	-0.10	16.5	20.45
30/07/2025 08:45	0.1	0.0	20.3	98	0	1020.9	0.06	-0.13	18.0	20.45
30/07/2025 09:45	0.1	0.0	20.3	95	0	1020.8	0.09	-0.01	18.2	20.45
30/07/2025 10:45	0.2	0.0	20.3	94	0	1020.9	0.11	0.00	19.2	20.45
30/07/2025 11:45	0.1	0.0	20.3	95	0	1020.7	0.09	0.01	19.7	20.45
30/07/2025 12:45	0.1	0.0	20.3	96	0	1020.5	0.04	0.02	20.5	20.45
30/07/2025 13:45	0.1	0.0	20.3	92	0	1020.3	-0.03	-0.01	21.2	20.45
30/07/2025 14:45	0.1	0.0	20.3	94	0	1020.4	-0.05	0.00	21.3	20.45
30/07/2025 15:45	0.1	0.0	20.3	94	0	1020.2	-0.09	0.00	21.6	20.46
30/07/2025 16:45	0.1	0.0	20.3	96	0	1020.1	-0.09	-0.07	21.5	20.46
30/07/2025 17:45	0.1	0.0	20.3	96	0	1020.1	-0.10	0.00	20.6	20.47
30/07/2025 18:45	0.2	0.0	20.4	96	0	1020.1	-0.08	0.01	20.8	20.48
30/07/2025 19:45	0.1	0.0	20.4	95	0	1020.1	-0.05	0.00	19.8	20.48
30/07/2025 20:45	0.1	0.0	20.4	94	0	1020.1	-0.02	0.00	18.8	20.48
30/07/2025 21:45	0.2	0.0	20.4	93	0	1020.1	-0.04	0.05	18.0	20.49
30/07/2025 22:45	0.2	0.0	20.3	94	0	1020.0	-0.03	0.03	17.7	20.49
30/07/2025 23:45	0.1	0.0	20.4	93	0	1019.8	-0.04	-0.01	17.3	20.49
31/07/2025 00:45	0.1	0.0	20.4	95	0	1019.2	-0.11	-0.03	17.3	20.49
31/07/2025 01:45	0.1	0.0	20.3	90	0	1018.8	-0.16	-0.03	17.3	20.50
31/07/2025 02:45	0.1	0.0	20.4	91	0	1018.4	-0.21	-0.09	17.3	20.51
31/07/2025 03:45	0.2	0.0	20.3	91	0	1017.9	-0.28	-0.09	17.1	20.51
31/07/2025 04:45	0.1	0.0	20.3	88	0	1017.6	-0.31	-0.06	16.9	20.52
31/07/2025 05:45	0.1	0.0	20.3	90	0	1017.4	-0.33	-0.05	16.9	20.51
31/07/2025 06:45	0.1	0.0	20.3	87	0	1017.5	-0.29	-0.02	17.1	20.51
31/07/2025 07:45	0.1	0.0	20.3	87	0	1017.6	-0.20	0.00	17.2	20.51
31/07/2025 08:45	0.2	0.0	20.3	88	0	1017.6	-0.15	0.00	17.8	20.51
31/07/2025 09:45	0.1	0.0	20.3	86	0	1017.5	-0.11	0.00	18.7	20.50
31/07/2025 10:45	0.1	0.0	20.3	88	0	1017.5	-0.05	0.01	18.5	20.50
31/07/2025 11:45	0.1	0.0	20.3	86	0	1017.6	0.00	0.00	18.0	20.50
31/07/2025 12:45	0.1	0.0	20.3	83	0	1017.4	0.00	0.13	19.0	20.50
31/07/2025 13:45	0.1	0.0	20.3	83	0	1017.1	-0.05	0.06	21.2	20.49
31/07/2025 14:45	0.1	0.0	20.3	85	0	1017.1	-0.06	0.01	20.2	20.50
31/07/2025 15:45	0.1	0.0	20.3	83	0	1016.9	-0.09	0.13	20.3	20.51
31/07/2025 16:45	0.1	0.0	20.3	84	0	1017.1	-0.05	0.08	19.8	20.51
31/07/2025 17:45	0.1	0.0	20.3	83	0	1017.1	-0.05	0.01	19.1	20.51
31/07/2025 18:45	0.2	0.0	20.3	82	0	1017.3	-0.04	0.00	18.6	20.51
31/07/2025 19:45	0.2	0.0	20.3	84	0	1017.7	0.04	0.10	17.6	20.51
31/07/2025 20:45	0.1	0.0	20.3	82	0	1018.3	0.15	0.02	16.5	20.51
31/07/2025 21:45	0.1	0.0	20.3	81	0	1018.6	0.19	0.02	15.3	20.50
31/07/2025 22:45	0.1	0.0	20.3	80	0	1018.6	0.21	0.01	14.6	20.49
31/07/2025 23:45	0.1	0.0	20.3	80	0	1018.7	0.20	0.01	14.2	20.49
01/08/2025 00:45	0.1	0.0	20.3	76	0	1018.9	0.22	0.01	13.9	20.49
01/08/2025 01:45	0.1	0.0	20.3	77	0	1019.2	0.24	0.00	13.5	20.49
01/08/2025 02:45	0.1	0.0	20.3	76	0	1019.1	0.17	0.00	12.9	20.49
01/08/2025 03:45	0.1	0.0	20.3	76	0	1019.0	0.09	0.01	12.5	20.49
01/08/2025 04:45	0.1	0.0	20.3	73	0	1019.0	0.05	-0.02	12.5	20.50
01/08/2025 05:45	0.2	0.0	20.2	74	0	1018.9	0.04	0.01	12.1	20.49
01/08/2025 06:45	0.1	0.0	20.2	73	0	1019.1	0.05	0.00	12.8	20.49
01/08/2025 07:45	0.1	0.0	20.2	72	0	1019.2	0.04	0.01	14.1	20.49
01/08/2025 08:45	0.2	0.0	20.2	71	0	1019.4	0.02	0.03	14.7	20.50
01/08/2025 09:45	0.1	0.0	20.2	68	0	1019.3	0.02	0.03	15.4	20.49
01/08/2025 10:45	0.1	0.0	20.2							

Date and Time	CH ₄ % v/v	CO ₂ % v/v	O ₂ % v/v	CO ppm/v	H ₂ S ppm/v	Atmospheric Pressure mbar	Average 8-hour atmospheric pressure change mbar	Flow Ltr/hr	Temperature °C	Water Level mbgl
02/08/2025 02:45	0.1	0.0	20.1	60	0	1020.8	0.16	0.00	9.9	20.46
02/08/2025 03:45	0.1	0.0	20.1	60	0	1020.5	0.05	0.00	9.8	20.46
02/08/2025 04:45	0.1	0.0	20.1	57	0	1020.5	0.01	-0.06	9.8	20.46
02/08/2025 05:45	0.2	0.0	20.1	56	0	1020.6	-0.02	-0.13	9.7	20.45
02/08/2025 06:45	0.1	0.0	20.1	55	0	1020.6	-0.02	-0.06	11.3	20.45
02/08/2025 07:45	0.2	0.0	20.1	56	0	1020.7	-0.04	0.00	13.5	20.44
02/08/2025 08:45	0.2	0.0	20.0	53	0	1020.8	-0.03	0.00	15.1	20.44
02/08/2025 09:45	0.2	0.0	20.1	54	0	1020.8	0.00	0.00	16.1	20.44
02/08/2025 10:45	0.1	0.0	20.0	54	0	1020.6	0.01	0.01	16.2	20.44
02/08/2025 11:45	0.2	0.0	20.0	52	0	1020.5	0.00	0.01	16.8	20.44
02/08/2025 12:45	0.2	0.0	20.0	51	0	1020.6	0.00	0.08	17.5	20.43
02/08/2025 13:45	0.2	0.0	20.1	54	0	1020.6	0.00	0.09	18.4	20.43
02/08/2025 14:45	0.3	0.0	20.0	50	0	1020.3	-0.05	0.03	19.0	20.42
02/08/2025 15:45	0.1	0.0	20.1	53	0	1019.9	-0.11	0.11	20.1	20.42
02/08/2025 16:45	0.2	0.0	20.0	51	0	1019.8	-0.13	0.02	20.0	20.42
02/08/2025 17:45	0.2	0.0	20.1	51	0	1019.5	-0.14	0.01	19.3	20.42
02/08/2025 18:45	0.2	0.0	20.1	49	0	1019.6	-0.11	0.00	18.4	20.43
02/08/2025 19:45	0.2	0.0	20.1	51	0	1019.8	-0.10	0.02	17.1	20.42
02/08/2025 20:45	0.2	0.0	20.1	51	0	1020.1	-0.06	0.00	15.7	20.41
02/08/2025 21:45	0.2	0.0	20.1	50	0	1020.4	0.01	0.00	14.6	20.41
02/08/2025 22:45	0.2	0.0	20.1	48	0	1020.4	0.06	0.00	13.8	20.40
02/08/2025 23:45	0.1	0.0	20.1	47	0	1020.7	0.11	0.00	13.0	20.40
03/08/2025 00:45	0.2	0.0	20.1	48	0	1020.3	0.10	0.01	13.1	20.40
03/08/2025 01:45	0.1	0.0	20.1	48	0	1020.1	0.06	0.00	13.1	20.40
03/08/2025 02:45	0.2	0.0	20.1	46	0	1019.7	-0.01	0.05	14.4	20.40
03/08/2025 03:45	0.2	0.0	20.1	48	0	1019.2	-0.11	0.13	15.3	20.40
03/08/2025 04:45	0.2	0.0	20.1	47	0	1018.8	-0.20	0.02	16.0	20.40
03/08/2025 05:45	0.2	0.0	20.1	46	0	1018.7	-0.21	0.07	16.6	20.40
03/08/2025 06:45	0.2	0.0	20.1	44	0	1018.5	-0.28	0.02	17.2	20.40
03/08/2025 07:45	0.2	0.0	20.1	44	0	1018.5	-0.22	0.00	17.6	20.41
03/08/2025 08:45	0.1	0.0	20.0	44	0	1018.4	-0.21	0.00	17.7	20.41
03/08/2025 09:45	0.1	0.0	20.1	45	0	1018.3	-0.18	0.00	17.8	20.40
03/08/2025 10:45	0.2	0.0	20.1	44	0	1018.4	-0.10	-0.01	18.3	20.40
03/08/2025 11:45	0.1	0.0	20.1	42	0	1019.0	0.03	0.00	18.8	20.40
03/08/2025 12:45	0.2	0.0	20.1	43	0	1019.1	0.05	0.00	20.2	20.40
03/08/2025 13:45	0.2	0.0	20.1	42	0	1019.0	0.06	0.00	21.1	20.40
03/08/2025 14:45	0.2	0.0	20.1	41	0	1019.1	0.08	0.00	22.2	20.40
03/08/2025 15:45	0.1	0.0	20.1	41	0	1019.2	0.10	0.04	22.3	20.40
03/08/2025 16:45	0.1	0.0	20.1	43	0	1019.3	0.13	0.07	22.1	20.40
03/08/2025 17:45	0.2	0.0	20.1	42	0	1019.5	0.14	0.02	21.2	20.40
03/08/2025 18:45	0.1	0.0	20.1	42	0	1019.8	0.10	0.05	20.5	20.40
03/08/2025 19:45	0.3	0.0	20.1	40	0	1019.8	0.09	0.00	19.3	20.40
03/08/2025 20:45	0.1	0.0	20.1	39	0	1019.8	0.10	0.05	18.0	20.40
03/08/2025 21:45	0.1	0.0	20.1	41	0	1019.9	0.10	0.00	17.0	20.40
03/08/2025 22:45	0.1	0.0	20.1	38	0	1019.8	0.07	-0.01	16.6	20.40
03/08/2025 23:45	0.3	0.0	20.1	41	0	1019.4	0.01	-0.01	16.3	20.40
04/08/2025 00:45	0.2	0.0	20.1	38	0	1019.0	-0.06	0.02	16.2	20.41
04/08/2025 01:45	0.1	0.0	20.1	39	0	1018.6	-0.15	0.01	16.2	20.42
04/08/2025 02:45	0.1	0.0	20.1	38	0	1017.4	-0.30	0.02	16.7	20.43
04/08/2025 03:45	0.2	0.0	20.1	39	0	1016.4	-0.42	0.12	17.2	20.44
04/08/2025 04:45	0.2	0.0	20.1	37	0	1015.9	-0.50	0.07	17.5	20.45
04/08/2025 05:45	0.2	0.0	20.1	38	0	1015.4	-0.55	-0.01	17.7	20.46
04/08/2025 06:45	0.1	0.0	20.1	35	0	1014.8	-0.58	0.00	17.5	20.47
04/08/2025 07:45	0.1	0.0	20.1	36	0	1014.1	-0.61	-0.14	17.7	20.48
04/08/2025 08:45	0.1	0.0	20.1	36	0	1013.6	-0.63	-0.08	17.8	20.48
04/08/2025 09:45	0.1	0.0	20.1	35	0	1013.3	-0.51	-0.04	18.2	20.49
04/08/2025 10:45	0.1	0.0	20.1	35	0	1012.9	-0.44	-0.02	18.2	20.49
04/08/2025 11:45	0.1	0.0	20.1	34	0	1012.8	-0.39	-0.04	18.0	20.50
04/08/2025 12:45	0.3	0.0	20.0	33	0	1013.1	-0.29	-0.01	18.0	20.50
04/08/2025 13:45	0.1	0.0	20.1	35	0	1012.9	-0.24	0.00	18.6	20.50
04/08/2025 14:45	0.1	0.0	20.1	34	0	1013.8	-0.04	0.16	19.7	20.50
04/08/2025 15:45	0.1	0.0	20.1	33	0	1014.3	0.09	0.03	20.1	20.50
04/08/2025 16:45	0.2	0.0	20.1	32	0	1015.1	0.23	-0.02	19.2	20.50
04/08/2025 17:45	0.2	0.0	20.1	33	0	1015.8	0.36	0.07	18.5	20.50
04/08/2025 18:45	0.1	0.0	20.1	30	0	1016.6	0.48	-0.01	17.9	20.50
04/08/2025 19:45	0.2	0.0	20.1	32	0	1017.3	0.52	-0.04	17.0	20.50
04/08/2025 20:45	0.2	0.0	20.1	32	0	1018.0	0.64	0.00	15.8	20.49
04/08/2025 21:45	0.2	0.0	20.1	30	0	1018.7	0.61	-0.03	14.9	20.49
04/08/2025 22:45	0.2	0.0	20.1	31	0	1019.3	0.63	-0.03	14.2	20.49
04/08/2025 23:45	0.1	0.0	20.1	29	0	1019.9	0.60	-0.09	13.7	20.48
05/08/2025 00:45	0.2	0.0	20.0	30	0	1020.3	0.56	-0.10	13.3	20.48
05/08/2025 01:45	0.1	0.0	20.0	29	0	1020.3	0.46	-0.06	12.9	20.49
05/08/2025 02:45	0.2	0.0	20.0	27	0	1020.4	0.39	0.00	12.6	20.49
05/08/2025 03:45	0.1	0.0	20.0	26	0	1020.6	0.33	0.10	12.3	20.49
05/08/2025 04:45	0.3	0.0	20.0	27	0	1020.9	0.27	0.16	12.1	20.50
05/08/2025 05:45	0.1	0.0	19.9	25	0	1021.2	0.24	0.21	12.2	20.50
05/08/2025 06:45	0.3	0.0	20.0	25	0	1021.7	0.23	0.04	12.7	20.49
05/08/2025 07:45	0.2	0.0	19.9	25	0	1022.3	0.25	0.15	13.8	20.49
05/08/2025 08:45	0.2	0.0	19.9	26	0	1022.8	0.31	0.12	14.8	20.49
05/08/2025 09:45	0.3	0.0	19.9	25	0	1023.3	0.36	-0.01	15.7	20.49
05/08/2025 10:45	0.3	0.0	19.9	24	0	1024.0	0.42	-0.01	16.3	20.48
05/08/2025 11:45	0.3	0.0	19.9	22	0	1024.7	0.48	0.04	16.8	20.47
05/08/2025 12:45	0.2	0.0	19.9	25	0	1025.4	0.53	0.07	17.1	20.47
05/08/2025 13:45	0.2	0.0	19.9	24	0	1025.8	0.51	0.00	17.3	20.47
05/08/2025 14:45	0.2	0.0	19.9	23	0	1026.0	0.46	0.10	17.5	20.47
05/08/2025 15:45	0.2	0.0	19.9	23	0	1026.2	0.43	0.06	17.8	20.47
05/08/2025 16:45	0.2	0.0	19.9	22	0	1026.5	0.40	0.00	17.5	20.47
05/08/2025 17:45	0.2	0.0	19.9	23	0	1026.4	0.30	-0.03	17.3	20.48
05/08/2025 18:45	0.2	0.0	20.0	23	0	1026.5	0.22	-0.09	16.9	20.47
05/08/2025 19:45	0.2	0.0	20.0	21	0	1026.6	0.15	-0.05	15.9	20.47
05/08/2025 20:45	0.3	0.0	19.9	21	0	1026.8	0.13	-0.02	13.9	20.47
05/08/2025 21:45	0.2	0.0	20.0	22	0	1027.1	0.14	0.00	13.3	20.47
05/08/2025 22:45	0.2	0.0	19.9	21	0	1027.4	0.15	0.00	13.1	20.47
05/08/2025 23:45	0.2	0.0	19.9	20	0	1027.4	0.11	-0.02	12.1	20.46
06/08/2025 00:45	0.2	0.0	19.9	21	0	1027.3	0.11	0.04	12.2	20.47
06/08/2025 01:45	0.3	0.0	19.9	20	0	1026.8	0.04	0.01	10.8	20.47
06/08/2025 02:45	0.2	0.0	19.9	18	0	1026.2	-0.05	-0.05	10.8	20.48
06/08/2025 03:45	0.3	0.0	19.9	17	0	1025.9	-0.11	-0.05	11.0	20.49
06/08/2025 04:45	0.2	0.0	19.9	18	0	1026.1	-0.13	0.00	10.8	20.49
06/08/2025 05:45	0.2	0.0	19.8	17	0	1025.9	-0.19	0.01	10.1	20.49
06/08/2025 06:45	0.3	0.0	19.8	17	0	1025.6	-0.23	0.01	11.3	20.49
06/08/2025 07:45	0.2	0.0	19.8	17	0	1025.7	-0.20	0.00	13.5	20.49
06/08/2025 08:45	0.3	0.0	19.8	18	0	1025.7	-0.14	-0.05	15.0	20.49
06/08/2025 09:45	0.3	0.0	19.8	16	0	1025.2	-0.13	-0.05	16.2	20.48
06/08/2025 10:45	0.3	0.0	19.8	16	0	1024.9	-0.13	0.00	16.9	20.49
06/08/2025 11:45	0.3	0.0	19.8	15	0	1024.8	-0.16	0.00	17.5	20.49
06/08/2025 12:45	0.2	0.0	19.8	16	0	1024.2	-0.21	0.00	17.7	20.49
06/08/2025 13:45	0.3	0.0	19.8	14	0	1023.3	-0.29	0.00	18.1	20.49
06/08/2025 14:45	0.3	0.0	19.8	14	0	1022.9	-0.35	-0.03	18.2	20.50
06/08/2025 15:45	0.2	0.0	19.8	14	0	1022.5	-0.40	0.00	17.3	20.50

