



Drill and Grout Specification

Site: Clydach Vale Pavilions, Tonypandy

Prepared For: Morgan Sindall Construction & Infrastructure Ltd

Issue Date: August 2024

Job No: 17931



REPORT TITLE : Drill and Grout Specification: Proposed School

Development at Clydach Vale Pavilions,

Cambrian Park, Tonypandy

JOB NUMBER : 17931

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SECTION 1 Introduction and Proposed Development

1.1 Introduction

Morgan Sindall Construction and Infrastructure Limited (the Client) on behalf of Rhondda Cynon Taff County Borough Council is proposing a commercial development at the former council offices known as the Clydach Vale Pavilions. The development site locates at Cambrian Park, Tonypandy. The development comprises a large additional learning needs school building with associated car parking, areas of hard and soft landscaping. The proposed layout is presented below in **Figure 1.1**.



Figure 1.1 Proposed Site Layout (Red Boundary)

TFW Group Limited (Terra Firma) have been commissioned by the Client to prepare a specification for drilling and grouting works to stabilise shallow coal mining legacy features below the site.

1.2 Objectives

The objective of the Drilling and Grouting specification is to detail procedures or specifications for the proposed drilling and grouting works.

1.3 Previous Investigations and Assessments

The study site has been subject to multiple phases of investigation and this report should be read in conjunction with the following documents which are available on request.

- Ove Arup & Partners: Geotechnical Desk Study Report, Proposed W.D.A. Development at Clydach Vale, Rhondda (Reference 86/1175 (Job Number 16049/01) dated 1991).
- TFW Group Limited: Geotechnical and Geoenvironmental Desk Study and CMRA: Proposed Development, Clydach Vale, Rhondda Cynon Taff (Reference 250522-17931-ISSUE01, dated July 2023).



- TFW Group Limited: Soakaway Technical Note (Reference ADB/17931/SoakawayTechnicalNote, dated 21st June 2024).
- TFW Group Limited: Geotechnical and Geoenvironmental Report: Proposed School Development at the Clydach Vale Pavilions, Cambrian Park, Tonypandy (Reference GGR-310724-17931-01, dated July 2024).
- TFW Group Limited: Ground and Mine Gas Risk Assessment Report: Proposed School Development at the Clydach Vale Pavilions, Cambrian Park, Tonypandy (Reference MGRA-09082024-17931-01, dated August 2024).

1.4 Roles and Responsibilities

Table 1.1 Roles and Responsibilities

Role	Organisation					
	Morgan Sindall Construction &					
Client	Infrastructure Ltd on behalf of Rhondda					
	Cynon Taff County Borough Council					
Drilling Contractor	To Be Confirmed					
Geotechnical & Geoenvironmental Consultant	TFW Group Ltd					

1.5 Limitations and Exceptions of Investigation

This report has been prepared for the sole internal reliance of the Client and their design and construction team. This report shall not be relied upon or transferred to any other parties without the express written authorisation of Terra Firma. If an unauthorised third party comes into possession of this report, they rely on it at their peril and the authors owe them no duty of care and skill. The report represents the findings and opinions of experienced geoenvironmental and geotechnical consultants. Terra Firma does not provide legal advice and the advice of lawyers may be required.

The specification has been produced based on the available information summarised in the Drilling and Grouting Covering Letter.

It is not within the scope of Terra Firma to:

Provide Contractor Method Statements and Risk Assessments for drilling works

Drilling and Grouting should not be commenced until these works are agreed with the Coal Authority.

1.6 Quality Assurance

The quality and environmental aspects of the assessment and investigation comply with UKAS Accredited ISO 9001:2015 and ISO 14001:2015 standards.



SECTION 2 Site Characteristics

The following subsection information has been summarised from previous investigations and assessments listed in **Section 1.3**.

2.1 Site Location and Description

The development site is roughly rectangular in shape and locates off Cambrian Park, Clydach Vale. The site centres on an approximate National Grid Reference of 298080, 192750, occupying a plan area of approximately 1.61 Hectares.

The site is currently occupied by Rhondda Cynon Taff County Borough Council offices including associated car parking areas. The western end of the site is covered by rough vegetation. At the time of writing the offices are under demolition.

The northern boundary is formed by the access road to the site. The eastern boundary is marked by a stream identified at Nant Pwllyrhebog. The southern boundary is marked by a smaller unnamed stream/ditch. The western boundary is marked by a small public footpath.

The site elevation is approximately 200m AOD and slopes gently down to the northeast. The site topography has been modified to provide a level development plateau for the existing buildings. The site location can be seen in **Figure 2.1**.