Date and Time	CH ₄ % v/v	CO ₂ % v/v	O ₂ % v/v	CO ppm/v	H ₂ S ppm/v	Atmospheric Pressure mbar	Average 8-hour atmospheric pressure change mbar	Flow Ltr/hr	Temperature °C	Water Level mbgl
07/08/2025 07:45	0.2	0.0	19.8	10	0	1013.8	-0.48	0.00	15.6	20.54
07/08/2025 08:45	0.2	0.0	19.8	10	0	1013.6	-0.38	0.00	16.1	20.54
07/08/2025 09:45	0.3	0.0	19.8	9	0	1013.3	-0.35	0.00	16.1	20.53
07/08/2025 10:45	0.2	0.0	19.8	10	0	1013.2	-0.26	0.00	16.2	20.53
07/08/2025 11:45	0.2	0.0	19.8	11	0	1013.1	-0.20	0.00	16.8	20.53
07/08/2025 12:45	0.3	0.0	19.8	9	0	1012.9	-0.13	0.03	17.4	20.52
07/08/2025 13:45	0.2	0.0	19.8	10	0	1013.2	-0.10	0.00	18.1	20.52
07/08/2025 14:45	0.2	0.0	19.8	7	0	1013.1	-0.09	0.01	18.3	20.52
07/08/2025 15:45	0.2	0.0	19.8	9	0	1013.0	-0.08	0.15	18.8	20.53
07/08/2025 16:45	0.2	0.0	19.8	9	0	1013.2	-0.01	0.04	18.2	20.53
07/08/2025 17:45	0.2	0.0	19.8	10	0	1013.3	0.01	0.01	18.3	20.53
07/08/2025 18:45	0.3	0.0	19.8	8	0	1013.7	0.08	-0.04	17.4	20.53
07/08/2025 19:45	0.2	0.0	19.8	7	0	1014.0	0.14	-0.01	16.6	20.52
07/08/2025 20:45	0.2	0.0	19.8	8	0	1014.5	0.16	0.01	15.7	20.52
07/08/2025 21:45	0.2	0.0	19.8	9	0	1014.9	0.22	0.03	15.0	20.52
07/08/2025 22:45	0.3	0.0	19.8	6	0	1015.3	0.29	0.11	14.6	20.51
07/08/2025 23:45	0.3	0.0	19.8	8	0	1015.5	0.29	-0.01	14.4	20.51
08/08/2025 00:45	0.2	0.0	19.8	6	0	1015.8	0.31	-0.04	14.4	20.51
08/08/2025 01:45	0.3	0.0	19.8	5	0	1016.1	0.30	-0.06	13.9	20.51
08/08/2025 02:45	0.3	0.0	19.8	8	0	1016.4	0.30	0.02	14.0	20.51
08/08/2025 03:45	0.2	0.0	19.8	7	0	1016.7	0.28	-0.03	13.5	20.51
08/08/2025 04:45	0.2	0.0	19.8	4	0	1017.4	0.31	-0.15	13.1	20.50
08/08/2025 05:45	0.3	0.0	19.8	7	0	1017.9	0.33	0.01	12.6	20.50
08/08/2025 06:45	0.2	0.0	19.8	6	0	1018.4	0.36	-0.01	13.2	20.49
08/08/2025 07:45	0.3	0.0	19.8	6	0	1019.1	0.41	0.01	14.3	20.48
08/08/2025 08:45	0.3	0.0	19.8	5	0	1019.4	0.41	0.00	15.7	20.47
08/08/2025 09:45	0.3	0.0	19.8	5	0	1019.7	0.41	-0.01	16.7	20.46
08/08/2025 10:45	0.3	0.0	19.8	5	0	1019.9	0.40	0.00	17.5	20.46
08/08/2025 11:45	0.2	0.0	19.8	5	0	1019.8	0.30	0.00	18.1	20.46
08/08/2025 12:45	0.2	0.0	19.8	4	0	1019.9	0.25	-0.02	18.5	20.46
08/08/2025 13:45	0.2	0.0	19.8	4	0	1020.6	0.28	-0.02	18.4	20.46
08/08/2025 14:45	0.3	0.0	19.8	4	0	1020.6	0.19	-0.02	18.0	20.46
08/08/2025 15:45	0.2	0.0	19.8	4	0	1020.5	0.14	-0.16	18.6	20.46
08/08/2025 16:45	0.2	0.0	19.8	4	0	1020.4	0.09	-0.07	18.2	20.46
08/08/2025 17:45	0.3	0.0	19.8	4	0	1020.2	0.04	-0.01	17.6	20.46
08/08/2025 18:45	0.3	0.0	19.8	4	0	1020.2	0.05	0.09	17.1	20.46
08/08/2025 19:45	0.3	0.0	19.7	3	0	1020.3	0.05	-0.01	16.6	20.46
08/08/2025 20:45	0.2	0.0	19.8	3	0	1020.4	-0.03	0.10	15.6	20.45
08/08/2025 21:45	0.2	0.0	19.8	4	0	1020.6	0.00	0.25	14.8	20.45
08/08/2025 22:45	0.3	0.0	19.8	1	0	1020.2	-0.04	0.07	14.3	20.45
08/08/2025 23:45	0.3	0.0	19.8	5	0	1020.2	-0.02	0.24	14.2	20.44
09/08/2025 00:45	0.3	0.0	19.7	3	0	1020.2	0.00	0.05	14.4	20.44
09/08/2025 01:45	0.2	0.0	19.7	3	0	1019.7	-0.06	0.22	15.4	20.44
09/08/2025 02:45	0.2	0.0	19.7	1	0	1019.3	-0.13	0.16	15.1	20.44
09/08/2025 03:45	0.3	0.0	19.7	2	0	1019.2	-0.15	0.08	14.4	20.44
09/08/2025 04:45	0.2	0.0	19.7	1	0	1019.0	-0.20	0.11	14.2	20.44
09/08/2025 05:45	0.2	0.0	19.7	2	0	1019.2	-0.13	0.14	14.3	20.43
09/08/2025 06:45	0.2	0.0	19.7	3	0	1019.6	-0.08	0.07	14.7	20.43
09/08/2025 07:45	0.2	0.0	19.7	1	0	1019.9	-0.04	0.08	15.7	20.42
09/08/2025 08:45	0.3	0.0	19.7	2	0	1020.2	0.06	0.03	16.7	20.41
09/08/2025 09:45	0.3	0.0	19.7	3	0	1020.4	0.14	0.12	17.3	20.40
09/08/2025 10:45	0.3	0.0	19.7	4	0	1020.9	0.21	0.06	17.9	20.40
09/08/2025 11:45	0.3	0.0	19.7	1	0	1021.2	0.28	-0.05	18.2	20.39
09/08/2025 12:45	0.2	0.0	19.7	1	0	1021.5	0.29	-0.16	18.4	20.39
09/08/2025 13:45	0.2	0.0	19.7	3	0	1021.9	0.29	-0.07	19.2	20.38
09/08/2025 14:45	0.2	0.0	19.7	1	0	1022.2	0.29	-0.04	19.0	20.38
09/08/2025 15:45	0.2	0.0	19.7	1	0	1022.6	0.30	0.09	18.8	20.37
09/08/2025 16:45	0.3	0.0	19.7	3	0	1023.0	0.33	0.02	18.6	20.36
09/08/2025 17:45	0.2	0.0	19.7	1	0	1023.4	0.31	0.13	17.8	20.36
09/08/2025 18:45	0.2	0.0	19.7	1	0	1023.7	0.31	0.01	17.7	20.35
09/08/2025 19:45	0.3	0.0	19.7	2	0	1024.1	0.32	0.09	17.1	20.34
09/08/2025 20:45	0.2	0.0	19.7	1	0	1024.8	0.36	0.00	16.2	20.33
09/08/2025 21:45	0.2	0.0	19.7	0	0	1025.4	0.40	-0.12	14.8	20.32
09/08/2025 22:45	0.2	0.0	19.7	2	0	1025.7	0.39	-0.16	13.9	20.32
09/08/2025 23:45	0.3	0.0	19.7	1	0	1025.9	0.36	-0.09	13.4	20.32
10/08/2025 00:45	0.2	0.0	19.8	1	0	1026.3	0.36	-0.05	13.4	20.32
10/08/2025 01:45	0.2	0.0	19.8	1	0	1026.6	0.36	-0.13	13.3	20.32
10/08/2025 02:45	0.2	0.0	19.8	1	0	1026.8	0.34	-0.06	13.4	20.32
10/08/2025 03:45	0.2	0.0	19.7	0	0	1026.9	0.26	-0.01	13.4	20.33
10/08/2025 04:45	0.2	0.0	19.8	0	0	1027.0	0.20	-0.09	13.3	20.33
10/08/2025 05:45	0.2	0.0	19.8	2	0	1027.2	0.19	0.06	13.2	20.33
10/08/2025 06:45	0.3	0.0	19.8	0	0	1027.6	0.21	0.08	14.0	20.33
10/08/2025 07:45	0.2	0.0	19.8	1	0	1028.0	0.21	0.04	15.0	20.32
10/08/2025 08:45	0.3	0.0	19.8	1	0	1028.1	0.19	-0.06	16.6	20.32
10/08/2025 09:45	0.2	0.0	19.8	1	0	1028.3	0.19	-0.07	18.1	20.32
10/08/2025 10:45	0.2	0.0	19.8	0	0	1028.4	0.19	-0.05	19.1	20.32
10/08/2025 11:45	0.3	0.0	19.8	1	0	1028.3	0.16	0.02	19.9	20.32
10/08/2025 12:45	0.3	0.0	19.8	1	0	1028.0	0.10	0.00	20.6	20.33
10/08/2025 13:45	0.2	0.0	19.8	0	0	1027.7	0.01	-0.08	21.6	20.33
10/08/2025 14:45	0.2	0.0	19.8	3	0	1027.5	-0.06	-0.14	21.5	20.33
10/08/2025 15:45	0.3	0.0	19.8	1	0	1027.2	-0.11	-0.09	21.8	20.34
10/08/2025 16:45	0.2	0.0	19.8	0	0	1026.7	-0.20	-0.09	22.0	20.35
10/08/2025 17:45	0.3	0.0	19.8	0	0	1026.2	-0.28	0.05	21.9	20.35
10/08/2025 18:45	0.2	0.0	19.8	0	0	1025.6	-0.34	0.02	21.4	20.36
10/08/2025 19:45	0.2	0.0	19.8	0	0	1025.4	-0.32	0.01	19.7	20.36
10/08/2025 20:45	0.2	0.0	19.8	0	0	1025.9	-0.22	0.11	18.0	20.36
10/08/2025 21:45	0.1	0.0	19.8	0	0	1026.1	-0.18	-0.04	17.2	20.35
10/08/2025 22:45	0.2	0.0	19.8	1	0	1025.9	-0.16	0.05	16.4	20.35
10/08/2025 23:45	0.1	0.0	19.8	0	0	1025.7	-0.13	0.07	15.6	20.35
11/08/2025 00:45	0.3	0.0	19.8	0	0	1025.5	-0.09	0.03	14.9	20.35
11/08/2025 01:45	0.2	0.0	19.8	0	0	1025.0	-0.07	0.01	13.8	20.35
11/08/2025 02:45	0.2	0.0	19.8	0	0	1024.5	-0.11	0.06	13.2	20.36
11/08/2025 03:45	0.2	0.0	19.8	0	0	1024.1	-0.23	0.00	12.9	20.36
11/08/2025 04:45	0.2	0.0	19.7	2	0	1023.4	-0.34	0.15	13.0	20.36
11/08/2025 05:45	0.2	0.0	19.7	0	0	1023.2	-0.34	-0.07	12.9	20.35
11/08/2025 06:45	0.2	0.0	19.7	0	0	1022.8	-0.36	-0.13	14.2	20.35
11/08/2025 07:45	0.2	0.0	19.7	1	0	1022.6	-0.36	-0.03	17.9	20.34
11/08/2025 08:45	0.2	0.0	19.7	0	0	1022.9	-0.26	-0.10	19.7	20.33
11/08/2025 09:45	0.3	0.0	19.7	0	0	1022.8	-0.21	-0.06	20.7	20.33
11/08/2025 10:45	0.3	0.0	19.7	0	0	1022.5	-0.20	0.00	21.6	20.27
11/08/2025 11:45	0.2	0.0	19.6	0	0	1021.9	-0.19	-0.05	22.8	20.24
11/08/2025 12:45	0.2	0.0	19.7	0	0	1021.7	-0.19	-0.07	23.5	20.24
11/08/2025 13:45	0.3	0.0	19.6	0	0	1021.3	-0.19	0.00	24.1	20.24
11/08/2025 14:45	0.2	0.0	19.7	0	0	1020.7	-0.24	0.00	23.8	20.24
11/08/2025 15:45	0.2	0.0	19.7	0	0	1020.2	-0.34	-0.10	24.6	20.24
11/08/2025 16:45	0.2	0.0	19.7	0	0	1019.6	-0.40	0.06	24.3	20.25
11/08/2025 17:45	0.2	0.0	19.7	1	0	1018.9	-0.45	0.10	23.7	20.26
11/08/2025 18:45	0.3	0.0	19.7	0	0	1018.0	-0.49	-0.04	22.7	20.26
11/08/2025 19:45	0.2	0.0	19.7	0	0	1017.5	-0.53	-0.01	21.5	20.25
11/08/2025 20:45	0.2	0.0	19.7	0	0	1017.3	-0.50	0.00	20.1	20.25
11/08/2025 21:45	0.2	0.0	19.7	0	0	1018.0	-0.34	0.00	19.2	

Date and Time	CH ₄ % v/v	CO ₂ % v/v	O ₂ % v/v	CO ppm/v	H ₂ S ppm/v	Atmospheric Pressure mbar	Average 8-hour atmospheric pressure change mbar	Flow Ltr/hr	Temperature °C	Water Level mbgl
12/08/2025 12:45	0.2	0.0	19.6	0	0	1014.1	0.05	0.16	26.2	20.37
12/08/2025 13:45	0.2	0.0	19.6	0	0	1013.1	-0.11	0.02	28.2	20.37
12/08/2025 14:45	0.2	0.0	19.6	0	0	1012.8	-0.15	0.06	28.8	20.36
12/08/2025 15:45	0.2	0.0	19.6	2	0	1012.5	-0.19	0.08	28.8	20.36
12/08/2025 16:45	0.2	0.0	19.6	0	0	1012.1	-0.24	0.20	28.8	20.36
12/08/2025 17:45	0.2	0.0	19.7	0	0	1011.9	-0.26	0.01	28.3	20.36
12/08/2025 18:45	0.3	0.0	19.7	0	0	1011.9	-0.23	0.04	27.2	20.36
12/08/2025 19:45	0.2	0.0	19.7	0	0	1012.3	-0.23	0.02	23.4	20.36
12/08/2025 20:45	0.3	0.0	19.7	0	0	1012.9	-0.03	0.01	20.7	20.35
12/08/2025 21:45	0.2	0.0	19.7	1	0	1013.7	0.11	0.18	19.1	20.36
12/08/2025 22:45	0.1	0.0	19.7	0	0	1013.8	0.16	0.12	18.0	20.36
12/08/2025 23:45	0.1	0.0	19.7	1	0	1013.6	0.19	0.00	17.4	20.36
13/08/2025 00:45	0.2	0.0	19.8	1	0	1013.8	0.24	0.12	16.8	20.36
13/08/2025 01:45	0.2	0.0	19.8	0	0	1013.7	0.23	0.22	15.8	20.36
13/08/2025 02:45	0.2	0.0	19.8	0	0	1013.6	0.16	0.16	15.1	20.36
13/08/2025 03:45	0.2	0.0	19.7	0	0	1013.4	0.06	0.12	16.3	20.36
13/08/2025 04:45	0.2	0.0	19.7	0	0	1013.4	-0.04	0.21	16.8	20.36
13/08/2025 05:45	0.2	0.0	19.7	0	0	1013.3	-0.06	0.22	17.0	20.36
13/08/2025 06:45	0.2	0.0	19.7	0	0	1013.5	-0.01	0.11	17.2	20.35
13/08/2025 07:45	0.2	0.0	19.7	0	0	1013.7	-0.01	0.16	17.5	20.36
13/08/2025 08:45	0.2	0.0	19.7	0	0	1013.9	0.02	0.15	18.0	20.36
13/08/2025 09:45	0.2	0.0	19.7	0	0	1014.2	0.08	0.05	18.6	20.36
13/08/2025 10:45	0.1	0.0	19.7	0	0	1014.5	0.14	-0.03	19.5	20.36
13/08/2025 11:45	0.2	0.0	19.7	0	0	1014.3	0.11	0.02	20.2	20.36



Experts in Continuous Monitoring

Time Series Data

Project Ref:	GG54085
Project Name:	The Paddocks, Dyffryn Farm, Neath
Borehole ref:	BH02
Instrument Name and ID:	GC-59 + FD-02
Start Date:	23/07/2025 16:18
End Date:	13/08/2025 12:18
Days of monitoring:	21
Monitoring Frequency (mins):	01:00:00
Total samples taken:	501



Summary Table

	CH ₄	CO ₂	O ₂	CO	H ₂ S	Atmospheric Pressure	Average 8-hour atmospheric pressure change	Flow	Temperature	Water Level
Minimum	0.0	0.0	14.5	0	0	1011.9	-0.63	-0.10	9.7	22.67
Maximum	0.0	0.0	20.1	81	2	1028.4	0.64	0.34	28.8	23.04
Range	0.0	0.0	5.6	81	2	16.5	1.26	0.44	19.1	0.37

Date and Time	CH ₄	CO ₂	O ₂	CO	H ₂ S	Atmospheric Pressure	Average 8-hour atmospheric pressure change	Flow	Temperature	Water Level
	% v/v	% v/v	% v/v	ppm/v	ppm/v	mbar	mbar	Ltr/hr	°C	mbgl
23/07/2025 16:18	0.0	0.0	20.1	14	0	1016.7	N/A	0.00	18.0	22.90
23/07/2025 17:18	0.0	0.0	20.0	18	0	1016.7	N/A	0.02	17.6	22.90
23/07/2025 18:18	0.0	0.0	19.9	18	0	1017.1	N/A	-0.03	17.0	22.90
23/07/2025 19:18	0.0	0.0	19.8	22	0	1017.0	N/A	0.00	16.2	22.90
23/07/2025 20:18	0.0	0.0	19.7	25	0	1017.6	N/A	0.00	15.2	22.90
23/07/2025 21:18	0.0	0.0	19.7	25	0	1018.1	N/A	0.00	14.2	22.90
23/07/2025 22:18	0.0	0.0	19.6	26	0	1018.4	N/A	0.00	13.7	22.90
23/07/2025 23:18	0.0	0.0	19.6	29	0	1018.5	N/A	0.00	13.3	22.90
24/07/2025 00:18	0.0	0.0	19.5	32	0	1018.7	0.25	0.00	13.0	22.90
24/07/2025 01:18	0.0	0.0	19.5	32	0	1018.6	0.19	0.00	13.2	22.90
24/07/2025 02:18	0.0	0.0	19.4	34	0	1018.8	0.22	0.00	13.0	22.90
24/07/2025 03:18	0.0	0.0	19.4	36	0	1019.0	0.17	0.00	12.6	22.91
24/07/2025 04:18	0.0	0.0	19.3	38	0	1019.0	0.11	0.00	12.4	22.91
24/07/2025 05:18	0.0	0.0	19.3	42	0	1019.3	0.11	0.00	12.5	22.92
24/07/2025 06:18	0.0	0.0	19.3	41	0	1019.6	0.14	0.00	13.7	22.93
24/07/2025 07:18	0.0	0.0	19.2	45	0	1019.5	0.10	0.00	15.1	22.93
24/07/2025 08:18	0.0	0.0	19.2	46	0	1019.4	0.10	0.00	16.5	22.93
24/07/2025 09:18	0.0	0.0	19.2	46	0	1019.6	0.10	0.00	17.8	22.94
24/07/2025 10:18	0.0	0.0	19.2	49	1	1019.7	0.09	-0.01	19.1	22.94
24/07/2025 11:18	0.0	0.0	19.2	50	1	1020.0	0.13	0.00	20.1	22.94
24/07/2025 12:18	0.0	0.0	19.2	55	1	1020.2	0.11	0.00	19.7	22.95
24/07/2025 13:18	0.0	0.0	19.2	58	1	1020.3	0.09	0.00	20.4	22.95
24/07/2025 14:18	0.0	0.0	19.3	61	1	1020.3	0.10	-0.04	20.5	22.96
24/07/2025 15:18	0.0	0.0	19.2	66	1	1020.3	0.11	-0.02	20.0	22.96
24/07/2025 16:18	0.0	0.0	19.3	68	1	1020.4	0.10	0.02	18.9	22.97
24/07/2025 17:18	0.0	0.0	19.3	68	1	1020.4	0.09	0.04	18.2	22.97
24/07/2025 18:18	0.0	0.0	19.3	72	1	1020.4	0.05	0.02	18.0	22.98
24/07/2025 19:18	0.0	0.0	19.2	69	1	1020.4	0.02	0.00	17.2	22.98
24/07/2025 20:18	0.0	0.0	19.2	72	1	1020.6	0.04	0.00	15.9	22.98
24/07/2025 21:18	0.0	0.0	19.2	72	1	1021.0	0.09	0.00	14.7	22.98
24/07/2025 22:18	0.0	0.0	19.2	71	1	1021.2	0.11	0.00	14.0	22.98
24/07/2025 23:18	0.0	0.0	19.1	72	1	1021.2	0.10	0.00	13.3	22.98
25/07/2025 00:18	0.0	0.0	19.1	71	1	1021.0	0.08	0.00	12.8	22.98
25/07/2025 01:18	0.0	0.0	19.0	68	1	1021.0	0.08	0.05	12.3	22.98
25/07/2025 02:18	0.0	0.0	19.0	68	1	1020.8	0.05	0.05	11.8	22.98
25/07/2025 03:18	0.0	0.0	19.0	67	1	1020.5	-0.01	0.00	11.4	22.99
25/07/2025 04:18	0.0	0.0	18.9	67	1	1020.5	-0.06	0.00	11.2	22.99
25/07/2025 05:18	0.0	0.0	18.9	68	1	1020.6	-0.08	0.00	11.0	22.99
25/07/2025 06:18	0.0	0.0	18.8	67	1	1020.6	-0.08	0.00	12.4	22.99
25/07/2025 07:18	0.0	0.0	18.8	67	1	1020.5	-0.06	0.00	14.2	22.99
25/07/2025 08:18	0.0	0.0	18.8	66	1	1020.8	-0.03	0.00	16.1	22.99
25/07/2025 09:18	0.0	0.0	18.8	66	1	1020.8	0.00	0.00	17.4	22.99
25/07/2025 10:18	0.0	0.0	18.8	70	2	1020.5	0.00	0.01	18.9	22.99
25/07/2025 11:18	0.0	0.0	18.8	71	2	1020.3	-0.03	0.01	19.6	22.99
25/07/2025 12:18	0.0	0.0	18.8	69	2	1020.2	-0.05	-0.02	19.4	22.99
25/07/2025 13:18	0.0	0.0	18.9	75	2	1020.0	-0.08	-0.01	20.4	22.99
25/07/2025 14:18	0.0	0.0	18.9	78	2	1019.9	-0.08	0.02	20.4	22.99
25/07/2025 15:18	0.0	0.0	18.9	79	2	1019.7	-0.14	0.01	19.8	23.00
25/07/2025 16:18	0.0	0.0	18.9	81	2	1019.5	-0.16	0.00	19.9	23.00
25/07/2025 17:18	0.0	0.0	18.9	81	2	1019.3	-0.15	0.10	19.2	23.00
25/07/2025 18:18	0.0	0.0	18.9	80	2	1019.2	-0.14	0.01	18.0	23.01
25/07/2025 19:18	0.0	0.0	18.9	78	2	1019.1	-0.14	0.00	17.8	23.01
25/07/2025 20:18	0.0	0.0	18.8	79	2	1018.9	-0.14	0.00	17.7	23.01
25/07/2025 21:18	0.0	0.0	18.8	78	2	1019.0	-0.11	0.00	17.6	23.01
25/07/2025 22:18	0.0	0.0	18.8	78	2	1019.1	-0.08	0.00	17.2	23.01
25/07/2025 23:18	0.0	0.0	18.7	77	2	1018.9	-0.08	0.05	16.2	23.01
26/07/2025 00:18	0.0	0.0	18.7	75	2	1019.0	-0.04	0.00	15.2	23.02
26/07/2025 01:18	0.0	0.0	18.7	74	2	1018.5	-0.09	0.00	15.5	23.02
26/07/2025 02:18	0.0	0.0	18.7	73	2	1018.3	-0.10	0.00	15.7	23.02
26/07/2025 03:18	0.0	0.0	18.6	73	2	1017.9	-0.13	0.00	15.9	23.03
26/07/2025 04:18	0.0	0.0	18.6	71	2	1017.4	-0.20	0.00	16.1	23.03
26/07/2025 05:18	0.0	0.0	18.6	74	2	1017.2	-0.24	0.00	16.1	23.04
26/07/2025 06:18	0.0	0.0	18.6	74	2	1017.5	-0.17	0.00	16.1	23.04
26/07/2025 07:18	0.0	0.0	18.6	72	2	1017.9	-0.14	0.00	16.3	23.04
26/07/2025 08:18	0.0	0.0	18.5	74	2	1017.9	-0.08	0.00	16.8	23.03
26/07/2025 09:18	0.0	0.0	18.5	72	2	1018.1	-0.02	0.00	17.4	23.03
26/07/2025 10:18	0.0	0.0	18.5	70	2	1018.4	0.06	0.00	17.3	23.02
26/07/2025 11:18	0.0	0.0	18.5	71	2	1018.5	0.14	0.03	18.6	23.02
26/07/2025 12:18	0.0	0.0	18.5	72	2	1018.6	0.17	0.14	19.3	23.02
26/07/2025 13:18	0.0	0.0	18.5	73	2	1018.7	0.15	0.12	19.4	23.02
26/07/2025 14:18	0.0	0.0	18.5	76	2	1018.8	0.11	0.09	18.8	23.01
26/07/2025 15:18	0.0	0.0	18.5	74	2	1018.8	0.11	0.02	18.6	23.01
26/07/2025 16:18	0.0	0.0	18.5	74	2	1018.9	0.10	0.10	18.5	23.01
26/07/2025 17:18	0.0	0.0	18.5	73	2	1018.9	0.06	0.00	18.2	23.02
26/07/2025 18:18	0.0	0.0	18.5	76	2	1019.1	0.08	0.00	17.5	23.02
26/07/2025 19:18	0.0	0.0	18.4	75	1	1019.4	0.10	0.09	16.7	23.01
26/07/2025 20:18	0.0	0.0	18.4	71	2	1019.5	0.10	0.03	15.3	23.01
26/07/2025 21:18	0.0	0.0	18.4	73	1	1020.0	0.15	0.00	14.8	23.01
26/07/2025 22:18	0.0	0.0	18.3	71	2	1019.8	0.13	0.00	14.5	23.00
26/07/2025 23:18	0.0	0.0	18.3	70	2	1019.5	0.08	0.00	14.2	23.00
27/07/2025 00:18	0.0	0.0	18.2</							

Date and Time	CH ₄ % v/v	CO ₂ % v/v	O ₂ % v/v	CO ppm/v	H ₂ S ppm/v	Atmospheric Pressure mbar	Average 8-hour atmospheric pressure change mbar	Flow Ltr/hr	Temperature °C	Water Level mbgl
28/07/2025 22:18	0.0	0.0	17.6	57	1	1022.7	0.15	-0.01	13.5	22.84
28/07/2025 23:18	0.0	0.0	17.5	55	1	1022.5	0.14	0.00	13.1	22.83
29/07/2025 00:18	0.0	0.0	17.5	55	1	1022.2	0.10	0.00	13.2	22.83
29/07/2025 01:18	0.0	0.0	17.5	53	1	1021.9	0.04	0.00	12.8	22.83
29/07/2025 02:18	0.0	0.0	17.4	51	1	1021.4	-0.06	0.00	13.0	22.84
29/07/2025 03:18	0.0	0.0	17.4	52	1	1020.8	-0.16	0.00	14.2	22.85
29/07/2025 04:18	0.0	0.0	17.4	51	1	1020.0	-0.31	0.00	14.4	22.85
29/07/2025 05:18	0.0	0.0	17.4	50	1	1019.8	-0.36	0.00	14.9	22.86
29/07/2025 06:18	0.0	0.0	17.3	49	1	1019.5	-0.38	0.00	15.5	22.86
29/07/2025 07:18	0.0	0.0	17.3	49	1	1019.4	-0.35	0.00	15.9	22.87
29/07/2025 08:18	0.0	0.0	17.3	49	1	1019.5	-0.30	0.02	16.3	22.87
29/07/2025 09:18	0.0	0.0	17.4	48	1	1019.1	-0.29	0.00	16.9	22.87
29/07/2025 10:18	0.0	0.0	17.3	48	1	1019.3	-0.19	0.04	17.6	22.87
29/07/2025 11:18	0.0	0.0	17.3	51	1	1019.3	-0.09	0.15	18.5	22.88
29/07/2025 12:18	0.0	0.0	17.4	49	1	1019.4	-0.05	0.08	18.9	22.88
29/07/2025 13:18	0.0	0.0	17.4	50	1	1019.7	0.03	0.02	19.0	22.87
29/07/2025 14:18	0.0	0.0	17.4	50	1	1019.8	0.05	0.02	19.0	22.87
29/07/2025 15:18	0.0	0.0	17.4	53	1	1019.7	0.03	0.02	19.1	22.87
29/07/2025 16:18	0.0	0.0	17.4	51	1	1019.7	0.08	0.14	19.3	22.88
29/07/2025 17:18	0.0	0.0	17.4	50	1	1019.4	0.01	0.10	19.2	22.88
29/07/2025 18:18	0.0	0.0	17.4	51	1	1019.6	0.04	0.12	19.0	22.88
29/07/2025 19:18	0.0	0.0	17.4	49	1	1019.7	0.04	0.03	18.2	22.89
29/07/2025 20:18	0.0	0.0	17.4	51	1	1019.9	0.02	0.01	16.9	22.89
29/07/2025 21:18	0.0	0.0	17.4	51	1	1020.4	0.08	0.00	16.0	22.89
29/07/2025 22:18	0.0	0.0	17.3	49	1	1020.4	0.09	0.00	15.4	22.89
29/07/2025 23:18	0.0	0.0	17.3	50	1	1020.5	0.10	0.00	15.0	22.89
30/07/2025 00:18	0.0	0.0	17.3	47	1	1020.5	0.14	0.00	15.0	22.89
30/07/2025 01:18	0.0	0.0	17.3	47	1	1020.4	0.10	0.00	14.8	22.89
30/07/2025 02:18	0.0	0.0	17.2	46	1	1020.1	0.05	0.00	14.9	22.90
30/07/2025 03:18	0.0	0.0	17.2	47	1	1020.0	0.01	0.00	14.8	22.90
30/07/2025 04:18	0.0	0.0	17.2	46	1	1020.0	-0.05	0.00	14.5	22.90
30/07/2025 05:18	0.0	0.0	17.2	47	1	1020.2	-0.02	0.00	13.8	22.90
30/07/2025 06:18	0.0	0.0	17.1	44	1	1020.5	0.00	0.00	14.9	22.90
30/07/2025 07:18	0.0	0.0	17.1	43	1	1020.8	0.04	0.00	16.5	22.90
30/07/2025 08:18	0.0	0.0	17.1	44	1	1020.9	0.06	0.00	18.0	22.90
30/07/2025 09:18	0.0	0.0	17.1	46	1	1020.8	0.09	0.00	18.2	22.89
30/07/2025 10:18	0.0	0.0	17.1	41	1	1020.9	0.11	0.02	19.2	22.89
30/07/2025 11:18	0.0	0.0	17.1	43	1	1020.7	0.09	0.00	19.7	22.89
30/07/2025 12:18	0.0	0.0	17.1	43	1	1020.5	0.04	0.04	20.5	22.90
30/07/2025 13:18	0.0	0.0	17.1	43	1	1020.3	-0.03	0.02	21.2	22.89
30/07/2025 14:18	0.0	0.0	17.1	44	1	1020.4	-0.05	0.07	21.3	22.90
30/07/2025 15:18	0.0	0.0	17.2	48	1	1020.2	-0.09	0.05	21.6	22.90
30/07/2025 16:18	0.0	0.0	17.2	47	1	1020.1	-0.09	0.07	21.5	22.91
30/07/2025 17:18	0.0	0.0	17.2	47	1	1020.1	-0.10	0.00	20.6	22.92
30/07/2025 18:18	0.0	0.0	17.1	45	1	1020.1	-0.08	0.00	20.8	22.92
30/07/2025 19:18	0.0	0.0	17.1	43	1	1020.1	-0.05	0.09	19.8	22.93
30/07/2025 20:18	0.0	0.0	17.1	46	1	1020.1	-0.02	0.01	18.8	22.93
30/07/2025 21:18	0.0	0.0	17.1	42	1	1020.1	-0.04	0.00	18.0	22.93
30/07/2025 22:18	0.0	0.0	17.1	45	1	1020.0	-0.03	0.00	17.7	22.93
30/07/2025 23:18	0.0	0.0	17.1	42	1	1019.8	-0.04	0.00	17.3	22.93
31/07/2025 00:18	0.0	0.0	17.0	42	1	1019.2	-0.11	0.00	17.3	22.94
31/07/2025 01:18	0.0	0.0	17.0	41	1	1018.8	-0.16	0.00	17.3	22.94
31/07/2025 02:18	0.0	0.0	17.0	41	1	1018.4	-0.21	0.00	17.3	22.95
31/07/2025 03:18	0.0	0.0	17.0	41	1	1017.9	-0.28	0.00	17.1	22.96
31/07/2025 04:18	0.0	0.0	17.0	38	1	1017.6	-0.31	0.00	16.9	22.96
31/07/2025 05:18	0.0	0.0	17.0	39	1	1017.4	-0.33	0.00	16.9	22.97
31/07/2025 06:18	0.0	0.0	16.9	37	1	1017.5	-0.29	0.00	17.1	22.97
31/07/2025 07:18	0.0	0.0	16.9	38	1	1017.6	-0.20	0.03	17.2	22.96
31/07/2025 08:18	0.0	0.0	16.9	38	1	1017.6	-0.15	0.00	17.8	22.96
31/07/2025 09:18	0.0	0.0	16.9	38	1	1017.5	-0.11	0.08	18.7	22.95
31/07/2025 10:18	0.0	0.0	16.9	39	1	1017.5	-0.05	0.02	18.5	22.95
31/07/2025 11:18	0.0	0.0	16.9	38	1	1017.6	0.00	0.02	18.0	22.95
31/07/2025 12:18	0.0	0.0	16.9	38	1	1017.4	0.00	0.06	19.0	22.95
31/07/2025 13:18	0.0	0.0	16.9	38	1	1017.1	-0.05	0.03	21.2	22.95
31/07/2025 14:18	0.0	0.0	16.9	39	1	1017.1	-0.06	0.09	20.2	22.96
31/07/2025 15:18	0.0	0.0	16.9	40	1	1016.9	-0.09	0.19	20.3	22.96
31/07/2025 16:18	0.0	0.0	16.9	40	1	1017.1	-0.05	0.04	19.8	22.97
31/07/2025 17:18	0.0	0.0	16.9	37	1	1017.1	-0.05	0.24	19.1	22.97
31/07/2025 18:18	0.0	0.0	16.9	39	1	1017.3	-0.04	0.08	18.6	22.97
31/07/2025 19:18	0.0	0.0	16.9	38	1	1017.7	0.04	0.02	17.6	22.97
31/07/2025 20:18	0.0	0.0	16.9	38	1	1018.3	0.15	0.01	16.5	22.96
31/07/2025 21:18	0.0	0.0	16.9	36	1	1018.6	0.19	0.00	15.3	22.96
31/07/2025 22:18	0.0	0.0	16.8	37	1	1018.6	0.21	0.00	14.6	22.95
31/07/2025 23:18	0.0	0.0	16.8	35	1	1018.7	0.20	0.00	14.2	22.94
01/08/2025 00:18	0.0	0.0	16.8	33	1	1018.9	0.22	0.00	13.9	22.94
01/08/2025 01:18	0.0	0.0	16.7	34	1	1019.2	0.24	0.01	13.5	22.94
01/08/2025 02:18	0.0	0.0	16.7	31	1	1019.1	0.17	0.01	12.9	22.95
01/08/2025 03:18	0.0	0.0	16.7	35	1	1019.0	0.09	0.00	12.5	22.95
01/08/2025 04:18	0.0	0.0	16.7	32	1	1019.0	0.05	0.00	12.5	22.95
01/08/2025 05:18	0.0	0.0	16.7	30	1	1018.9	0.04	0.00	12.1	22.95
01/08/2025 06:18	0.0	0.0	16.6	29	1	1019.1	0.05	0.00	12.8	22.95
01/08/2025 07:18	0.0	0.0	16.6	31	1	1019.2	0.04	0.00	14.1	22.94
01/08/2025 08:18	0.0	0.0	16.6	29	1	1019.4	0.02	0.00	14.7	22.94
01/08/2025 09:18	0.0	0.0	16.6	25	1	1019.3	0.02	0.00	15.4	22.94
01/08/2025 10:18	0.0	0.0	16.5	28	1	1019.2	0.03	0.16	15.9	22.94
01/08/2025 11:18	0.0	0.0	16.5	26	1	1019.3	0.04	0.26	15.9	22.94
01/08/2025 12:18	0.0	0.0	16.5	28	1	1019.3	0.05	0.15	16.4	22.94
01/08/2025 13:18	0.0	0.0	16.5	29	1	1019.4	0.04	0.18	17.4	22.94
01/08/2025 14:18	0.0	0.0	16.6	30	1	1019.3	0.01	0.14	17.3	22.93
01/08/2025 15:18	0.0	0.0	16.6	29	1	1019.3	-0.01	0.01	17.1	22.93
01/08/2025 16:18	0.0	0.0	16.6	29	1	1019.4	0.01	0.10	16.9	22.93
01/08/2025 17:18	0.0	0.0	16.6	28	1	1019.3	0.01	0.04	16.4	22.93
01/08/2025 18:18	0.0	0.0	16.6	32	1	1019.5	0.03	0.12	16.0	22.93
01/08/2025 19:18	0.0	0.0	16.6	30	1	1019.5	0.03	0.07	15.2	22.93
01/08/2025 20:18	0.0	0.0	16.6	28	1	1020.1	0.09	0.00	14.0	22.92
01/08/2025 21:18	0.0	0.0	16.6	28	1	1020.4	0.14	0.01	13.1	22.91
01/08/2025 22:18	0.0	0.0	16.5	28	1	1020.8	0.19	0.00	12.2	22.91
01/08/2025 23:18	0.0	0.0	16.5	28	1	1020.8	0.17	0.00	11.5	22.90
02/08/2025 00:18	0.0	0.0	16.4	27	0	1021.0	0.21	0.00	11.0	22.90
02/08/2025 01:18	0.0	0.0	16.4	27	1	1021.0	0.19	0.00	10.2	22.90
02/08/2025 02:18	0.0	0.0	16.4	26	0	1020.8	0.16	0.00	9.9	22.90
02/08/2025 03:18	0.0	0.0	16.3	24	1	1020.5	0.05	-0.02	9.8	22.90
02/08/2025 04:18	0.0	0.0	16.3	24	0	1020.5	0.01	0.01	9.8	22.90
02/08/2025 05:18	0.0	0.0	16.3	22	1	1020.6	-0.02	0.01	9.7	22.90
02/08/2025 06:18	0.0	0.0	16.3	23	0	1020.6	-0.02	0.00	11.3	22.89
02/08/2025 07:18	0.0	0.0	16.2	21	0	1020.7	-0.04	0.00	13.5	22.89
02/08/2025 08:18	0.0	0.0	16.2	23	0	1020.8	-0.03	0.00	15.1	22.89
02/08/2025 09:18	0.0	0.0	16.2	21	0	1020.8	0.00	0.00	16.1	22.88
02/08/2025 10:18	0.0	0.0	16.2	21	0	1020.6	0.01	-0.02	16.2	22.88
02/08/2025 11:18	0.0	0.0	16.2	21	1	1020.5	0.00	0.00	16.8	22.88