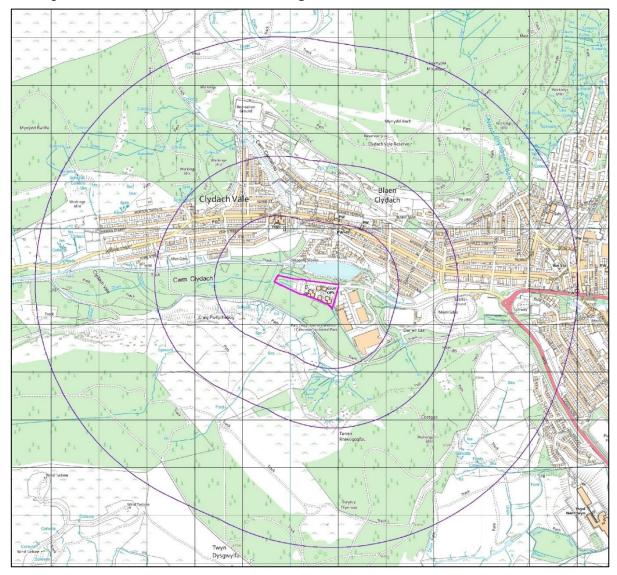


Figure 2.1 Site Location



2.2 Summary of Coal Mining Risk Assessment

2.2.1 Coal Mining Legacy Features

The Coal Authority report confirms that there are 17 occurrences of past underground mining beneath the site between depths of 111m and 431m and worked between 1896 and 1960. The shallowest workings are identified at 111m in the Abergorci coal seam. This was last mined in 1908, has a dip of 2.2° north east and an extraction thickness of 1.10m. The records from beneath the site and within 150m of the surface are summarised in **Table 2.1**.

Table 2.1 Past Underground Mining

Colliery	Seam	Depth (m)	Dip and Direction	Extraction Thickness (cm)	Year Last Mined
Unnamed	Abergorchi	111	2.2º NE	110	1908
Unnamed	Abergorchi	121	2.6° NE	110	1906

There are no probable unrecorded shallow workings.

There are no spine roadways at shallow depth however adits are located in the surrounding area and these will have a roadway which extends from the adit mouth. This is considered further in the next section.

The Coal Authority drawing indicates that there are 9 adits and 2 mine shafts within 100m of the site, which can be seen in **Figure 2.2**.

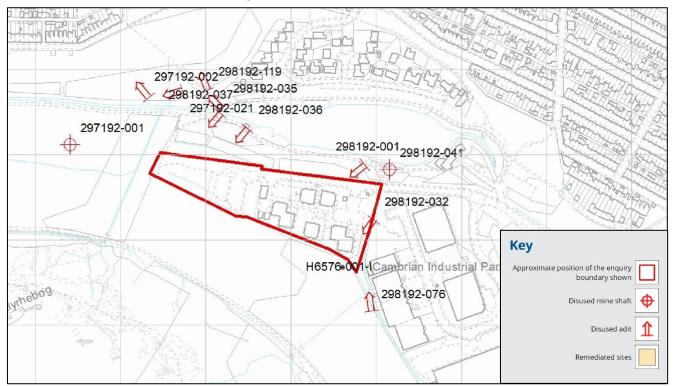


Figure 2.2 Mine Entry Locations

Of the nine adits, five are considered to be at a distance and orientation so that they, or the roadways originating from the location, may pose a risk to the study site. The adit locations and assumed routes were plotted using GIS and these can be seen in **Figure 2.3**.



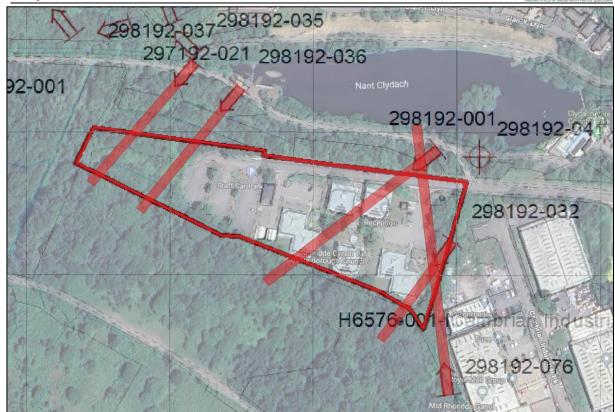


Figure 2.3 Assumed Route of Adit Roadways

The report concluded that:

- The risk from shallow mining across the site is generally considered to be low given the Coal Authority data and historical records.
- There is however a risk posed to the site from the adits which may be present at shallow depth (less than 30m) below the site.
- The risk from this feature will need to be quantified by investigation using rotary drilling methods.

2.2.2 Proof Drill Investigative Works

A site investigation including rotary boreholes for mining was undertaken and reported in July 2024. The mining investigation was undertaken between the 10th and 28th June 2024 and comprised 51 rotary boreholes. A total of 7 boreholes were sunk across the site to confirm the geological profile with a further 44 targeted at potential adit roadways crossing the site. It was beyond the remit of the works to investigate the adits crossing the western end of the site.

The location of the boreholes was targeted at the suspected location of the adits beneath the proposed development and was determined by TFW Group who also supervised the works.

The boreholes were logged by the lead driller based on an examination of the returns recovered during the drilling process and the behaviour of the drilling rig.

Cross sections of the boreholes were produced using the Holebase logging software and can be found in **Annex D**. It can be seen in Borehole **Line A** and Borehole **Line D** that there is a feature that deviates from the expected ground conditions and the boreholes undertaken either side of the feature. These were encountered as voids with a small amount of broken ground and there was an immediate corresponding loss in drilling flush when these features were encountered. This is anticipated to be the roadway extending from adit 298192-001 and is between 3m and 4m in diameter with a height of 2.80m to 3.40m.



The drilling shows that the floor of the adit is at an approximate depth of 15.80m in Borehole **Line A** and in Borehole **Line D** it is at 16.40m. This would suggest that roadway is falling in a south westerly direction from the location of the adit mouth.

Borehole **Line B** targeted at the roadway from adit 298192-076 found no features which deviated from the expected ground conditions. This adit roadway runs counter to the majority of the adits in the area and against the topography of the area. It is considered that this adit lies off site or is located at a depth as to not pose a risk to the surface.

Borehole **Line C** identified a feature which deviated from the expected ground conditions in BH-C13. This borehole found an open void with a small amount of broken ground and there was an immediate corresponding loss in drilling flush. Due to the location of this borehole in the corner of the site with underground services and the drop in topography it was not possible to drill additional boreholes beyond BH-C13 to confirm the dimensions of the feature. It is anticipated that this is the roadway extending from adit 298192-032 and was seen to be 2.60m in height.

The borehole logs, location drawing and line sections can be seen in **Annex A**.

2.2.3 Recommendations

The rotary boreholes have confirmed that there are shallow roadways within the bedrock and there is insufficient rockhead cover to protect from a collapse of these features.

Ground stabilisation by drilling and grouting must be carried out prior to development commencing. This should be undertaken in accordance with Chapter 6 'Consolidation of Shallow Abandoned Mine Workings' of CIRIA C758D: 2019 'Abandoned Mine Workings Manual'.

A drilling and grouting grid has been established across the roadway. The boreholes have been placed on a 1.50m grid perpendicular to the adit route with a 3.00m line spacing across the proposed building footprint. The boreholes have then been placed on a 6.00m line spacing in the areas external to the proposed building.

A sacrificial plastic tube is inserted in each hole to ensure it remains open throughout the grouting procedure. Alternatively, a reusable steel casing can be used. The grid has been extended beyond the footprint of the proposed building to ensure it is properly stabilised.

Prior to the site being drilled and grouted, a permit should be applied for from the Coal Authority. A completion report should be submitted following the work being completed.

Given the proximity of the roadway from adit 298192-032 to the corner of the site it may not be possible to stabilise this feature. The stabilisation process in this area is complicated by the presence of the surface water features. As stabilisation is unlikely to be possible an exclusion zone may be required in which buildings are excluded and the surface is protected with the use of geogrids. The exclusion zone around the adit in the south eastern corner of the site can be seen in **Figure 2.4**.





Figure 2.4 Exclusion Zone for Adit 298192-032 Roadway



SECTION 3 Drilling and Grouting Specification

3.1 Site Access

Delivery of the required drilling and grouting equipment will be possible along the existing access road into the north of the site. Access to the site will also be required for deliveries of materials. Ideally for deliveries of Pulverised Fly Ash (PFA) the grout mixing area of the site will be accessible for articulated lorries. A significant portion of the cost of the PFA is due to transport costs, so larger deliveries are preferrable where possible. Contractors should satisfy themselves prior to submitting their estimated costs that access is suitable for their needs and if any additional requirements are needed, they should be explained within their bill of quantities.

Measures should be taken to protect site personnel and neighbours/neighbouring properties from dust created by PFA when it's being delivered and stored on site.

A monitoring program should be established to quickly identify any outbreaks of grout should they occur and protect the surrounding water features. Emergency procedures should be in place and reviewed regularly.

3.2 Drilling

Borehole Grids

Drilling for grout treatment will initially be performed with a perimeter of holes established on a 1.50m spacing across feature and at the down dip end of the roadway, which is currently expected to be the southern end. The grid line spacing will be 3.00m across the footprint of the building which is then extended to a 6.00m grid in the areas external to the proposed building.

At present the boreholes are to be sunk to a minimum depth of 20.00m. As more boreholes are drilled and a greater understanding of the roadway depths is obtained, the drilling can be tailored and either terminate 2m below the feature, or continued to 20.00m depth. It is anticipated that boreholes will be shallower in the north and deeper in the south given the dip of roadway.

No occupied building are present within 100m of the proposed drilling and grouting positions and it may therefore be possible to use air as the flushing medium. However best practice dictates that water should be used as the flushing medium where possible and this is the preferred option.

Due to the presence of the streams along the southern and eastern boundary allowances should be made for dealing with water runoff. These streams flow directly into the Nant Clydach lake located north of the site and regular monitoring will be required during the stabilisation works.

Contractors will provide their own risk assessments for drilling and dealing with prevailing ground conditions.

The contractor will provide a borehole log within 24 hrs for every hole completed.

Drillers should provide a gas alarm and a record should be kept of any emissions from the boreholes.

If during the drilling and grouting works mining features are found close to the boundaries of the drilling and grouting layout it may be necessary to extend the grid.

The boreholes will be drilled at 110mm diameter. The drillers will then secure 70mm plastic casing into rockhead and seal the top of casing with push on caps once installed.



A proposed drilling and grouting layout can be found in **Drawing 01**.

3.3 Grouting

3.3.1 Casing

During drilling, recoverable metal casing will be left in-situ. From the previous drilling we anticipated that approximately 10.00m will be required per hole. All holes, whether containing voids or not will be grouted upon completion. Metal casing will be used to prevent movement in the surrounding deposits and maintain the 70mm conduit for grouting. Further to this, the boreholes will be regularly dipped with a groundwater monitoring dip-meter to ensure the conduit is maintained.

The borehole will be flooded with grout via a 50mm rigid tremie. Grout injection pressures are calculated at 1.5 psi per metre of overburden. In line pressure from the delivery pump is approximately 10 psi. In line packer/pressure heads will be used to pressure test all holes to confirm no further grout can be taken. Perimeter boreholes will not be pressured as they form the perimeter curtain.