Date and Time	CH ₄ % v/v	CO ₂ % v/v	O ₂ % v/v	CO ppm/v	H ₂ S ppm/v	Atmospheric Pressure mbar	Average 8-hour atmospheric pressure change mbar	Flow Ltr/hr	Temperature °C	Water Level mbgl
04/08/2025 03:18	0.0	0.0	15.8	14	0	1016.4	-0.42	0.02	17.2	22.89
04/08/2025 04:18	0.0	0.0	15.8	16	0	1015.9	-0.50	0.02	17.5	22.90
04/08/2025 05:18	0.0	0.0	15.8	15	0	1015.4	-0.55	0.01	17.7	22.91
04/08/2025 06:18	0.0	0.0	15.8	12	0	1014.8	-0.58	0.06	17.5	22.93
04/08/2025 07:18	0.0	0.0	15.8	14	0	1014.1	-0.61	0.02	17.7	22.94
04/08/2025 08:18	0.0	0.0	15.8	13	0	1013.6	-0.63	0.03	17.8	22.95
04/08/2025 09:18	0.0	0.0	15.8	13	0	1013.3	-0.51	0.13	18.2	22.96
04/08/2025 10:18	0.0	0.0	15.8	11	0	1012.9	-0.44	0.16	18.2	22.96
04/08/2025 11:18	0.0	0.0	15.8	12	0	1012.8	-0.39	0.10	18.0	22.97
04/08/2025 12:18	0.0	0.0	15.8	12	0	1013.1	-0.29	-0.08	18.0	22.98
04/08/2025 13:18	0.0	0.0	15.8	12	0	1012.9	-0.24	0.00	18.6	22.98
04/08/2025 14:18	0.0	0.0	15.8	11	0	1013.8	-0.04	0.18	19.7	22.99
04/08/2025 15:18	0.0	0.0	15.8	12	0	1014.3	0.09	0.15	20.1	22.98
04/08/2025 16:18	0.0	0.0	15.8	12	0	1015.1	0.23	0.23	19.2	22.98
04/08/2025 17:18	0.0	0.0	15.8	13	0	1015.8	0.36	0.24	18.5	22.98
04/08/2025 18:18	0.0	0.0	15.8	11	0	1016.6	0.48	0.08	17.9	22.97
04/08/2025 19:18	0.0	0.0	15.8	12	0	1017.3	0.52	0.01	17.0	22.97
04/08/2025 20:18	0.0	0.0	15.7	10	0	1018.0	0.64	0.00	15.8	22.97
04/08/2025 21:18	0.0	0.0	15.7	12	0	1018.7	0.61	0.00	14.9	22.96
04/08/2025 22:18	0.0	0.0	15.7	10	0	1019.3	0.63	-0.01	14.2	22.95
04/08/2025 23:18	0.0	0.0	15.6	11	0	1019.9	0.60	0.02	13.7	22.95
05/08/2025 00:18	0.0	0.0	15.6	9	0	1020.3	0.56	0.03	13.3	22.95
05/08/2025 01:18	0.0	0.0	15.6	9	0	1020.3	0.46	0.16	12.9	22.94
05/08/2025 02:18	0.0	0.0	15.6	10	0	1020.4	0.39	0.10	12.6	22.94
05/08/2025 03:18	0.0	0.0	15.6	9	0	1020.6	0.33	0.01	12.3	22.95
05/08/2025 04:18	0.0	0.0	15.5	8	0	1020.9	0.27	0.05	12.1	22.95
05/08/2025 05:18	0.0	0.0	15.5	9	0	1021.2	0.24	0.03	12.2	22.95
05/08/2025 06:18	0.0	0.0	15.5	10	0	1021.7	0.23	0.00	12.7	22.95
05/08/2025 07:18	0.0	0.0	15.5	7	0	1022.3	0.25	-0.09	13.8	22.94
05/08/2025 08:18	0.0	0.0	15.5	8	0	1022.8	0.31	0.04	14.8	22.94
05/08/2025 09:18	0.0	0.0	15.5	8	0	1023.3	0.36	0.17	15.7	22.93
05/08/2025 10:18	0.0	0.0	15.5	7	0	1024.0	0.42	0.19	16.3	22.92
05/08/2025 11:18	0.0	0.0	15.4	11	0	1024.7	0.48	0.16	16.8	22.92
05/08/2025 12:18	0.0	0.0	15.5	10	0	1025.4	0.53	0.02	17.1	22.91
05/08/2025 13:18	0.0	0.0	15.5	8	0	1025.8	0.51	0.14	17.3	22.91
05/08/2025 14:18	0.0	0.0	15.5	9	0	1026.0	0.46	0.20	17.5	22.90
05/08/2025 15:18	0.0	0.0	15.5	7	0	1026.2	0.43	0.13	17.8	22.90
05/08/2025 16:18	0.0	0.0	15.5	9	0	1026.5	0.40	0.10	17.5	22.90
05/08/2025 17:18	0.0	0.0	15.5	7	0	1026.4	0.30	0.11	17.3	22.90
05/08/2025 18:18	0.0	0.0	15.5	10	0	1026.5	0.22	0.00	16.9	22.91
05/08/2025 19:18	0.0	0.0	15.5	8	0	1026.6	0.15	0.00	15.9	22.90
05/08/2025 20:18	0.0	0.0	15.5	7	0	1026.8	0.13	0.00	13.9	22.90
05/08/2025 21:18	0.0	0.0	15.4	5	0	1027.1	0.14	0.00	13.3	22.90
05/08/2025 22:18	0.0	0.0	15.4	5	0	1027.4	0.15	0.00	13.1	22.90
05/08/2025 23:18	0.0	0.0	15.4	4	0	1027.4	0.11	0.00	12.1	22.89
06/08/2025 00:18	0.0	0.0	15.3	7	0	1027.3	0.11	0.00	12.2	22.89
06/08/2025 01:18	0.0	0.0	15.3	7	0	1026.8	0.04	0.00	10.8	22.89
06/08/2025 02:18	0.0	0.0	15.2	6	0	1026.2	-0.05	0.00	10.8	22.90
06/08/2025 03:18	0.0	0.0	15.3	5	0	1025.9	-0.11	0.00	11.0	22.91
06/08/2025 04:18	0.0	0.0	15.2	6	0	1026.1	-0.13	0.00	10.8	22.91
06/08/2025 05:18	0.0	0.0	15.2	6	0	1025.9	-0.19	0.00	10.1	22.92
06/08/2025 06:18	0.0	0.0	15.2	4	0	1025.6	-0.23	0.00	11.3	22.92
06/08/2025 07:18	0.0	0.0	15.2	4	0	1025.7	-0.20	0.00	13.5	22.92
06/08/2025 08:18	0.0	0.0	15.2	4	0	1025.7	-0.14	0.00	15.0	22.91
06/08/2025 09:18	0.0	0.0	15.1	6	0	1025.2	-0.13	0.00	16.2	22.91
06/08/2025 10:18	0.0	0.0	15.1	5	0	1024.9	-0.13	0.02	16.9	22.91
06/08/2025 11:18	0.0	0.0	15.1	4	0	1024.8	-0.16	0.02	17.5	22.92
06/08/2025 12:18	0.0	0.0	15.2	5	0	1024.2	-0.21	0.01	17.7	22.92
06/08/2025 13:18	0.0	0.0	15.2	4	0	1023.3	-0.29	0.01	18.1	22.92
06/08/2025 14:18	0.0	0.0	15.2	6	0	1022.9	-0.35	0.01	18.2	22.92
06/08/2025 15:18	0.0	0.0	15.2	5	0	1022.5	-0.40	0.01	17.3	22.93
06/08/2025 16:18	0.0	0.0	15.2	6	0	1021.9	-0.41	0.00	16.7	22.93
06/08/2025 17:18	0.0	0.0	15.2	6	0	1021.2	-0.46	0.00	16.6	22.94
06/08/2025 18:18	0.0	0.0	15.2	6	0	1020.2	-0.57	0.00	16.0	22.95
06/08/2025 19:18	0.0	0.0	15.2	5	0	1019.9	-0.54	0.00	15.5	22.96
06/08/2025 20:18	0.0	0.0	15.2	6	0	1019.5	-0.47	0.00	15.2	22.97
06/08/2025 21:18	0.0	0.0	15.2	5	0	1018.9	-0.50	0.00	14.8	22.97
06/08/2025 22:18	0.0	0.0	15.2	4	0	1018.5	-0.50	0.00	14.4	22.98
06/08/2025 23:18	0.0	0.0	15.2	4	0	1017.8	-0.51	0.00	15.3	22.98
07/08/2025 00:18	0.0	0.0	15.1	4	0	1017.6	-0.45	0.03	15.5	22.98
07/08/2025 01:18	0.0	0.0	15.1	4	0	1016.6	-0.45	0.00	15.5	22.99
07/08/2025 02:18	0.0	0.0	15.1	5	0	1016.1	-0.47	0.02	15.6	23.00
07/08/2025 03:18	0.0	0.0	15.1	5	0	1015.3	-0.53	0.11	15.7	23.00
07/08/2025 04:18	0.0	0.0	15.1	5	0	1014.7	-0.52	0.02	15.9	23.01
07/08/2025 05:18	0.0	0.0	15.1	5	0	1013.9	-0.58	0.10	15.9	23.01
07/08/2025 06:18	0.0	0.0	15.1	4	0	1014.0	-0.47	0.02	15.8	23.01
07/08/2025 07:18	0.0	0.0	15.1	6	0	1013.8	-0.48	0.01	15.6	23.01
07/08/2025 08:18	0.0	0.0	15.1	3	0	1013.6	-0.38	0.00	16.1	23.00
07/08/2025 09:18	0.0	0.0	15.1	5	0	1013.3	-0.35	0.05	16.1	23.00
07/08/2025 10:18	0.0	0.0	15.0	3	0	1013.2	-0.26	-0.04	16.2	22.99
07/08/2025 11:18	0.0	0.0	15.0	5	0	1013.1	-0.20	0.09	16.8	22.99
07/08/2025 12:18	0.0	0.0	15.0	3	0	1012.9	-0.13	0.01	17.4	22.99
07/08/2025 13:18	0.0	0.0	15.0	3	0	1013.2	-0.10	0.01	18.1	22.99
07/08/2025 14:18	0.0	0.0	15.0	2	0	1013.1	-0.09	0.02	18.3	22.99
07/08/2025 15:18	0.0	0.0	15.0	2	0	1013.0	-0.08	0.01	18.8	22.99
07/08/2025 16:18	0.0	0.0	15.0	3	0	1013.2	-0.01	0.02	18.2	23.00
07/08/2025 17:18	0.0	0.0	15.0	3	0	1013.3	0.01	-0.01	18.3	22.99
07/08/2025 18:18	0.0	0.0	15.0	5	0	1013.7	0.08	0.01	17.4	23.00
07/08/2025 19:18	0.0	0.0	15.0	2	0	1014.0	0.14	0.03	16.6	22.99
07/08/2025 20:18	0.0	0.0	15.0	2	0	1014.5	0.16	0.00	15.7	22.98
07/08/2025 21:18	0.0	0.0	15.0	3	0	1014.9	0.22	-0.01	15.0	22.98
07/08/2025 22:18	0.0	0.0	15.0	5	0	1015.3	0.29	0.00	14.6	22.97
07/08/2025 23:18	0.0	0.0	14.9	4	0	1015.5	0.29	0.00	14.4	22.96
08/08/2025 00:18	0.0	0.0	15.0	3	0	1015.8	0.31	0.00	14.4	22.96
08/08/2025 01:18	0.0	0.0	14.9	2	0	1016.1	0.30	0.00	13.9	22.96
08/08/2025 02:18	0.0	0.0	14.9	2	0	1016.4	0.30	0.00	14.0	22.96
08/08/2025 03:18	0.0	0.0	14.9	2	0	1016.7	0.28	0.00	13.5	22.96
08/08/2025 04:18	0.0	0.0	14.9	4	0	1017.4	0.31	0.00	13.1	22.96
08/08/2025 05:18	0.0	0.0	14.9	0	0	1017.9	0.33	0.00	12.6	22.95
08/08/2025 06:18	0.0	0.0	14.9	2	0	1018.4	0.36	0.00	13.2	22.95
08/08/2025 07:18	0.0	0.0	14.9	2	0	1019.1	0.41	0.00	14.3	22.93
08/08/2025 08:18	0.0	0.0	14.9	1	0	1019.4	0.41	0.00	15.7	22.92
08/08/2025 09:18	0.0	0.0	14.9	2	0	1019.7	0.41	0.00	16.7	22.91
08/08/2025 10:18	0.0	0.0	14.9	1	0	1019.9	0.40	-0.01	17.5	22.91
08/08/2025 11:18	0.0	0.0	14.8	1	0	1019.8	0.30	0.00	18.1	22.90
08/08/2025 12:18	0.0	0.0	14.9	1	0	1019.9	0.25	0.06	18.5	22.90
08/08/2025 13:18	0.0	0.0	14.9	2	0	1020.6	0.28	0.00	18.4	22.89
08/08/2025 14:18	0.0	0.0	14.9	2	0	1020.6	0.19	0.05	18.0	22.89
08/08/2025 15:18	0.0	0.0	14.9	3	0	1020.5	0.14	0.05	18.6	22.90
08/08/2025 16:18	0.0	0.0	14.9	2	0	1020.4	0.09	-0.01	18.2	22.89
08/08/2025 17:18	0.0	0.0	14.9	1	0	1020.2	0.04			

Date and Time	CH ₄ % v/v	CO ₂ % v/v	O ₂ % v/v	CO ppm/v	H ₂ S ppm/v	Atmospheric Pressure mbar	Average 8-hour atmospheric pressure change mbar	Flow Ltr/hr	Temperature °C	Water Level mbgl
10/08/2025 08:18	0.0	0.0	14.6	0	0	1028.1	0.19	0.00	16.6	22.74
10/08/2025 09:18	0.0	0.0	14.6	0	0	1028.3	0.19	0.00	18.1	22.73
10/08/2025 10:18	0.0	0.0	14.6	0	0	1028.4	0.19	0.00	19.1	22.73
10/08/2025 11:18	0.0	0.0	14.6	2	0	1028.3	0.16	0.00	19.9	22.73
10/08/2025 12:18	0.0	0.0	14.6	0	0	1028.0	0.10	-0.01	20.6	22.73
10/08/2025 13:18	0.0	0.0	14.6	0	0	1027.7	0.01	0.00	21.6	22.74
10/08/2025 14:18	0.0	0.0	14.7	0	0	1027.5	-0.06	0.00	21.5	22.74
10/08/2025 15:18	0.0	0.0	14.7	2	0	1027.2	-0.11	-0.01	21.8	22.75
10/08/2025 16:18	0.0	0.0	14.7	1	0	1026.7	-0.20	0.00	22.0	22.76
10/08/2025 17:18	0.0	0.0	14.7	1	0	1026.2	-0.28	0.00	21.9	22.76
10/08/2025 18:18	0.0	0.0	14.7	2	0	1025.6	-0.34	0.00	21.4	22.77
10/08/2025 19:18	0.0	0.0	14.7	1	0	1025.4	-0.32	0.00	19.7	22.78
10/08/2025 20:18	0.0	0.0	14.7	1	0	1025.9	-0.22	0.00	18.0	22.78
10/08/2025 21:18	0.0	0.0	14.7	1	0	1026.1	-0.18	0.00	17.2	22.77
10/08/2025 22:18	0.0	0.0	14.7	0	0	1025.9	-0.16	0.00	16.4	22.77
10/08/2025 23:18	0.0	0.0	14.7	0	0	1025.7	-0.13	0.00	15.6	22.76
11/08/2025 00:18	0.0	0.0	14.6	1	0	1025.5	-0.09	0.00	14.9	22.76
11/08/2025 01:18	0.0	0.0	14.6	3	0	1025.0	-0.07	0.00	13.8	22.77
11/08/2025 02:18	0.0	0.0	14.6	0	0	1024.5	-0.11	0.00	13.2	22.77
11/08/2025 03:18	0.0	0.0	14.6	1	0	1024.1	-0.23	0.00	12.9	22.77
11/08/2025 04:18	0.0	0.0	14.5	0	0	1023.4	-0.34	0.00	13.0	22.77
11/08/2025 05:18	0.0	0.0	14.5	0	0	1023.2	-0.34	0.00	12.9	22.77
11/08/2025 06:18	0.0	0.0	14.5	1	0	1022.8	-0.36	0.00	14.2	22.78
11/08/2025 07:18	0.0	0.0	14.5	0	0	1022.6	-0.36	0.00	17.9	22.77
11/08/2025 08:18	0.0	0.0	14.5	3	0	1022.9	-0.26	0.00	19.7	22.76
11/08/2025 09:18	0.0	0.0	14.5	0	0	1022.8	-0.21	-0.02	20.7	22.75
11/08/2025 10:18	0.0	0.0	14.5	0	0	1022.5	-0.20	-0.01	21.6	22.70
11/08/2025 11:18	0.0	0.0	14.5	0	0	1021.9	-0.19	-0.01	22.8	22.67
11/08/2025 12:18	0.0	0.0	14.6	0	0	1021.7	-0.19	0.00	23.5	22.67
11/08/2025 13:18	0.0	0.0	14.6	0	0	1021.3	-0.19	0.00	24.1	22.67
11/08/2025 14:18	0.0	0.0	14.6	1	0	1020.7	-0.24	0.00	23.8	22.68
11/08/2025 15:18	0.0	0.0	14.7	0	0	1020.2	-0.34	0.00	24.6	22.68
11/08/2025 16:18	0.0	0.0	14.7	1	0	1019.6	-0.40	0.00	24.3	22.68
11/08/2025 17:18	0.0	0.0	14.7	0	0	1018.9	-0.45	-0.02	23.7	22.69
11/08/2025 18:18	0.0	0.0	14.6	4	0	1018.0	-0.49	0.00	22.7	22.69
11/08/2025 19:18	0.0	0.0	14.7	0	0	1017.5	-0.53	0.00	21.5	22.70
11/08/2025 20:18	0.0	0.0	14.7	1	0	1017.3	-0.50	0.00	20.1	22.70
11/08/2025 21:18	0.0	0.0	14.7	2	0	1018.0	-0.34	0.00	19.2	22.83
11/08/2025 22:18	0.0	0.0	14.6	1	0	1017.1	-0.39	-0.09	19.7	22.83
11/08/2025 23:18	0.0	0.0	14.7	0	0	1017.6	-0.25	-0.06	18.0	22.83
12/08/2025 00:18	0.0	0.0	14.6	0	0	1017.1	-0.22	-0.01	18.2	22.83
12/08/2025 01:18	0.0	0.0	14.6	2	0	1016.6	-0.17	0.00	17.5	22.83
12/08/2025 02:18	0.0	0.0	14.6	0	0	1015.6	-0.24	0.00	18.7	22.83
12/08/2025 03:18	0.0	0.0	14.6	2	0	1014.8	-0.31	0.00	18.9	22.83
12/08/2025 04:18	0.0	0.0	14.5	0	0	1014.0	-0.50	-0.01	19.3	22.83
12/08/2025 05:18	0.0	0.0	14.5	1	0	1013.7	-0.42	-0.10	19.1	22.83
12/08/2025 06:18	0.0	0.0	14.5	0	0	1014.0	-0.45	-0.01	19.4	22.83
12/08/2025 07:18	0.0	0.0	14.5	0	0	1014.0	-0.39	-0.01	20.8	22.83
12/08/2025 08:18	0.0	0.0	14.5	2	0	1014.0	-0.33	-0.02	22.5	22.83
12/08/2025 09:18	0.0	0.0	14.5	1	0	1014.0	-0.20	0.00	24.0	22.83
12/08/2025 10:18	0.0	0.0	14.6	1	0	1014.0	-0.10	0.00	24.9	22.83
12/08/2025 11:18	0.0	0.0	14.6	1	0	1013.7	-0.04	0.00	25.9	22.83
12/08/2025 12:18	0.0	0.0	14.6	1	0	1014.1	0.05	-0.06	26.2	22.83
12/08/2025 13:18	0.0	0.0	14.7	0	0	1013.1	-0.11	-0.03	28.2	22.83
12/08/2025 14:18	0.0	0.0	14.7	1	0	1012.8	-0.15	-0.01	28.8	22.83
12/08/2025 15:18	0.0	0.0	14.7	2	0	1012.5	-0.19	-0.07	28.8	22.83
12/08/2025 16:18	0.0	0.0	14.8	1	0	1012.1	-0.24	-0.06	28.8	22.83
12/08/2025 17:18	0.0	0.0	14.8	1	0	1011.9	-0.26	-0.02	28.3	22.83
12/08/2025 18:18	0.0	0.0	14.7	2	0	1011.9	-0.23	0.00	27.2	22.83
12/08/2025 19:18	0.0	0.0	14.8	1	0	1012.3	-0.23	0.00	23.4	22.83
12/08/2025 20:18	0.0	0.0	14.8	1	0	1012.9	-0.03	0.00	20.7	22.83
12/08/2025 21:18	0.0	0.0	14.8	0	0	1013.7	0.11	0.00	19.1	22.83
12/08/2025 22:18	0.0	0.0	14.7	1	0	1013.8	0.16	0.00	18.0	22.83
12/08/2025 23:18	0.0	0.0	14.7	1	0	1013.6	0.19	0.00	17.4	22.83
13/08/2025 00:18	0.0	0.0	14.7	2	0	1013.8	0.24	0.00	16.8	22.83
13/08/2025 01:18	0.0	0.0	14.7	1	0	1013.7	0.23	0.00	15.8	22.83
13/08/2025 02:18	0.0	0.0	14.6	2	0	1013.6	0.16	0.00	15.1	22.83
13/08/2025 03:18	0.0	0.0	14.6	1	0	1013.4	0.06	0.00	16.3	22.83
13/08/2025 04:18	0.0	0.0	14.6	0	0	1013.4	-0.04	0.00	16.8	22.83
13/08/2025 05:18	0.0	0.0	14.6	0	0	1013.3	-0.06	0.00	17.0	22.83
13/08/2025 06:18	0.0	0.0	14.6	1	0	1013.5	-0.01	0.00	17.2	22.83
13/08/2025 07:18	0.0	0.0	14.6	3	0	1013.7	-0.01	0.00	17.5	22.83
13/08/2025 08:18	0.0	0.0	14.5	2	0	1013.9	0.02	0.00	18.0	22.83
13/08/2025 09:18	0.0	0.0	14.6	0	0	1014.2	0.08	0.00	18.6	22.83
13/08/2025 10:18	0.0	0.0	14.5	0	0	1014.5	0.14	0.00	19.5	22.83
13/08/2025 11:18	0.0	0.0	14.5	0	0	1014.3	0.11	0.00	20.2	22.83
13/08/2025 12:18	0.0	0.0	14.5	1	0	1014.0	0.09	0.00	21.2	22.83

Time Series Data

Project Ref:	GGS4085
Project Name:	The Paddocks, Dyffryn Farm, Neath
Borehole ref:	BH03
Instrument Name and ID:	GC-50 + FD-01
Start Date:	23/07/2025 16:43
End Date:	13/08/2025 12:43
Days of monitoring:	21
Monitoring Frequency (mins):	01:00:00
Total samples taken:	501



Summary Table

	CH ₄	CO ₂	O ₂	CO	H ₂ S	Atmospheric Pressure	Average 8-hour atmospheric pressure change	Flow	Temperature	Water Level
Minimum	0.0	0.0	14.7	3	15	1011.9	-0.63	-0.04	9.7	22.87
Maximum	0.2	0.0	19.7	118	20	1028.4	0.64	0.33	28.8	23.23
Range	0.2	0.0	5.0	115	5	16.5	1.26	0.38	19.1	0.36

Date and Time	CH ₄ % v/v	CO ₂ % v/v	O ₂ % v/v	CO ppm/v	H ₂ S ppm/v	Atmospheric Pressure mbar	Average 8-hour atmospheric pressure change mbar	Flow Ltr/hr	Temperature °C	Water Level mbgl
23/07/2025 16:43	0.0	0.0	19.7	89	20	1016.7	N/A	0.00	18.0	23.02
23/07/2025 17:43	0.0	0.0	19.6	100	20	1016.7	N/A	0.00	17.6	23.03
23/07/2025 18:43	0.0	0.0	19.5	100	20	1017.1	N/A	0.00	17.0	23.05
23/07/2025 19:43	0.0	0.0	19.3	101	19	1017.0	N/A	0.00	16.2	23.07
23/07/2025 20:43	0.0	0.0	19.2	104	19	1017.6	N/A	0.00	15.2	23.08
23/07/2025 21:43	0.0	0.0	19.1	102	19	1018.1	N/A	0.00	14.2	23.08
23/07/2025 22:43	0.0	0.0	19.0	101	19	1018.4	N/A	0.00	13.7	23.08
23/07/2025 23:43	0.0	0.0	19.0	101	19	1018.5	N/A	0.00	13.3	23.08
24/07/2025 00:43	0.0	0.0	18.9	101	19	1018.7	0.25	0.00	13.0	23.09
24/07/2025 01:43	0.0	0.0	18.8	99	19	1018.6	0.19	0.00	13.2	23.09
24/07/2025 02:43	0.0	0.0	18.7	98	19	1018.8	0.22	0.00	13.0	23.10
24/07/2025 03:43	0.0	0.0	18.7	97	19	1019.0	0.17	0.00	12.6	23.10
24/07/2025 04:43	0.0	0.0	18.6	95	19	1019.0	0.11	0.00	12.4	23.11
24/07/2025 05:43	0.0	0.0	18.5	98	19	1019.3	0.11	0.00	12.5	23.12
24/07/2025 06:43	0.0	0.0	18.5	93	19	1019.6	0.14	0.00	13.7	23.12
24/07/2025 07:43	0.0	0.0	18.5	95	19	1019.5	0.10	0.00	15.1	23.12
24/07/2025 08:43	0.0	0.0	18.4	93	18	1019.4	0.10	0.00	16.5	23.13
24/07/2025 09:43	0.0	0.0	18.4	95	18	1019.6	0.10	0.00	17.8	23.14
24/07/2025 10:43	0.0	0.0	18.4	96	18	1019.7	0.09	0.00	19.1	23.14
24/07/2025 11:43	0.0	0.0	18.5	97	19	1020.0	0.13	0.00	20.1	23.14
24/07/2025 12:43	0.0	0.0	18.6	102	19	1020.2	0.11	0.00	19.7	23.15
24/07/2025 13:43	0.0	0.0	18.6	105	19	1020.3	0.09	0.00	20.4	23.15
24/07/2025 14:43	0.0	0.0	18.6	108	19	1020.3	0.10	0.00	20.5	23.15
24/07/2025 15:43	0.0	0.0	18.7	109	19	1020.3	0.11	0.00	20.0	23.16
24/07/2025 16:43	0.0	0.0	18.7	108	19	1020.4	0.10	0.00	18.9	23.17
24/07/2025 17:43	0.0	0.0	18.7	115	19	1020.4	0.09	0.00	18.2	23.17
24/07/2025 18:43	0.0	0.0	18.7	118	19	1020.4	0.05	0.00	18.0	23.18
24/07/2025 19:43	0.0	0.0	18.7	117	19	1020.4	0.02	0.00	17.2	23.18
24/07/2025 20:43	0.0	0.0	18.7	114	19	1020.6	0.04	0.00	15.9	23.18
24/07/2025 21:43	0.0	0.0	18.6	111	19	1021.0	0.09	0.00	14.7	23.18
24/07/2025 22:43	0.0	0.0	18.5	108	19	1021.2	0.11	0.00	14.0	23.18
24/07/2025 23:43	0.0	0.0	18.5	106	19	1021.2	0.10	0.00	13.3	23.18
25/07/2025 00:43	0.0	0.0	18.4	102	18	1021.0	0.08	0.02	12.8	23.18
25/07/2025 01:43	0.0	0.0	18.4	100	18	1021.0	0.08	0.08	12.3	23.18
25/07/2025 02:43	0.0	0.0	18.3	98	18	1020.8	0.05	0.06	11.8	23.18
25/07/2025 03:43	0.0	0.0	18.3	96	18	1020.5	-0.01	0.00	11.4	23.19
25/07/2025 04:43	0.0	0.0	18.2	94	18	1020.5	-0.06	0.03	11.2	23.19
25/07/2025 05:43	0.0	0.0	18.2	93	18	1020.6	-0.08	0.02	11.0	23.19
25/07/2025 06:43	0.0	0.0	18.1	92	18	1020.6	-0.08	0.00	12.4	23.19
25/07/2025 07:43	0.0	0.0	18.1	91	18	1020.5	-0.06	0.00	14.2	23.19
25/07/2025 08:43	0.0	0.0	18.1	91	18	1020.8	-0.03	0.00	16.1	23.19
25/07/2025 09:43	0.0	0.0	18.1	93	18	1020.8	0.00	0.00	17.4	23.19
25/07/2025 10:43	0.0	0.0	18.1	92	18	1020.5	0.00	0.00	18.9	23.19
25/07/2025 11:43	0.0	0.0	18.2	96	18	1020.3	-0.03	0.00	19.6	23.19
25/07/2025 12:43	0.0	0.0	18.2	102	18	1020.2	-0.05	0.00	19.4	23.19
25/07/2025 13:43	0.0	0.0	18.3	104	18	1020.0	-0.08	0.01	20.4	23.19
25/07/2025 14:43	0.0	0.0	18.3	106	18	1019.9	-0.08	0.00	20.4	23.19
25/07/2025 15:43	0.0	0.0	18.3	105	18	1019.7	-0.14	0.02	19.8	23.19
25/07/2025 16:43	0.0	0.0	18.3	106	18	1019.5	-0.16	0.00	19.9	23.20
25/07/2025 17:43	0.0	0.0	18.3	109	18	1019.3	-0.15	0.01	19.2	23.20
25/07/2025 18:43	0.0	0.0	18.3	107	18	1019.2	-0.14	0.06	18.0	23.20
25/07/2025 19:43	0.0	0.0	18.3	105	18	1019.1	-0.14	0.00	17.8	23.20
25/07/2025 20:43	0.0	0.0	18.2	102	18	1018.9	-0.14	0.07	17.7	23.21
25/07/2025 21:43	0.0	0.0	18.2	102	18	1019.0	-0.11	0.01	17.6	23.21
25/07/2025 22:43	0.0	0.0	18.2	102	18	1019.1	-0.08	-0.01	17.2	23.21
25/07/2025 23:43	0.0	0.0	18.1	99	18	1018.9	-0.08	0.01	16.2	23.21
26/07/2025 00:43	0.0	0.0	18.1	98	18	1019.0	-0.04	-0.04	15.2	23.21
26/07/2025 01:43	0.0	0.0	18.1	97	18	1018.5	-0.09	0.03	15.5	23.21
26/07/2025 02:43	0.0	0.0	18.1	95	18	1018.3	-0.10	0.10	15.7	23.22
26/07/2025 03:43	0.0	0.0	18.0	94	18	1017.9	-0.13	0.09	15.9	23.22
26/07/2025 04:43	0.0	0.0	18.0	93	18	1017.4	-0.20	0.08	16.1	23.23
26/07/2025 05:43	0.0	0.0	18.0	93	18	1017.2	-0.24	0.04	16.1	23.23
26/07/2025 06:43	0.0	0.0	18.0	92	18	1017.5	-0.17	0.00	16.1	23.23
26/07/2025 07:43	0.0	0.0	18.0	90	18	1017.9	-0.14	0.00	16.3	23.23
26/07/2025 08:43	0.0	0.0	18.0	92	18	1017.9	-0.08	0.00	16.8	23.22
26/07/2025 09:43	0.0	0.0	18.0	92	18	1018.1	-0.02	0.00	17.4	23.22
26/07/2025 10:43	0.0	0.0	18.0	93	18	1018.4	0.06	0.00	17.3	23.22
26/07/2025 11:43	0.0	0.0	17.9	94	18	1018.5	0.14	0.00	18.6	23.21
26/07/2025 12:43	0.0	0.0	18.0	93	18	1018.6	0.17	0.00	19.3	23.21
26/07/2025 13:43	0.0	0.0	18.0	95	18	1018.7	0.15	0.00	19.4	23.21
26/07/2025 14:43	0.0	0.0	18.0	97	18	1018.8	0.11	0.00	18.8	23.21
26/07/2025 15:43	0.0	0.0	18.0	96	18	1018.8	0.11	0.00	18.6	23.21
26/07/2025 16:43	0.0	0.0	18.0	96	18	1018.9	0.10	0.01	18.5	23.21
26/07/2025 17:43	0.0	0.0	18.0	97	18	1018.9	0.06	0.00	18.2	23.21
26/07/2025 18:43	0.0	0.0	18.0	96	18	1019.1	0.08	0.01	17.5	23.21
26/07/2025 19:43	0.0	0.0	18.0	94	18	1019.4	0.10	0.02	16.7	23.21
26/07/2025 20:43	0.0	0.0	17.9	92	18	1019.5	0.10	0.00	15.3	23.21
26/07/2025 21:43	0.0	0.0	17.9	87	18	1020.0	0.15	0.01	14.8	23.20
26/07/2025 22:43	0.0	0.0	17.8	87	18	1019.8	0.13	0.05	14.5	23.20
26/07/2025 23:43	0.0	0.0	17.8	86	18	1019.5	0.08	0.02	14.2	23.20
27/07/2025 00:43	0.0	0.0	17.7	83	18	1019.4	0.06	0.04	13.7	23.20
27/07/2025 01:43	0.0	0.0	17.7	83	18	1019.4	0.04	0.12	13.4	23.20
27/07/2025 02:43	0.0	0.0	17.7	82	18	1019.0	-0.05	0.12	13.7	23.20
27/07/2025 03:43	0.0	0.0	17.7	80	18	1018.7	-0.10	0.08	13.7	23.20
27/07/2025 04:43	0.0	0.0	17.6	81	18	1018.6	-0.17	0.15	13.6	23.20
27/07/2025 05:43	0.0	0.0	17.6	79	18	1018.6	-0.15	0.13	13.8	23.20
27/07/2025 06:43	0.0	0.0	17.6	78	18	1018.7	-0.10	0.05	14.3	23.19
27/07/2025 07:43	0.0	0.0	17.6	79	18	1018.7	-0.09	0.00	15.0	23.19
27/07/2025 08:43	0.0	0.0	17.6	78	18	1018.8	-0.08	0.01	15.5	23.18
27/07/2025 09:43	0.0	0.0	17.6	78	18	1018.9	-0.01	0.01	16.1	23.18
27/07/2025 10:43	0.0	0.0	17.6	80	18	1019.0	0.04	0.01	16.4	23.17
27/07/2025 11:43	0.0	0.0	17.7	82	18	1019.0	0.05	0.03	17.7	23.17
27/07/2025 12:43	0.0	0.0	17.7	82	18	1019.0	0.05	0.01	18.0	23.16
27/07/2025 13:43	0.0	0.0	17.7	83	18	1019.1	0.05	0.00	17.4	23.16
27/07/2025 14:43	0.0	0.0	17.7	83	18	1018.9	0.02	0.04	18.0	23.16
27/07/2025 15:43	0.0	0.0	17.7	83	18	1018.7	-0.01	0.02	18.3	23.15
27/07/2025 16:43	0.0	0.0	17.7	83	18	1019.3	0.05	0.00	15.5	23.15
27/07/2025 17:43	0.0	0.0	17.7	82	18	1019.0	0.00	0.00	16.5	23.15
27/07/2025 18:43	0.0	0.0	17.7	81	18	1019.2	0.03	0.02	17.2	23.15
27/07/2025 19:43	0.0	0.0	17.7	83	18	1019.6	0.08	0.04	16.3	23.15
27/07/2025 20:43	0.0	0.0	17.7	80	18	1020.2	0.14	0.07	14.7	23.14