To ensure the boreholes do not act as a preferential pathway for mine gas, the metal casing should be removed from the superficial deposits at the point the borehole is filled. The grout will then create an effective seal. If the grout drops overnight or through the day, the casing will be reinserted, and the process undertaken again until the hole has been suitably filled.

Alternatively a sacrificial plastic casing could be used however this will require disposal at appropriate landfill after use.

Grouting should be started from the down dip side of the site (the south) to provide a wall of grout which successive up dip holes can then fill in behind.

3.3.2 Grout Specification

Grout shall be thoroughly mixed in a pan into a homogenous condition. A water to solids ratio of approximately 0.40 is preferable and bleed capacity should not exceed 5% (on site testing shall be performed using a clear beaker).

A 10:1 Pulverised Fly Ash (PFA) to Ordinary Portland Cement (OPC) grout mix is proposed. Alternatively, a 9:3:1 PFA, Sand and OPC may also be used.

PFA Should comply to BS EN 450-1:2005

In accordance with CIRIA C758, a minimum grout strength of 1 mN/m² after 28 days of curing is required. The contractor should provide evidence from previous experience that the proposed mix is likely to achieve this, and selected samples will be collected during the grouting works to and sent to for laboratory concrete cube testing at 28 days of cure in accordance with BS 1881.

One set of grout cubes should be tested per 250m³.

A low viscosity grout is proposed to achieve efficient grout distribution by gravity. Gravel may be introduced to the grout to fill voids.

A maximum grout injection of 10 tonnes per hole per day will be permissible. When the 10 tonne limit is reached the hole should be left until the next day so the grout can cure and to try and minimise the amount of grout escaping beyond the development area.

Water supply should be provided by the Client.



3.3.3 Secondary Holes

If a single grout location exceeds a take of 10 tonnes, secondary holes will be performed around the hole as deemed necessary. If grout take exceeds 10 tonnes in any of these holes tertiary holes will be performed.

3.3.4 Test Holes

On completion of the grouting, test holes will be undertaken across the stabilised area to confirm that sufficient filling of voids has been achieved. Any remnants voids encountered should be treated and further test holes may be required.