Date and Time	CH ₄	CO ₂	O ₂	CO	H ₂ S	Atmospheric Pressure	Average 8-hour atmospheric pressure change	Flow	Temperature	Water Level
	% v/v	% v/v	% v/v	ppm/v	ppm/v	mbar	mbar	Ltr/hr	°C	mbgl
27/07/2025 21:43	0.0	0.0	17.7	78	18	1020.7	0.23	0.10	13.4	23.14
27/07/2025 22:43	0.0	0.0	17.6	77	18	1021.0	0.29	0.01	12.7	23.13
27/07/2025 23:43	0.0	0.0	17.6	74	18	1021.1	0.23	0.09	12.3	23.13
28/07/2025 00:43	0.0	0.0	17.5	74	18	1021.1	0.26	0.06	12.0	23.13
28/07/2025 01:43	0.0	0.0	17.5	70	18	1021.0	0.22	0.08	12.2	23.12
28/07/2025 02:43	0.0	0.0	17.4	70	17	1021.0	0.17	0.08	12.1	23.12
28/07/2025 03:43	0.0	0.0	17.4	70	17	1020.8	0.07	0.04	12.0	23.12
28/07/2025 04:43	0.0	0.0	17.4	69	17	1020.9	0.02	0.05	12.3	23.12
28/07/2025 05:43	0.0	0.0	17.4	68	17	1020.9	-0.01	0.10	12.5	23.12
28/07/2025 06:43	0.0	0.0	17.4	67	17	1021.3	0.02	0.13	13.6	23.12
28/07/2025 07:43	0.0	0.0	17.4	67	17	1021.7	0.08	0.14	15.1	23.11
28/07/2025 08:43	0.0	0.0	17.4	67	17	1021.9	0.11	0.12	16.6	23.11
28/07/2025 09:43	0.0	0.0	17.4	65	17	1022.0	0.13	0.07	17.4	23.10
28/07/2025 10:43	0.0	0.0	17.4	68	17	1021.8	0.13	0.04	18.3	23.09
28/07/2025 11:43	0.0	0.0	17.5	70	18	1021.5	0.08	0.00	18.5	23.09
28/07/2025 12:43	0.0	0.0	17.5	72	18	1021.6	0.09	0.00	18.9	23.08
28/07/2025 13:43	0.0	0.0	17.6	73	18	1022.0	0.09	0.00	19.1	23.08
28/07/2025 14:43	0.0	0.0	17.6	71	18	1021.9	0.02	0.01	19.1	23.08
28/07/2025 15:43	0.0	0.0	17.6	74	18	1021.5	-0.05	0.00	19.4	23.07
28/07/2025 16:43	0.0	0.0	17.6	72	18	1021.4	-0.08	0.00	19.2	23.07
28/07/2025 17:43	0.0	0.0	17.6	75	18	1021.4	-0.05	0.00	18.7	23.07
28/07/2025 18:43	0.0	0.0	17.7	74	18	1021.6	0.01	0.00	18.2	23.07
28/07/2025 19:43	0.0	0.0	17.6	74	18	1021.9	0.04	0.00	17.5	23.07
28/07/2025 20:43	0.0	0.0	17.6	73	18	1022.1	0.01	0.00	16.0	23.06
28/07/2025 21:43	0.0	0.0	17.5	70	18	1022.5	0.08	0.00	14.5	23.05
28/07/2025 22:43	0.0	0.0	17.5	68	18	1022.7	0.15	0.00	13.5	23.05
28/07/2025 23:43	0.0	0.0	17.5	67	18	1022.5	0.14	0.00	13.1	23.04
29/07/2025 00:43	0.0	0.0	17.4	63	17	1022.2	0.10	0.00	13.2	23.04
29/07/2025 01:43	0.0	0.0	17.4	63	17	1021.9	0.04	0.01	12.8	23.04
29/07/2025 02:43	0.0	0.0	17.3	61	17	1021.4	-0.06	0.01	13.0	23.04
29/07/2025 03:43	0.0	0.0	17.3	60	17	1020.8	-0.16	0.08	14.2	23.05
29/07/2025 04:43	0.0	0.0	17.3	60	17	1020.0	-0.31	0.01	14.4	23.05
29/07/2025 05:43	0.0	0.0	17.3	59	17	1019.8	-0.36	0.00	14.9	23.05
29/07/2025 06:43	0.0	0.0	17.3	58	17	1019.5	-0.38	0.00	15.5	23.06
29/07/2025 07:43	0.0	0.0	17.3	58	17	1019.4	-0.35	0.00	15.9	23.06
29/07/2025 08:43	0.0	0.0	17.3	58	17	1019.5	-0.30	0.00	16.3	23.07
29/07/2025 09:43	0.0	0.0	17.3	56	17	1019.1	-0.29	0.01	16.9	23.07
29/07/2025 10:43	0.0	0.0	17.3	59	17	1019.3	-0.19	0.00	17.6	23.07
29/07/2025 11:43	0.0	0.0	17.4	60	17	1019.3	-0.09	0.00	18.5	23.07
29/07/2025 12:43	0.0	0.0	17.4	62	17	1019.4	-0.05	0.00	18.9	23.07
29/07/2025 13:43	0.0	0.0	17.4	62	17	1019.7	0.03	0.00	19.0	23.07
29/07/2025 14:43	0.0	0.0	17.4	61	17	1019.8	0.05	0.00	19.0	23.07
29/07/2025 15:43	0.0	0.0	17.4	61	17	1019.7	0.03	0.00	19.1	23.07
29/07/2025 16:43	0.0	0.0	17.4	62	17	1019.7	0.08	0.03	19.3	23.08
29/07/2025 17:43	0.0	0.0	17.4	60	17	1019.4	0.01	0.00	19.2	23.08
29/07/2025 18:43	0.0	0.0	17.4	61	17	1019.6	0.04	0.01	19.0	23.08
29/07/2025 19:43	0.0	0.0	17.4	63	17	1019.7	0.04	0.00	18.2	23.09
29/07/2025 20:43	0.0	0.0	17.4	59	17	1019.9	0.02	0.00	16.9	23.09
29/07/2025 21:43	0.0	0.0	17.4	60	17	1020.4	0.08	0.00	16.0	23.09
29/07/2025 22:43	0.0	0.0	17.4	57	17	1020.4	0.09	0.00	15.4	23.08
29/07/2025 23:43	0.0	0.0	17.3	57	17	1020.5	0.10	0.00	15.0	23.08
30/07/2025 00:43	0.0	0.0	17.3	56	17	1020.5	0.14	0.00	15.0	23.08
30/07/2025 01:43	0.0	0.0	17.3	54	17	1020.4	0.10	0.04	14.8	23.09
30/07/2025 02:43	0.0	0.0	17.3	54	17	1020.1	0.05	0.05	14.9	23.09
30/07/2025 03:43	0.0	0.0	17.2	52	17	1020.0	0.01	0.05	14.8	23.10
30/07/2025 04:43	0.0	0.0	17.2	51	17	1020.0	-0.05	0.06	14.5	23.10
30/07/2025 05:43	0.0	0.0	17.2	51	17	1020.2	-0.02	0.01	13.8	23.10
30/07/2025 06:43	0.0	0.0	17.2	50	17	1020.5	0.00	0.04	14.9	23.10
30/07/2025 07:43	0.0	0.0	17.1	50	17	1020.8	0.04	0.09	16.5	23.09
30/07/2025 08:43	0.0	0.0	17.2	49	17	1020.9	0.06	0.08	18.0	23.09
30/07/2025 09:43	0.0	0.0	17.2	47	17	1020.8	0.09	0.21	18.2	23.09
30/07/2025 10:43	0.0	0.0	17.2	50	17	1020.9	0.11	0.09	19.2	23.09
30/07/2025 11:43	0.0	0.0	17.2	51	17	1020.7	0.09	0.02	19.7	23.09
30/07/2025 12:43	0.0	0.0	17.3	51	17	1020.5	0.04	0.00	20.5	23.09
30/07/2025 13:43	0.0	0.0	17.3	54	17	1020.3	-0.03	0.00	21.2	23.09
30/07/2025 14:43	0.0	0.0	17.3	52	17	1020.4	-0.05	0.00	21.3	23.09
30/07/2025 15:43	0.0	0.0	17.3	52	17	1020.2	-0.09	0.00	21.6	23.10
30/07/2025 16:43	0.0	0.0	17.4	52	17	1020.1	-0.09	0.00	21.5	23.10
30/07/2025 17:43	0.0	0.0	17.4	54	17	1020.1	-0.10	0.00	20.6	23.11
30/07/2025 18:43	0.0	0.0	17.4	54	17	1020.1	-0.08	0.00	20.8	23.12
30/07/2025 19:43	0.0	0.0	17.4	54	17	1020.1	-0.05	0.00	19.8	23.12
30/07/2025 20:43	0.0	0.0	17.4	53	17	1020.1	-0.02	0.02	18.8	23.12
30/07/2025 21:43	0.0	0.0	17.3	50	17	1020.1	-0.04	0.00	18.0	23.13
30/07/2025 22:43	0.0	0.0	17.3	50	17	1020.0	-0.03	0.01	17.7	23.13
30/07/2025 23:43	0.0	0.0	17.2	49	17	1019.8	-0.04	0.01	17.3	23.13
31/07/2025 00:43	0.0	0.0	17.2	48	17	1019.2	-0.11	0.01	17.3	23.13
31/07/2025 01:43	0.0	0.0	17.2	47	17	1018.8	-0.16	0.13	17.3	23.13
31/07/2025 02:43	0.0	0.0	17.2	47	17	1018.4	-0.21	0.05	17.3	23.14
31/07/2025 03:43	0.0	0.0	17.2	44	17	1017.9	-0.28	0.09	17.1	23.15
31/07/2025 04:43	0.0	0.0	17.1	45	17	1017.6	-0.31	0.05	16.9	23.15
31/07/2025 05:43	0.0	0.0	17.1	44	17	1017.4	-0.33	0.14	16.9	23.15
31/07/2025 06:43	0.0	0.0	17.1	44	17	1017.5	-0.29	0.11	17.1	23.16
31/07/2025 07:43	0.0	0.0	17.1	43	17	1017.6	-0.20	0.02	17.2	23.15
31/07/2025 08:43	0.0	0.0	17.1	42	17	1017.6	-0.15	0.07	17.8	23.15
31/07/2025 09:43	0.0	0.0	17.1	42	17	1017.5	-0.11	0.14	18.7	23.15
31/07/2025 10:43	0.0	0.0	17.1	42	17	1017.5	-0.05	0.19	18.5	23.14
31/07/2025 11:43	0.0	0.0	17.1	42	17	1017.6	0.00	0.20	18.0	23.14
31/07/2025 12:43	0.0	0.0	17.1	43	17	1017.4	0.00	0.09	19.0	23.14
31/07/2025 13:43	0.0	0.0	17.2	43	17	1017.1	-0.05	0.01	21.2	23.14
31/07/2025 14:43	0.0	0.0	17.2	43	17	1017.1	-0.06	0.00	20.2	23.15
31/07/2025 15:43	0.0	0.0	17.2	43	17	1016.9	-0.09	0.02	20.3	23.15
31/07/2025 16:43	0.0	0.0	17.2	43	17	1017.1	-0.05	0.00	19.8	23.16
31/07/2025 17:43	0.0	0.0	17.2	43	17	1017.1	-0.05	0.00	19.1	23.16
31/07/2025 18:43	0.0	0.0	17.2	46	17	1017.3	-0.04	0.00	18.6	23.16
31/07/2025 19:43	0.0	0.0	17.2	43	17	1017.7	0.04	0.00	17.6	23.16
31/07/2025 20:43	0.0	0.0	17.2	41	17	1018.3	0.15	0.00	16.5	23.16
31/07/2025 21:43	0.0	0.0	17.1	42	17	1018.6	0.19	0.01	15.3	23.15
31/07/2025 22:43	0.0	0.0	17.1	40	17	1018.6	0.21	0.00	14.6	23.15
31/07/2025 23:43	0.0	0.0	17.0	37	17	1018.7	0.20	0.00	14.2	23.14
01/08/2025 00:43	0.0	0.0	17.0	36	17	1018.9	0.22	0.01	13.9	23.14
01/08/2025 01:43	0.0	0.0	16.9	35	17	1019.2	0.24	0.12	13.5	23.14
01/08/2025 02:43	0.0	0.0	16.9	36	17	1019.1	0.17	0.00	12.9	23.14
01/08/2025 03:43	0.0	0.0	16.9	32	17	1019.0	0.09	0.00	12.5	23.14
01/08/2025 04:43	0.0	0.0	16.8	34	17	1019.0	0.05	0.07	12.5	23.14
01/08/2025 05:43	0.0	0.0	16.8	33	17	1018.9	0.04	0.02	12.1	23.14
01/08/2025 06:43	0.0	0.0	16.8	31	17	1019.1	0.05	0.08	12.8	23.14
01/08/2025 07:43	0.0	0.0	16.7	32	17	1019.2	0.04	0.17	14.1	23.14
01/08/2025 08:43	0.0	0.0	16.7	31	17	1019.4	0.02	0.13	14.7	23.14
01/08/2025 09:43	0.0	0.0	16.7	32	17	1				

Date and Time	CH ₄	CO ₂	O ₂	CO	H ₂ S	Atmospheric Pressure	Average 8-hour atmospheric pressure change	Flow	Temperature	Water Level
	% v/v	% v/v	% v/v	ppm/v	ppm/v	mbar	mbar	Ltr/hr	°C	mbgl
02/08/2025 02:43	0.0	0.0	16.6	26	17	1020.8	0.16	0.06	9.9	23.10
02/08/2025 03:43	0.0	0.0	16.5	26	17	1020.5	0.05	0.09	9.8	23.10
02/08/2025 04:43	0.1	0.0	16.5	25	17	1020.5	0.01	0.09	9.8	23.10
02/08/2025 05:43	0.1	0.0	16.4	23	16	1020.6	-0.02	0.06	9.7	23.10
02/08/2025 06:43	0.1	0.0	16.4	24	16	1020.6	-0.02	0.14	11.3	23.10
02/08/2025 07:43	0.1	0.0	16.4	23	16	1020.7	-0.04	0.11	13.5	23.09
02/08/2025 08:43	0.1	0.0	16.4	24	16	1020.8	-0.03	0.08	15.1	23.09
02/08/2025 09:43	0.1	0.0	16.4	25	16	1020.8	0.00	0.24	16.1	23.08
02/08/2025 10:43	0.1	0.0	16.4	24	16	1020.6	0.01	0.07	16.2	23.09
02/08/2025 11:43	0.0	0.0	16.5	24	17	1020.5	0.00	0.19	16.8	23.08
02/08/2025 12:43	0.1	0.0	16.6	25	17	1020.6	0.00	0.11	17.5	23.08
02/08/2025 13:43	0.0	0.0	16.6	26	17	1020.6	0.00	0.15	18.4	23.07
02/08/2025 14:43	0.0	0.0	16.6	26	17	1020.3	-0.05	0.03	19.0	23.07
02/08/2025 15:43	0.0	0.0	16.6	27	17	1019.9	-0.11	0.02	20.1	23.06
02/08/2025 16:43	0.0	0.0	16.6	25	17	1019.8	-0.13	0.06	20.0	23.06
02/08/2025 17:43	0.0	0.0	16.7	27	17	1019.5	-0.14	0.01	19.3	23.07
02/08/2025 18:43	0.0	0.0	16.7	28	17	1019.6	-0.11	0.00	18.4	23.07
02/08/2025 19:43	0.0	0.0	16.7	26	17	1019.8	-0.10	0.04	17.1	23.07
02/08/2025 20:43	0.0	0.0	16.7	25	17	1020.1	-0.06	0.07	15.7	23.06
02/08/2025 21:43	0.0	0.0	16.7	25	17	1020.4	0.01	0.11	14.6	23.06
02/08/2025 22:43	0.0	0.0	16.6	22	17	1020.4	0.06	0.03	13.8	23.05
02/08/2025 23:43	0.0	0.0	16.6	22	17	1020.7	0.11	0.00	13.0	23.04
03/08/2025 00:43	0.0	0.0	16.5	22	17	1020.3	0.10	0.00	13.1	23.04
03/08/2025 01:43	0.0	0.0	16.5	23	17	1020.1	0.06	0.03	13.1	23.04
03/08/2025 02:43	0.0	0.0	16.5	23	17	1019.7	-0.01	0.00	14.4	23.04
03/08/2025 03:43	0.0	0.0	16.5	21	17	1019.2	-0.11	0.00	15.3	23.04
03/08/2025 04:43	0.0	0.0	16.4	20	16	1018.8	-0.20	0.06	16.0	23.04
03/08/2025 05:43	0.0	0.0	16.4	20	16	1018.7	-0.21	0.17	16.6	23.04
03/08/2025 06:43	0.0	0.0	16.4	22	16	1018.5	-0.28	0.23	17.2	23.05
03/08/2025 07:43	0.0	0.0	16.4	20	16	1018.5	-0.22	0.29	17.6	23.05
03/08/2025 08:43	0.0	0.0	16.4	22	16	1018.4	-0.21	0.23	17.7	23.05
03/08/2025 09:43	0.0	0.0	16.4	21	16	1018.3	-0.18	0.22	17.8	23.05
03/08/2025 10:43	0.1	0.0	16.5	21	17	1018.4	-0.10	0.16	18.3	23.04
03/08/2025 11:43	0.0	0.0	16.5	19	17	1019.0	0.03	0.10	18.8	23.05
03/08/2025 12:43	0.0	0.0	16.5	21	17	1019.1	0.05	0.15	20.2	23.05
03/08/2025 13:43	0.0	0.0	16.5	21	17	1019.0	0.06	0.14	21.1	23.05
03/08/2025 14:43	0.0	0.0	16.5	21	17	1019.1	0.08	0.19	22.2	23.05
03/08/2025 15:43	0.0	0.0	16.6	21	17	1019.2	0.10	0.09	22.3	23.05
03/08/2025 16:43	0.0	0.0	16.6	22	17	1019.3	0.13	0.08	22.1	23.04
03/08/2025 17:43	0.0	0.0	16.6	23	17	1019.5	0.14	0.02	21.2	23.05
03/08/2025 18:43	0.0	0.0	16.6	22	17	1019.8	0.10	0.03	20.5	23.05
03/08/2025 19:43	0.0	0.0	16.6	21	17	1019.8	0.09	0.00	19.3	23.05
03/08/2025 20:43	0.0	0.0	16.6	21	17	1019.8	0.10	0.00	18.0	23.05
03/08/2025 21:43	0.0	0.0	16.5	20	17	1019.9	0.10	0.11	17.0	23.05
03/08/2025 22:43	0.0	0.0	16.5	20	17	1019.8	0.07	0.02	16.6	23.04
03/08/2025 23:43	0.0	0.0	16.5	18	17	1019.4	0.01	0.01	16.3	23.05
04/08/2025 00:43	0.0	0.0	16.4	18	16	1019.0	-0.06	0.02	16.2	23.05
04/08/2025 01:43	0.0	0.0	16.4	20	16	1018.6	-0.15	0.07	16.2	23.06
04/08/2025 02:43	0.0	0.0	16.4	17	16	1017.4	-0.30	0.12	16.7	23.07
04/08/2025 03:43	0.0	0.0	16.4	17	16	1016.4	-0.42	0.02	17.2	23.08
04/08/2025 04:43	0.0	0.0	16.4	18	16	1015.9	-0.50	0.01	17.5	23.09
04/08/2025 05:43	0.1	0.0	16.4	18	16	1015.4	-0.55	0.00	17.7	23.10
04/08/2025 06:43	0.0	0.0	16.4	17	16	1014.8	-0.58	0.02	17.5	23.11
04/08/2025 07:43	0.0	0.0	16.4	18	16	1014.1	-0.61	0.00	17.7	23.12
04/08/2025 08:43	0.0	0.0	16.4	18	16	1013.6	-0.63	0.07	17.8	23.13
04/08/2025 09:43	0.1	0.0	16.4	18	16	1013.3	-0.51	0.05	18.2	23.14
04/08/2025 10:43	0.0	0.0	16.3	18	16	1012.9	-0.44	0.13	18.2	23.15
04/08/2025 11:43	0.0	0.0	16.4	17	16	1012.8	-0.39	0.15	18.0	23.15
04/08/2025 12:43	0.0	0.0	16.4	18	16	1013.1	-0.29	0.04	18.0	23.16
04/08/2025 13:43	0.0	0.0	16.4	18	16	1012.9	-0.24	0.15	18.6	23.17
04/08/2025 14:43	0.0	0.0	16.4	18	16	1013.8	-0.04	0.11	19.7	23.18
04/08/2025 15:43	0.0	0.0	16.3	17	16	1014.3	0.09	0.22	20.1	23.17
04/08/2025 16:43	0.0	0.0	16.4	17	16	1015.1	0.23	0.09	19.2	23.17
04/08/2025 17:43	0.0	0.0	16.4	16	16	1015.8	0.36	0.02	18.5	23.17
04/08/2025 18:43	0.0	0.0	16.4	19	16	1016.6	0.48	0.04	17.9	23.17
04/08/2025 19:43	0.0	0.0	16.4	17	16	1017.3	0.52	0.12	17.0	23.17
04/08/2025 20:43	0.0	0.0	16.3	17	16	1018.0	0.64	0.02	15.8	23.17
04/08/2025 21:43	0.0	0.0	16.3	17	16	1018.7	0.61	0.00	14.9	23.16
04/08/2025 22:43	0.0	0.0	16.2	17	16	1019.3	0.63	0.03	14.2	23.16
04/08/2025 23:43	0.0	0.0	16.2	16	16	1019.9	0.60	0.00	13.7	23.15
05/08/2025 00:43	0.0	0.0	16.1	15	16	1020.3	0.56	0.01	13.3	23.15
05/08/2025 01:43	0.0	0.0	16.1	15	16	1020.3	0.46	0.02	12.9	23.15
05/08/2025 02:43	0.1	0.0	16.1	13	16	1020.4	0.39	0.01	12.6	23.15
05/08/2025 03:43	0.0	0.0	16.0	12	16	1020.6	0.33	0.02	12.3	23.15
05/08/2025 04:43	0.1	0.0	16.0	13	16	1020.9	0.27	0.03	12.1	23.15
05/08/2025 05:43	0.1	0.0	16.0	14	16	1021.2	0.24	0.08	12.2	23.15
05/08/2025 06:43	0.1	0.0	15.9	14	16	1021.7	0.23	0.09	12.7	23.15
05/08/2025 07:43	0.1	0.0	15.9	14	16	1022.3	0.25	0.16	13.8	23.15
05/08/2025 08:43	0.1	0.0	15.9	15	16	1022.8	0.31	0.11	14.8	23.15
05/08/2025 09:43	0.0	0.0	15.9	13	16	1023.3	0.36	0.09	15.7	23.14
05/08/2025 10:43	0.0	0.0	15.9	12	16	1024.0	0.42	0.10	16.3	23.13
05/08/2025 11:43	0.1	0.0	16.0	14	16	1024.7	0.48	0.10	16.8	23.13
05/08/2025 12:43	0.0	0.0	16.0	13	16	1025.4	0.53	0.00	17.1	23.12
05/08/2025 13:43	0.0	0.0	16.1	13	16	1025.8	0.51	0.07	17.3	23.12
05/08/2025 14:43	0.1	0.0	16.1	14	16	1026.0	0.46	0.03	17.5	23.11
05/08/2025 15:43	0.0	0.0	16.1	14	16	1026.2	0.43	0.09	17.8	23.11
05/08/2025 16:43	0.0	0.0	16.1	12	16	1026.5	0.40	0.09	17.5	23.11
05/08/2025 17:43	0.0	0.0	16.1	14	16	1026.4	0.30	0.09	17.3	23.11
05/08/2025 18:43	0.0	0.0	16.1	13	16	1026.5	0.22	0.17	16.9	23.11
05/08/2025 19:43	0.0	0.0	16.1	13	16	1026.6	0.15	0.11	15.9	23.11
05/08/2025 20:43	0.0	0.0	16.1	13	16	1026.8	0.13	0.05	13.9	23.11
05/08/2025 21:43	0.0	0.0	16.0	12	16	1027.1	0.14	0.00	13.3	23.11
05/08/2025 22:43	0.1	0.0	15.9	12	16	1027.4	0.15	0.02	13.1	23.10
05/08/2025 23:43	0.0	0.0	15.9	10	16	1027.4	0.11	0.02	12.1	23.10
06/08/2025 00:43	0.0	0.0	15.9	12	16	1027.3	0.11	0.05	12.2	23.10
06/08/2025 01:43	0.0	0.0	15.8	12	16	1026.8	0.04	0.10	10.8	23.10
06/08/2025 02:43	0.0	0.0	15.8	11	16	1026.2	-0.05	0.08	10.8	23.11
06/08/2025 03:43	0.1	0.0	15.7	10	16	1025.9	-0.11	0.08	11.0	23.11
06/08/2025 04:43	0.1	0.0	15.7	11	16	1026.1	-0.13	0.13	10.8	23.11
06/08/2025 05:43	0.1	0.0	15.7	12	16	1025.9	-0.19	0.08	10.1	23.12
06/08/2025 06:43	0.1	0.0	15.6	11	16	1025.6	-0.23	0.10	11.3	23.12
06/08/2025 07:43	0.1	0.0	15.6	10	16	1025.7	-0.20	0.13	13.5	23.12
06/08/2025 08:43	0.1	0.0	15.6	8	16	1025.7	-0.14	0.14	15.0	23.11
06/08/2025 09:43	0.1	0.0	15.6	10	16	1025.2	-0.13	0.19	16.2	23.11
06/08/2025 10:43	0.1	0.0	15.6	11	16	1024.9	-0.13	0.07	16.9	23.11
06/08/2025 11:43	0.1	0.0	15.7	11	16	1024.8	-0.16	0.16	17.5	23.11
06/08/2025 12:43	0.1	0.0	15.8	11	16	1024.2	-0.21	0.08	17.7	23.11
06/08/2025 13:43	0.1	0.0	15.8	10	16	1023.3	-0.29	0.33	18.1	23.11
06/08/2025 14:43	0.1	0.0	15.8	12	16	1022.9				