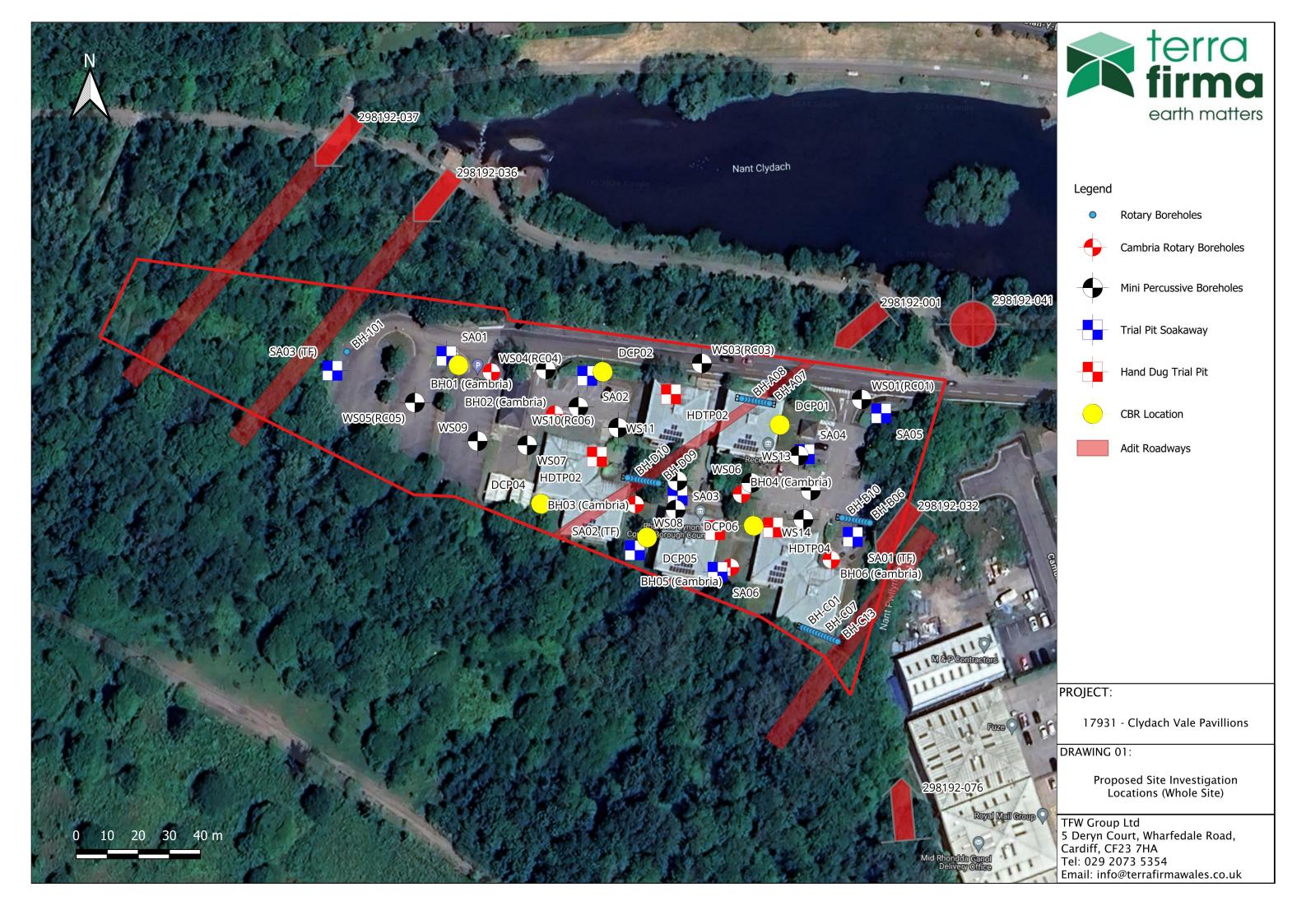
3.4 Records

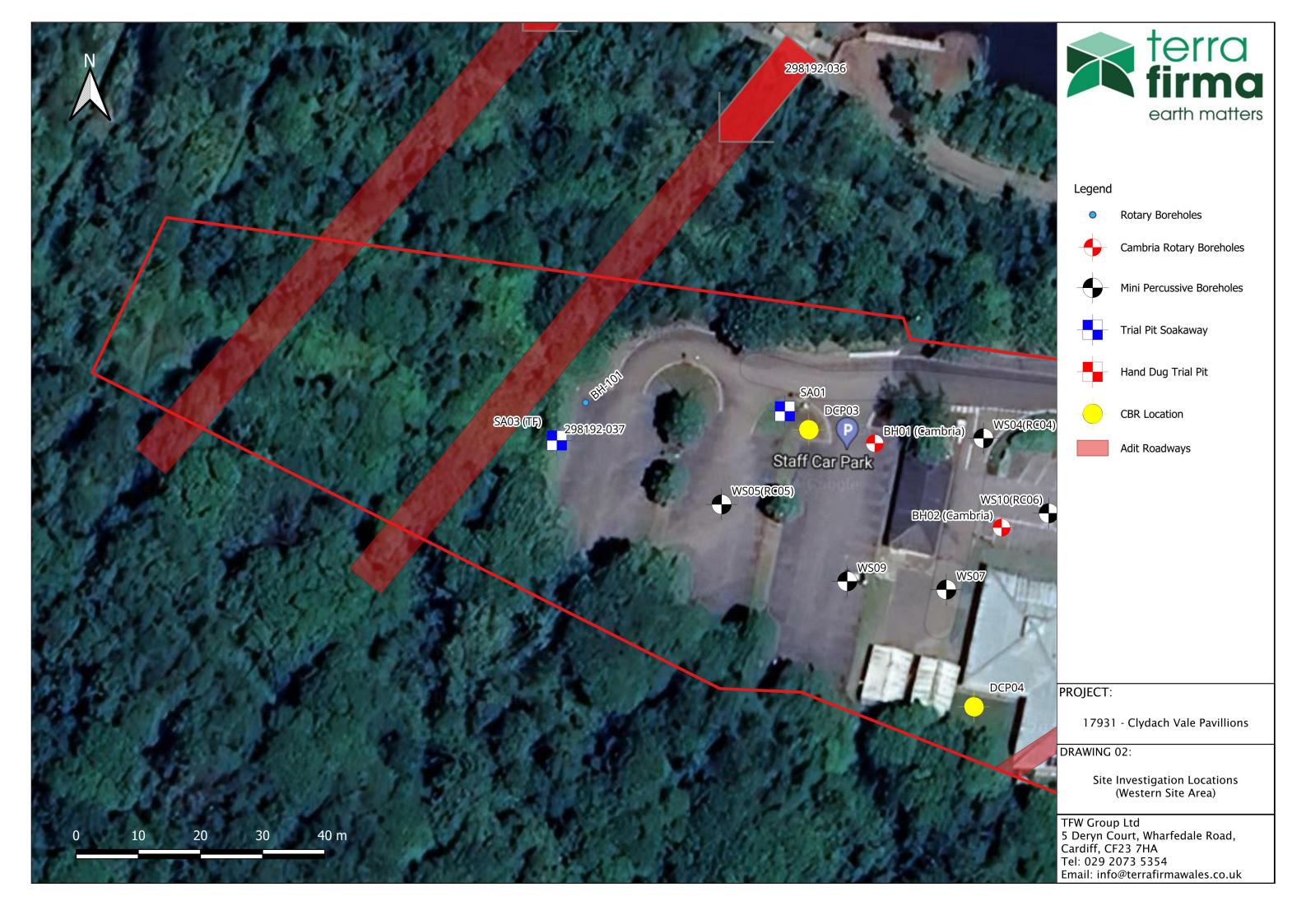
The following records should be provided by the drilling contractor on a daily basis and kept to inform the drilling and grouting verification report.