Date and Time	CH ₄	CO ₂	O ₂	CO	H ₂ S	Atmospheric Pressure	Average 8-hour atmospheric pressure change	Flow	Temperature	Water Level
	% v/v	% v/v	% v/v	ppm/v	ppm/v	mbar	mbar	Ltr/hr	°C	mbgl
07/08/2025 07:43	0.1	0.0	15.6	9	16	1013.8	-0.48	0.01	15.6	23.20
07/08/2025 08:43	0.1	0.0	15.6	10	16	1013.6	-0.38	0.30	16.1	23.19
07/08/2025 09:43	0.0	0.0	15.6	9	16	1013.3	-0.35	0.20	16.1	23.19
07/08/2025 10:43	0.1	0.0	15.6	8	16	1013.2	-0.26	0.30	16.2	23.18
07/08/2025 11:43	0.1	0.0	15.6	9	16	1013.1	-0.20	0.24	16.8	23.18
07/08/2025 12:43	0.0	0.0	15.6	8	16	1012.9	-0.13	0.10	17.4	23.18
07/08/2025 13:43	0.0	0.0	15.6	9	16	1013.2	-0.10	0.23	18.1	23.18
07/08/2025 14:43	0.1	0.0	15.6	9	16	1013.1	-0.09	0.25	18.3	23.18
07/08/2025 15:43	0.0	0.0	15.6	9	16	1013.0	-0.08	0.24	18.8	23.18
07/08/2025 16:43	0.0	0.0	15.6	8	16	1013.2	-0.01	0.10	18.2	23.18
07/08/2025 17:43	0.0	0.0	15.6	9	16	1013.3	0.01	0.15	18.3	23.19
07/08/2025 18:43	0.0	0.0	15.6	10	16	1013.7	0.08	0.16	17.4	23.19
07/08/2025 19:43	0.0	0.0	15.6	7	16	1014.0	0.14	0.15	16.6	23.18
07/08/2025 20:43	0.0	0.0	15.6	8	16	1014.5	0.16	0.08	15.7	23.18
07/08/2025 21:43	0.0	0.0	15.6	8	16	1014.9	0.22	0.00	15.0	23.17
07/08/2025 22:43	0.1	0.0	15.5	7	16	1015.3	0.29	0.03	14.6	23.17
07/08/2025 23:43	0.0	0.0	15.5	9	16	1015.5	0.29	0.02	14.4	23.16
08/08/2025 00:43	0.0	0.0	15.5	8	16	1015.8	0.31	0.07	14.4	23.16
08/08/2025 01:43	0.0	0.0	15.5	7	16	1016.1	0.30	0.06	13.9	23.16
08/08/2025 02:43	0.1	0.0	15.4	8	15	1016.4	0.30	0.04	14.0	23.16
08/08/2025 03:43	0.1	0.0	15.4	8	15	1016.7	0.28	0.04	13.5	23.16
08/08/2025 04:43	0.0	0.0	15.4	6	15	1017.4	0.31	0.03	13.1	23.16
08/08/2025 05:43	0.1	0.0	15.4	7	15	1017.9	0.33	0.00	12.6	23.15
08/08/2025 06:43	0.1	0.0	15.4	8	15	1018.4	0.36	0.08	13.2	23.15
08/08/2025 07:43	0.1	0.0	15.4	8	15	1019.1	0.41	0.08	14.3	23.14
08/08/2025 08:43	0.1	0.0	15.4	7	15	1019.4	0.41	0.05	15.7	23.13
08/08/2025 09:43	0.1	0.0	15.4	7	15	1019.7	0.41	0.01	16.7	23.11
08/08/2025 10:43	0.1	0.0	15.4	8	15	1019.9	0.40	0.03	17.5	23.11
08/08/2025 11:43	0.0	0.0	15.4	6	15	1019.8	0.30	0.06	18.1	23.10
08/08/2025 12:43	0.1	0.0	15.4	8	15	1019.9	0.25	0.07	18.5	23.10
08/08/2025 13:43	0.1	0.0	15.4	6	15	1020.6	0.28	0.14	18.4	23.10
08/08/2025 14:43	0.1	0.0	15.4	9	15	1020.6	0.19	0.11	18.0	23.10
08/08/2025 15:43	0.0	0.0	15.5	8	16	1020.5	0.14	0.11	18.6	23.10
08/08/2025 16:43	0.0	0.0	15.5	8	16	1020.4	0.09	0.08	18.2	23.10
08/08/2025 17:43	0.1	0.0	15.5	7	16	1020.2	0.04	0.08	17.6	23.10
08/08/2025 18:43	0.0	0.0	15.5	9	16	1020.2	0.05	0.03	17.1	23.10
08/08/2025 19:43	0.1	0.0	15.5	8	16	1020.3	0.05	0.01	16.6	23.10
08/08/2025 20:43	0.1	0.0	15.4	8	15	1020.4	-0.03	0.07	15.6	23.10
08/08/2025 21:43	0.1	0.0	15.4	7	15	1020.6	0.00	0.07	14.8	23.09
08/08/2025 22:43	0.0	0.0	15.4	7	15	1020.2	-0.04	0.04	14.3	23.08
08/08/2025 23:43	0.0	0.0	15.4	6	15	1020.2	-0.02	0.07	14.2	23.08
09/08/2025 00:43	0.1	0.0	15.3	7	15	1020.2	0.00	0.08	14.4	23.08
09/08/2025 01:43	0.0	0.0	15.3	8	15	1019.7	-0.06	0.02	15.4	23.08
09/08/2025 02:43	0.1	0.0	15.3	8	15	1019.3	-0.13	0.07	15.1	23.08
09/08/2025 03:43	0.0	0.0	15.3	7	15	1019.2	-0.15	0.11	14.4	23.08
09/08/2025 04:43	0.1	0.0	15.3	7	15	1019.0	-0.20	0.12	14.2	23.08
09/08/2025 05:43	0.0	0.0	15.2	5	15	1019.2	-0.13	0.13	14.3	23.07
09/08/2025 06:43	0.1	0.0	15.2	7	15	1019.6	-0.08	0.11	14.7	23.07
09/08/2025 07:43	0.1	0.0	15.2	5	15	1019.9	-0.04	0.16	15.7	23.07
09/08/2025 08:43	0.1	0.0	15.2	6	15	1020.2	0.06	0.13	16.7	23.06
09/08/2025 09:43	0.1	0.0	15.2	5	15	1020.4	0.14	0.15	17.3	23.05
09/08/2025 10:43	0.1	0.0	15.2	7	15	1020.9	0.21	0.11	17.9	23.04
09/08/2025 11:43	0.1	0.0	15.2	7	15	1021.2	0.28	0.10	18.2	23.04
09/08/2025 12:43	0.1	0.0	15.2	6	15	1021.5	0.29	0.14	18.4	23.03
09/08/2025 13:43	0.1	0.0	15.3	7	15	1021.9	0.29	0.13	19.2	23.02
09/08/2025 14:43	0.0	0.0	15.3	8	15	1022.2	0.29	0.14	19.0	23.02
09/08/2025 15:43	0.0	0.0	15.2	7	15	1022.6	0.30	0.13	18.8	23.01
09/08/2025 16:43	0.1	0.0	15.3	7	15	1023.0	0.33	0.09	18.6	23.00
09/08/2025 17:43	0.0	0.0	15.3	7	15	1023.4	0.31	0.08	17.8	22.99
09/08/2025 18:43	0.0	0.0	15.3	7	15	1023.7	0.31	0.09	17.7	22.99
09/08/2025 19:43	0.1	0.0	15.2	7	15	1024.1	0.32	0.05	17.1	22.97
09/08/2025 20:43	0.0	0.0	15.2	8	15	1024.8	0.36	0.04	16.2	22.97
09/08/2025 21:43	0.1	0.0	15.2	6	15	1025.4	0.40	0.15	14.8	22.96
09/08/2025 22:43	0.1	0.0	15.2	7	15	1025.7	0.39	0.13	13.9	22.96
09/08/2025 23:43	0.0	0.0	15.1	4	15	1025.9	0.36	0.02	13.4	22.95
10/08/2025 00:43	0.1	0.0	15.1	5	15	1026.3	0.36	0.01	13.4	22.95
10/08/2025 01:43	0.1	0.0	15.0	6	15	1026.6	0.36	0.01	13.3	22.95
10/08/2025 02:43	0.1	0.0	15.0	5	15	1026.8	0.34	0.00	13.4	22.95
10/08/2025 03:43	0.1	0.0	15.0	6	15	1026.9	0.26	0.01	13.4	22.95
10/08/2025 04:43	0.1	0.0	15.0	4	15	1027.0	0.20	0.05	13.3	22.95
10/08/2025 05:43	0.1	0.0	15.0	5	15	1027.2	0.19	0.09	13.2	22.95
10/08/2025 06:43	0.1	0.0	15.0	5	15	1027.6	0.21	0.04	14.0	22.95
10/08/2025 07:43	0.1	0.0	15.0	6	15	1028.0	0.21	0.00	15.0	22.95
10/08/2025 08:43	0.1	0.0	15.0	5	15	1028.1	0.19	0.00	16.6	22.95
10/08/2025 09:43	0.1	0.0	15.0	6	15	1028.3	0.19	0.01	18.1	22.94
10/08/2025 10:43	0.1	0.0	15.0	5	15	1028.4	0.19	0.00	19.1	22.94
10/08/2025 11:43	0.0	0.0	15.1	5	15	1028.3	0.16	0.05	19.9	22.94
10/08/2025 12:43	0.0	0.0	15.1	6	15	1028.0	0.10	0.14	20.6	22.94
10/08/2025 13:43	0.1	0.0	15.1	7	15	1027.7	0.01	0.06	21.6	22.94
10/08/2025 14:43	0.0	0.0	15.1	7	15	1027.5	-0.06	0.11	21.5	22.95
10/08/2025 15:43	0.0	0.0	15.1	7	15	1027.2	-0.11	0.13	21.8	22.96
10/08/2025 16:43	0.0	0.0	15.1	5	15	1026.7	-0.20	0.12	22.0	22.97
10/08/2025 17:43	0.0	0.0	15.2	5	15	1026.2	-0.28	0.15	21.9	22.97
10/08/2025 18:43	0.0	0.0	15.2	7	15	1025.6	-0.34	0.14	21.4	22.98
10/08/2025 19:43	0.0	0.0	15.2	7	15	1025.4	-0.32	0.10	19.7	22.98
10/08/2025 20:43	0.0	0.0	15.2	7	15	1025.9	-0.22	0.13	18.0	22.98
10/08/2025 21:43	0.0	0.0	15.1	6	15	1026.1	-0.18	0.14	17.2	22.98
10/08/2025 22:43	0.1	0.0	15.1	6	15	1025.9	-0.16	0.12	16.4	22.97
10/08/2025 23:43	0.0	0.0	15.0	6	15	1025.7	-0.13	0.10	15.6	22.97
11/08/2025 00:43	0.1	0.0	15.0	5	15	1025.5	-0.09	0.02	14.9	22.97
11/08/2025 01:43	0.0	0.0	15.0	7	15	1025.0	-0.07	0.00	13.8	22.97
11/08/2025 02:43	0.0	0.0	14.9	6	15	1024.5	-0.11	0.01	13.2	22.97
11/08/2025 03:43	0.1	0.0	14.9	5	15	1024.1	-0.23	0.02	12.9	22.98
11/08/2025 04:43	0.0	0.0	14.9	4	15	1023.4	-0.34	0.08	13.0	22.97
11/08/2025 05:43	0.1	0.0	14.8	7	15	1023.2	-0.34	0.03	12.9	22.97
11/08/2025 06:43	0.1	0.0	14.8	6	15	1022.8	-0.36	0.08	14.2	22.98
11/08/2025 07:43	0.1	0.0	14.8	7	15	1022.6	-0.36	0.04	17.9	22.97
11/08/2025 08:43	0.1	0.0	14.8	3	15	1022.9	-0.26	0.01	19.7	22.96
11/08/2025 09:43	0.1	0.0	14.8	5	15	1022.8	-0.21	0.06	20.7	22.95
11/08/2025 10:43	0.1	0.0	14.8	4	15	1022.5	-0.20	0.07	21.6	22.90
11/08/2025 11:43	0.1	0.0	14.9	7	15	1021.9	-0.19	0.01	22.8	22.87
11/08/2025 12:43	0.0	0.0	15.0	7	15	1021.7	-0.19	0.04	23.5	22.87
11/08/2025 13:43	0.0	0.0	15.0	6	15	1021.3	-0.19	0.23	24.1	22.87
11/08/2025 14:43	0.0	0.0	15.1	8	15	1020.7	-0.24	0.33	23.8	22.87
11/08/2025 15:43	0.0	0.0	15.1	6	15	1020.2	-0.34	0.06	24.6	22.88
11/08/2025 16:43	0.0	0.0	15.1	5	15	1019.6	-0.40	0.25	24.3	22.88
11/08/2025 17:43	0.0	0.0	15.1	6	15	1018.9	-0.45	0.29	23.7	22.89
11/08/2025 18:43	0.0	0.0	15.1	5	15	1018.0	-0.49	0.16	22.7	22.89
11/08/2025 19:43	0.0	0.0	15.1	7	15	1017.5	-0.53	0.21	21.5	22.89
11/08/2025 20:43	0.0	0.0	15.0	6	15					