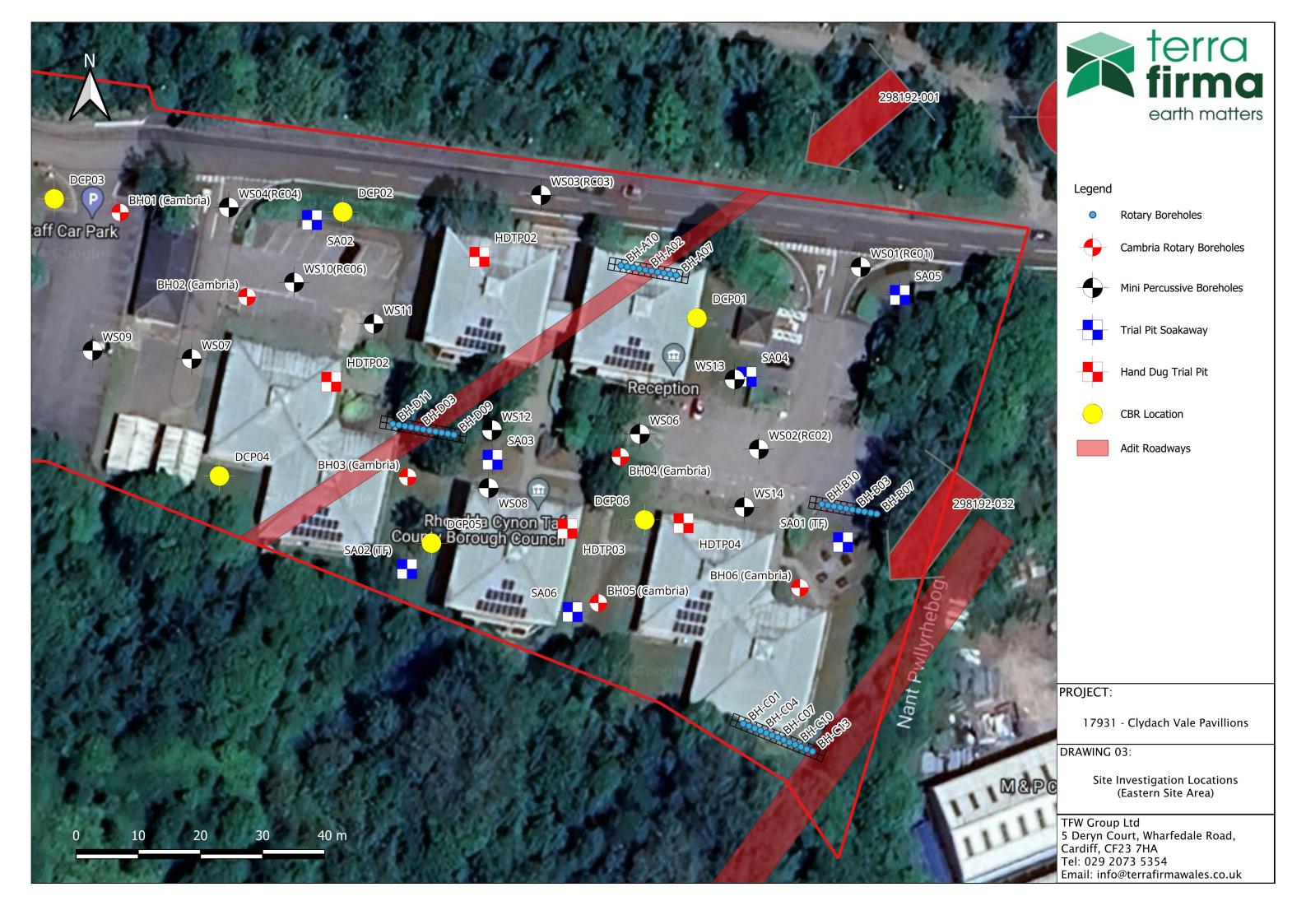
- 1. Daily driller logs.
- 2. Grout records.
- 3. Cement, PFA and gravel/sand delivery records.



ANNEX A
Site Investigation Data







Geotechn	terr firr	TO no	Tel: 02920 73 info@terrafirmaw www.terrafirmaw	ales.co.uk			Bore	ehole Log	Borehole No. BH01 (Cambria) Sheet 1 of 2	
Project Name:	The Pavilio	ons	100		Project N 17931	lo:	Co-ords:	298061E - 192767N	Hole Type RO	
Location	: Tonypandy	,			•		Level:	200.82m	Scale 1:100	
Client:	Morgan Si	ndal Co	nstruction & Infrastr	ructure Ltd			Dates:	11/06/2024 - 11/06/2024	Logged By Van Elle	,
Water Strikes			n Situ Testing	Depth	Level (m)	Well	Legend	Stratum Description		
Stilkes	Depth (m)	Туре	Results	(m) 0.10	200.72			Tarmac (Drillers Description)		=
				6.90	193.92			Fill (Drillers Description) Mudstone / Sandstone (Drillers Descript	ion)	1 2 3 3 4 4 5 6 6 7 7 10 11 11 12 12 13 13 14 15 15 15 16 17 17 17 17 17 17 17 17 17 17 17 17 17
				15.10	185.72			Coal (Drillers Description)		15
				16.10	184.72			Fractured Sandstone Poor Returns (Drill	lers Description)	16 16

Tel: 02920 735354 **Borehole Log** info@terrafirmawales.co.uk www.terrafirmawales.co.uk Project No: Project The Pavilions Co-ords: 298061E - 192767N 17931 Location: Tonypandy Level: Dates: Client: Morgan Sindal Construction & Infrastructure Ltd Sample and In Situ Testing Water Well Legend Strikes (m) (m) Depth (m) Type Results

200.82m	Scale
200.02111	1:100
11/06/2024 - 11/06/2024	Logged By
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Stratum Description	on
Fractured Sandstone Poor Returns (I	Drillers Description)
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End of Borehole at 39.0	000m = 39
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Borehole No.

BH01

(Cambria)

Sheet 2 of 2

Hole Type

RO

Remarks: 1. Borehole cased to 6.00m. 2. No groundwater recorded. 3. Description is provided by the drillers based on the arisings at the surface. 4. Borehole terminated at scheduled depth 5. Borehole backfilled with gravel and OPC. 6. No gas detected during drilling.

161.82

39.00

Geotechn	Tel: 02920 735354 info@terrafirmawales.co.uk www.terrafirmawales.co.uk					Borehole No. BH02 (Cambria) Sheet 1 of 2			
Project Name:	The Pavili	ons			Project N 17931	lo:	Co-ords:	298082E - 192753N	Hole Type RO
Location	: Tonypand	у			1		Level:	200.25m	Scale 1:100
Client:	Morgan S	indal Cons	struction & Infrastr	ructure Ltd			Dates:	11/06/2024 - 11/06/2024	Logged By Van Elle
Water Strikes	Samp Depth (m)	Type	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depair (iii)	Туре	results	5.80	194.45			Tarmac (Drillers Description) Fill (Drillers Description) Mudstone (Drillers Description)	
				13.70	186.55			Soft Coal (Drillers Description)	1
				14.50	185.75			Sandstone (Drillers Description)	1

20

Geotechnica	terra firma	Tel: 02920 735354 info@terrafirmawales.co.uk www.terrafirmawales.co.uk
Project Name:	The Pavilions	

Borehole Log

Borehole No.
BH02
(Cambria)
Sheet 2 of 2

Georechnic	Georechnical & Geoenvironmental Specialists				OHOUL E OH E
Project Name:	The Pavilions	Project No: 17931	Co-ords:	298082E - 192753N	Hole Type RO
ranic.		17931			
Location:	Tonypandy		Level:	200.25m	Scale
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Client	Manager City del Company attended to the forest and the		Detec	44/06/2024 44/06/2024	Logged By
Client:	Morgan Sindal Construction & Infrastructure Ltd		Dates:	11/06/2024 - 11/06/2024	

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Tel: 02920 735354 **Borehole Log** info@terrafirmawales.co.uk www.terrafirmawales.co.uk Project No: Project The Pavilions Co-ords: 298107E - 192724N 17931

Borehole No. **BH03** (Cambria) Sheet 1 of 2

Hole Type RO

		_		
evel:	200.65m	Scale		
evei.	200.03111	1:100		
otoo:	11/06/2024 11/06/2024	Logged By		

Location	: Tonypandy					Level:	200.65m	Scale 1:100	
Client:	Morgan Sir	ndal Con	struction & Infrastr	ucture Ltd			Dates:	11/06/2024 - 11/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	and In	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Deptil (III)	Туре	Results	0.50	200.15			Topsoil (Drillers Description)	
				10.90	189.75			Fill (Drillers Description) Mudstone / Sandstone	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				16.40 17.10	184.25 183.55			Soft Poor Returns (Drillers Description) Solid Poor Returns (Drillers Description)	10 10 10 10 10 10 10 10 10 10 10 10 10 1

	terra firma	Tel: 02920 735354 info@terrafirmawales.co.uk www.terrafirmawales.co.uk
Project Name:	al & Geoenvironmental Specialists The Pavillions	
Location:	Tonypandy	

Borehole Log

Borehole No.
BH03
(Cambria)
Sheet 2 of 2

Georechnic	cal & Geoenvironmental Specialists				0110012012
Project Name:	The Pavilions	Project No: 17931	Co-ords:	298107E - 192724N	Hole Type RO
Location:	Tonypandy		Level:	200.65m	Scale 1:100
Client:	Morgan Sindal Construction & Infrastructure Ltd		Dates:	11/06/2024 - 11/06/2024	Logged By

cation	i: Tonypandy	,				Level:	200.65m	1:100		
ient:	Morgan Si	ndal Cor	nstruction & Infrastru	ucture Ltd			Dates:	11/06/2024 - 11/06/2024	Logged By Van Elle	
Vater trikes			Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description		
inco	Depth (m)	Туре	Results	(111)	(111)	50.535		Solid Poor Returns (Drillers Description)		
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				31.00	169.65			Soft Poor Returns (Drillers Description)	E	
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				33.00	167.65					
				33.00	107.03		1: : : : : :	Solid Poor Returns (Drillers Description)	E	
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				39.00	161.65			End of Borehole at 39.000m	<u> </u>	
				39.00	161.65			End of Borehole at 39.000m	<u></u>	

Borehole No. Tel: 02920 735354 **BH04 Borehole Log** info@terrafirmawales.co.uk (Cambria) www.terrafirmawales.co.uk Sheet 1 of 2 Project No: Hole Type Project Co-ords: 298142E - 192728N The Pavilions 17931 RO Scale Location: Level: 200.20m Tonypandy 1:100 Logged By Client: Dates: 12/06/2024 - 12/06/2024 Morgan Sindal Construction & Infrastructure Ltd Van Elle Sample and In Situ Testing Water Well Legend Stratum Description Strikes (m) (m) Depth (m) Туре Results Topsoil (Drillers Description) 0.60 199.60 Fill (Drillers Description) 5 . 7 8.00 192.20 8 Coal (Drillers Description) 8.60 191.60 Mudstone (Drillers Description)