Date and Time	CH ₄ % v/v	CO ₂ % v/v	O ₂ % v/v	CO ppm/v	H ₂ S ppm/v	Atmospheric Pressure mbar	Average 8-hour atmospheric pressure change mbar	Flow Ltr/hr	Temperature °C	Water Level mbgl
12/08/2025 12:43	0.0	0.0	14.9	7	15	1014.1	0.05	0.00	26.2	23.03
12/08/2025 13:43	0.0	0.0	15.0	7	15	1013.1	-0.11	0.00	28.2	23.03
12/08/2025 14:43	0.0	0.0	15.0	7	15	1012.8	-0.15	0.00	28.8	23.02
12/08/2025 15:43	0.0	0.0	15.0	8	15	1012.5	-0.19	0.00	28.8	23.02
12/08/2025 16:43	0.0	0.0	15.0	8	15	1012.1	-0.24	0.06	28.8	23.02
12/08/2025 17:43	0.0	0.0	15.0	8	15	1011.9	-0.26	0.05	28.3	23.02
12/08/2025 18:43	0.0	0.0	15.1	8	15	1011.9	-0.23	0.04	27.2	23.02
12/08/2025 19:43	0.0	0.0	15.1	7	15	1012.3	-0.23	0.06	23.4	23.02
12/08/2025 20:43	0.0	0.0	15.0	8	15	1012.9	-0.03	0.07	20.7	23.02
12/08/2025 21:43	0.0	0.0	15.0	8	15	1013.7	0.11	0.06	19.1	23.03
12/08/2025 22:43	0.0	0.0	15.0	6	15	1013.8	0.16	0.01	18.0	23.03
12/08/2025 23:43	0.0	0.0	14.9	7	15	1013.6	0.19	0.01	17.4	23.03
13/08/2025 00:43	0.0	0.0	14.9	8	15	1013.8	0.24	0.01	16.8	23.03
13/08/2025 01:43	0.0	0.0	14.8	7	15	1013.7	0.23	0.01	15.8	23.03
13/08/2025 02:43	0.0	0.0	14.8	6	15	1013.6	0.16	0.00	15.1	23.03
13/08/2025 03:43	0.0	0.0	14.8	6	15	1013.4	0.06	0.00	16.3	23.02
13/08/2025 04:43	0.1	0.0	14.8	6	15	1013.4	-0.04	0.00	16.8	23.03
13/08/2025 05:43	0.0	0.0	14.7	7	15	1013.3	-0.06	0.00	17.0	23.02
13/08/2025 06:43	0.0	0.0	14.7	4	15	1013.5	-0.01	0.00	17.2	23.02
13/08/2025 07:43	0.1	0.0	14.7	7	15	1013.7	-0.01	0.00	17.5	23.03
13/08/2025 08:43	0.0	0.0	14.7	4	15	1013.9	0.02	0.00	18.0	23.02
13/08/2025 09:43	0.0	0.0	14.7	5	15	1014.2	0.08	0.00	18.6	23.03
13/08/2025 10:43	0.0	0.0	14.7	5	15	1014.5	0.14	0.00	19.5	23.03
13/08/2025 11:43	0.1	0.0	14.7	7	15	1014.3	0.11	0.00	20.2	23.03
13/08/2025 12:43	0.0	0.0	14.7	7	15	1014.0	0.09	0.00	21.2	23.03



Experts in Continuous Monitoring

Appendix E

Calibration Certificates

TEST DATE AND CONDITIONS			
Date		12/11/2024	
Atmospheric Pressure		1020	mB
Ambient Temperature		21.5	°C
EnviroNics Serial No.		5089	

***GFM430 Final Inspection & Calibration
Check Certificate***

GAS DATA LTD

Unit D

Earlplace Business Park

Fletchamstead Highway

Coventry

CV4 9XL

Tel 02476303311

Fax 02476307711



GAS DATA
LISTEN • ANALYSE • INFORM

Customer	Ground Gas Solutions Ltd
Certificate Number	125679
Order Number	340216

Serial Number	10356
Software Version	G430-00.0024/0013

Recalibration DUE Date
12/11/25

Instrument Checks					
Keyboard	✓		Display Contrast	✓	
Pump Flow In	450	Accept > 200 cc/min	Pump Flow @ -200mB	250	Accept > 200 cc/min
Clock Set / Running	✓		Labels Fitted	✓	

Gas Checks						
Sensor	CH ₄		CO ₂		O ₂	
	Instrument Gas	True Gas Value %	Instrument Gas	True Gas Value %	Instrument Gas	True Gas Value %
	Readings %		Readings %		Readings %	
	60.7	60	39.9	40	20.9	20.9
	Accept ±3.0		Accept ±3.0		Accept ±0.5	
	5.0	5	5.0	5	6.0	6
	Accept ±0.3		Accept ±0.3		Accept ±0.3	
Zero Reading 100% N2	0.0	0	0.0	0	0.0	0
	Accept ±0.0		Accept ±0.0		Accept ±0.1	

Optional Gas Checks						
Applied Gas & Range		Concentration Tested @ (ppm)	Instrument Readings (ppm)			
Toxic Gas	Range (ppm)		Zero Reading		Instrument Gas Reading	
H2S	2000	1500	0	Accept ±0.0	1502	Accept ±5.0%
CO	2000	1000	0	Accept ±0.0	1001	Accept ±5.0%

Cross Gas Effects									
Applied Gas (ppm)		Instrument Readings (ppm)							
Toxic Gas	Concentration	Toxic 1:	H2S	Toxic 2:	CO	Toxic 3:			
H2S	1500	1500		0					
CO	1000	61		1001					
Pressure Checks									
Atmospheric Pressure [AP] (mB)					Static Pressure [SP] (mB)				
Current Atmospheric		Instrument Atmospheric			Applied Pressure (mB)		Instrument Pressure (mB)		
Pressure (mB)		Pressure Reading (mB)							
All Ports		Open Ports		1020	Accept ±2.0	0.0mB		N/A	Accept ±0.0
AP Port (Internal)		+800 mB		800	Accept ±5.0	+50mB		N/A	Accept ±2.0
AP Port (Internal)		+1200mb		1200	Accept ±5.0	-100mB		N/A	Accept ±2.0
Flow Checks									
Borehole Flow					Differential Pressure				
Applied Reading (l/h)		Instrument Reading (l/h)			Applied Pressure (Pa)		Instrument Reading (Pa)		
-30	-30.4	Accept ±3.0			-278	-285	Accept ±50		
-3	-3.0	Accept ±1.0			-13	-13	Accept ±6.0		
0	0.0	Accept ±0.0			0	0	Accept ±0.5		
3	3.0	Accept ±0.5			14	13	Accept ±3.0		
30	30.4	Accept ±3.0			301	305	Accept ±50		
60	60.6	Accept ±6.0			915	921	Accept ±130		
90	91.3	Accept ±9.0			1809	1870	Accept ±250		
	Temperature Checks								
	Calibration Temperature				Instrument Temperature Reading °C				
	Applied Temperature °C								
	-10				-10.0	Accept ±2.0			
	0				0.0	Accept ±1.0			
	30				30.0	Accept ±1.0			
	60				60.0	Accept ±1.0			
	100				100.0	Accept ±1.0			

Technician:
<i>Jack Rutland</i>

Date Tested:
<i>12/11/2024</i>

The instrument identified by the serial number stated above has been tested by Gas Data personnel for calibration accuracy on the date and under the ambient conditions stated. Gas Data Ltd internal BS EN ISO9001:2015, BS EN ISO14001:2015, BS EN ISO45001:2018 compliant workshop procedures were followed to apply known calibration test gases, gas flow rates, pressures and temperatures of the values stated.

The results displayed on the instrument at each stage are recorded above.

TEST DATE AND CONDITIONS			
Date	12.11.24		
Atmospheric Pressure	1020	mB	
Ambient Temperature	21.5	°C	
EnviroNics Serial No.	5089		

GAS DATA LTD
Unit D
Earlplace Business Park
Fletchamstead Highway
Coventry
CV4 9XL
UK +44 (0) 24 7630 3311



GFM430 -1 OUTWARD INSPECTION & QUALITY CHECK SHEET

INSTRUMENT DETAILS			
SO Number	Instrument Type	Instrument Serial Number + SW Version	Job Number(s)
340216	GFM430	10356 G430-24/13	125679

Calibration Technician *[Signature]*

Date ...12.11.24...

Inspection Technician *[Signature]*

Date ...13.11.24...

INSTRUMENT CHECKS		Pass (P), Fail (F) or not applicable (NA)	INSTRUMENT PACKING LIST		Tick if included
Function Tests	Dust Caps Fitted	P	Instrument		✓
	Keyboard Test (All Keys)	P	Leather Case		✓
	Backlight	P	Instrument Strap		✓
	Clock Set / Running	P	AC Battery Charger (UK)		✓
	Comms Test	P	AC Battery Charger (EURO)		X
	Pump Flow Test (In & Out)	P	AC Battery Charger (US)		X
	Overall Leak Test (30mB)	n/a	AC Battery Charger (AUS)		X
	Battery Charge Test	P	Hard Carry Case		✓
	Service Date set to?	12.11.25	Gas Sample Tube - (new issue)		✓
Channel Test	Data Logging Enabled?	P	Flow Sample Tube - (new issue)		✓
	Verify CH4/LEL	P	Spares Pot		✓
	Verify CO2	P	Allen Key		X
	Verify O2	P	Temperature Probe		X
	Verify LEL	P	Vane Anemometer		X
	Verify 1 st Option Gas	H2S	USB Cable		X
	Verify 2 nd Option Gas	CO	USB Memory stick		X
	Verify 3 rd Option Gas	N/A	SiteMan Software	Ver 4.15	X
	Verify 4 th Option Gas	N/A	Internal Filter Pack	Qty	X
	Verify Atmospheric pressure	P	External Filter Pack	Qty	X
	Verify static pressure	N/A	Field Guide		X
	Verify differential pressure	P	Operation Manual (hard copy)		X
	Verify flow	P	Extra Items: <i>Sample Tube</i>		
	Verify temperature probe input	P			
	Verify vane anemometer input	P			
DataBase Checks	Jobcard(s) completed and signed	P	Comments:		
	Jobcard(s) booked off database	P			
	Calibration certificate completed	P			
	Complete & print QI record	n/a			
Label Checks	No. of Calibration label fitted	GDC 13607			
	Warranty label fitted	P			
H2S Range	H2S Range from Sales Order	2000 ppm			
	H2S Range from Cal Cert	2000 ppm			
	Over-range value correct?	P			
QA Cylinders Used	No. of High Range CH4/CO2	57487			
	No. of Low Range CH4/CO2/O2	56840			
	No. of H2S	6037292			
	No. of CO	56836			
	No. of Optional Cylinder	N/A			
	No. of Optional Cylinder	N/A			

CALIBRATION CERTIFICATE:

Certificate ref.	CGDTCAL_50-06-18
Issued By:	CGD Technology Limited
Date:	11/07/2025
Staff:	Varghese Abraham
Instrument:	GasClam
Serial Number:	50/6/18



Calibration Results			
Sensor	Lot No.	Reference Value	Indicated Value
Hydrogen sulphide	C24438	124	121.9
Carbon monoxide	C22238	42	44
Methane	C322626	59.33	61.2
Carbon dioxide	C322626	40.67	41.4
Oxygen	C322626	0	0
Isobutylene	-	-	-
Atmospheric pressure	VAISALA-PTU301	1012.6	1014
Borehole pressure	VAISALA-PTU301	1012.6	1018
Temperature	VAISALA-PTU301	22.6	21.7

Comments:

Prior to calibration the GasClam was allowed to stabilise in ambient air for 1 hour taking measurements at 3 minute intervals.

The Instrument was calibrated by exposing the sensors to known values of gas concentrations.

Pressure was calibrated using a known artificially generated higher pressure.

The reference values are those generated by the certified source and indicated values are those measured by the GasClam.

Uncertainty is based on a standard uncertainty multiplied by a coverage factor of k=2

This provides a level of confidence of uncertainty of approximately 95%

Ambient conditions	
Temperature	22.6
Atmospheric Pressure	1012.6
Relative Humidity	58.9

CGDT Technology Ltd, Pythia House (unit 10)
Bamford Business Park, Hibbert street
Stockport, SK4 1PL

CALIBRATION CERTIFICATE:

Certificate ref.	CGDTCAL_59-02-20
Issued By:	CGD Technology Limited
Date:	11/07/2025
Staff:	Varghese Abraham
Instrument:	GasClam
Serial Number:	59/02/20



Calibration Results			
Sensor	Lot No.	Reference Value	Indicated Value
Hydrogen sulphide	C24438	124	118.8
Carbon monoxide	C22238	42	41.3
Methane	C322626	59.33	58.8
Carbon dioxide	C322626	40.67	40.2
Oxygen	C322626	0	0
Isobutylene	-	-	-
Atmospheric pressure	VAISALA-PTU301	1012.6	1014
Borehole pressure	VAISALA-PTU301	1012.6	1018
Temperature	VAISALA-PTU301	22.6	21.7

Comments:

Prior to calibration the GasClam was allowed to stabilise in ambient air for 1 hour taking measurements at 3 minute intervals.

The Instrument was calibrated by exposing the sensors to known values of gas concentrations.

Pressure was calibrated using a known artificially generated higher pressure.

The reference values are those generated by the certified source and indicated values are those measured by the GasClam.

Uncertainty is based on a standard uncertainty multiplied by a coverage factor of k=2

This provides a level of confidence of uncertainty of approximately 95%

Ambient conditions	
Temperature	22.6
Atmospheric Pressure	1012.6
Relative Humidity	58.9

CGDT Technology Ltd, Pythia House (unit 10)
Bamford Business Park, Hibbert street
Stockport, SK4 1PL

CALIBRATION CERTIFICATE:

Certificate ref.	CGDTCAL_61-02-20
Issued By:	CGD Technology Limited
Date:	10/07/2025
Staff:	Varghese Abraham
Instrument:	GasClam
Serial Number:	61-02-20



Calibration Results			
Sensor	Lot No.	Reference Value	Indicated Value
Hydrogen sulphide	C24438	124	129.3
Carbon monoxide	C22238	42	41.4
Methane	C322626	59.33	59.8
Carbon dioxide	C322626	40.67	40.5
Oxygen	C322626	0	0
Isobutylene	-	-	-
Atmospheric pressure	VAISALA-PTU301	1014	1014
Borehole pressure	VAISALA-PTU301	1014	1014
Temperature	VAISALA-PTU301	21.3	19.6

Comments:

Prior to calibration the GasClam was allowed to stabilise in ambient air for 1 hour taking measurements at 3 minute intervals.

The Instrument was calibrated by exposing the sensors to known values of gas concentrations.

Pressure was calibrated using a known artificially generated higher pressure.

The reference values are those generated by the certified source and indicated values are those measured by the GasClam.

Uncertainty is based on a standard uncertainty multiplied by a coverage factor of k=2

This provides a level of confidence of uncertainty of approximately 95%

Ambient conditions	
Temperature	21.3
Atmospheric Pressure	1014
Relative Humidity	54.6

CGDT Technology Ltd, Pythia House (unit 10)
Bamford Business Park, Hibbert street
Stockport, SK4 1PL

Appendix F

GasClam® Instrumentation Overview & Deployment Information

GGG GasClam® Instrumentation Overview & Deployment Information



Introduction

GGG GasClam® instruments are high frequency in situ borehole gas monitoring devices, suitable for detection of a wide range of ground gases commonly found in borehole monitoring. The equipment is ATEX approved and IP68 rated and can operate safely in explosive atmospheres and survive flooding environments. They can also be secured to building walls or placed internally to monitor sub-floor spaces or indoor air.

GGG currently have three versions of the instrument, a bulk gas version which monitors methane, carbon dioxide and oxygen; a trace gas version which also includes sensors for hydrogen sulphide, carbon monoxide and total volatile organic compounds; and a specialized instrument that can monitor methane and carbon dioxide between 0 – 5%v/v at a high resolution of 0.05% in addition to the other gases. All versions record atmospheric pressure, borehole pressure and temperature as standard.

Should your site be influenced by water level changes (e.g. tidal or flooding), GGS can also provide water level logging alongside the high frequency ground gas data if required.

GasClam® Sensor Specifications, Service and Maintenance

The GGS GasClam® instruments are serviced and calibrated annually. Routine maintenance including the replacement of filters and operational checks are carried out at regular intervals and prior to deployment at a site. Copies of the calibration certificates for the instruments used on site are included as standard within reporting. Details of the sensor specification are provided below:

Sensor	Method / Type	Range	Resolution
Methane (0-100%)	Infrared	0 - 100%v/v	1% of measuring range above 50%, 0.5% below 50%
*Methane (0-5%)	Infrared	0-5%v/v	0.05%
Carbon Dioxide (0-100%)	Infrared	0 - 100%v/v	1% of measuring range above 50%, 0.5% below 50%
*Carbon Dioxide (0-5%)	Infrared	0-5%v/v	0.05%
Oxygen	Electrochemical	0 - 25%v/v	0.1%
*Hydrogen Sulphide	Electrochemical	0 - 100ppmv	1ppmv
*Carbon Monoxide	Electrochemical	0 - 1000ppmv	1ppmv
*Total Volatile Organic Compounds	PID	0 - 4000ppmv	1ppmv
Atmospheric Pressure	Piezoelectric	800 - 1200mb	1mBar
Borehole Pressure	Piezoelectric	800 - 1200mb	1mBar
Temperature	Internal chip	-5°C to +50°C	1°C

* Only installed on the 0-5% High Resolution GasClam® * Only installed in VOC GasClam®

The GGS GasClam® equipment is battery powered and runs off two D cell batteries. The bulk gas versions can take approximately 1350 readings (approximately 8 weeks based on hourly sampling), with the other versions taking approximately 600 readings (approximately 3.5 weeks based on hourly sampling) before the batteries need replacing.

Deployment Requirements (IMPORTANT)

For GGS GasClam® instruments to be deployed, standard 50mm installation standpipes are required (larger diameter boreholes can be accommodated for). Headworks with enough clearance and a suitable secure cover are also required. GGS recommend that a minimum 8 inch diameter flush fit cover (for example MW8 covers available from Stuart Wells <http://wellservices.stuartgroup.ltd.uk/>) be used. A minimum 100mm clearance is required from the top of the 50mm standpipe to the underside of the cover. A minimum 150mm internal headworks diameter is required (75mm clear radius from centre of stand pipe). We also recommend that minimum standing water level is greater than 0.9m below the standpipe top due to the instrument halting gas sampling automatically to avoid taking water internally.

GGG can also deploy GasClam® instruments within buildings or fix them to external walls within protective and secure housing should you wish to monitor indoor air or subfloor void spaces of existing buildings or for verification purposes.

If the above requirements cannot be achieved, please contact GGS to discuss site specific deployment options – there probably is one!

GasClam Insurance

GGG carry specific insurance to cover the instruments against theft from site and is included as standard as part of our service.

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