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	terr firr	na	Tel: 02920 73 nfo@terrafirmaw www.terrafirmaw	ales.co.uk		İ	Bore	ehole Log	Borehole No. BH04 (Cambria Sheet 2 of 2	
Project lame:	The Pavilio				Project N	lo:	Co-ords	: 298142E - 192728N	Hole Type RO	
ocation:	Tonypandy						Level:	200.20m	Scale 1:100	
lient:	Morgan Sir	ndal Const	ruction & Infrastr	ucture Ltd			Dates: 12/06/2024 - 12/06/2024		Logged By Van Elle	
Vater	Sample	and In S	itu Testing	Depth	Level	Well	Legend	Stratum Description		
trikes	Depth (m)	Туре	Results	(m)	(m)	11011	Logona	Mudstone (Drillers Description)		
				24.60	175.60			Fractured Sandstone (Drillers Description		
				32.80 35.60	167.40			Soft / Broken Ground No Returns (Driller Solid No Returns (Drillers Description)	s Description)	

161.20

39.00

37

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End of Borehole at 39.000m

Tel: 02920 735354 info@terrafirmawales.co.uk www.terrafirmawales.co.uk

Borehole Log

Borehole No. BH05 (Cambria) Sheet 1 of 2

Project No: 17931 Co-ords: 298138E - 192704N Hole Type RO
Location: Tonypandy Level: 200.42m Scale 1:100

Client: Morgan Sindal Construction & Infrastructure Ltd Dates: 12/06/2024 - 12/06/2024

									1:100 Logged By
ent:	Morgan Si	ndal Cons	truction & Infrastr	ructure Ltd			Dates:	12/06/2024 - 12/06/2024	Van Elle
/ater rikes	Sample Depth (m)	e and In S	Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Deptil (III)	Турс	results			19 1 5 1 1 5 1 5 5		Topsoil (Drillers Description)	
				0.60	199.82			Fill (Drillers Description)	
				6.20	194.22			Mudstone (Drillers Description)	
				15.20	185.22		X()X()	Soft No Returns (Drillers Description)	
				15.90	184.52			Solid No Returns (Drillers Description)	
								Golid No Netariis (Brillers Bescription)	
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Geotech	teri firr	na	Tel: 02920 73 info@terrafirmawa www.terrafirmawa	ales.co.uk		Borehole Log				
Project Name:	The Pavilio	ons			Project N 17931	lo:	Co-ords:	: 298138E - 192704N	Hole Type RO	
Location	n: Tonypandy	,			•		Level:	200.42m	Scale 1:100	
Client:	Morgan Si	nstruction & Infrastr	ucture Ltd			Dates:	12/06/2024 - 12/06/2024	Logged By Van Elle		
Water Strikes	Sampl	e and Ir	n Situ Testing	Depth	Level	Well	Legend	Stratum Description		
Strikes	Depth (m)	Туре	Results	(m)	(m)			Solid No Returns (Drillers Description)		

Soft / Broken Ground No Returns (Drillers Description)

End of Borehole at 36.000m

Solid No Returns (Drillers Description)

Remarks: 1. Borehole cased to 6.00m. 2. No groundwater recorded. 3. Description is provided by the drillers based on the arisings at the surface. 4. Borehole terminated at scheduled depth 5. Borehole backfilled with gravel and OPC. 6. No gas detected during drilling.

32.50

33.20

36.00

167.92

167.22

164.42

Geotechi	Tel: 02920 735354 info@terrafirmawales.co.uk www.terrafirmawales.co.uk						Bore	ehole Log	Borehole No. BH06 (Cambria) Sheet 1 of 2
Project Name:	The Pavilio	ns	-		Project N 17931	0:	Co-ords:	298170E - 192706N	Hole Type RO
Location	: Tonypandy						Level:	200.15m	Scale 1:100
Client:	Morgan Sin	ndal Co	nstruction & Infrastru	cture Ltd			Dates:	12/06/2024 - 12/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	Type	n Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Bopar (iii)	Type	ROSCILO	6.20	199.95 193.95			Topsoil (Drillers Description) Fill (Drillers Description) Mudstone (Drillers Description)	1 2 2 3 4 4 5 5 1 6 6 7 7
					407.45				10 = 11 = 12 = 12
				13.00	187.15			Coal (Drillers Description)	
				13.90	186.25			Mudstone (Drillers Description)	15

Geotechn	terr firr	d na	Tel: 02920 73 info@terrafirmaw www.terrafirmaw	ales.co.uk			Bore	ehole Log	Borehole No. BH06 (Cambria) Sheet 2 of 2
roject lame:	The Pavilio	ons			Project No: 17931		Co-ords	: 298170E - 192706N	Hole Type RO
ocation	Tonypandy	,					Level:	200.15m	Scale 1:100
lient:	Morgan Sir	ndal Cons	struction & Infrastr	ucture Ltd			Dates:	12/06/2024 - 12/06/2024	Logged By Van Elle
Vater trikes			Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	
unco	Depth (m)	Туре	Results	()	(111)			Mudstone (Drillers Description)	
				21.00	179.15			Coal (Drillers Description)	
				21.70	178.45			Mudstone (Drillers Description)	
				26.30	173.85				
				20.00	170.00			Soft and Fractured Sandstone Poor Retu Description)	ırns (Drillers
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161.15

39.00

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End of Borehole at 39.000m

	terr	a	Tel: 02920 73 info@terrafirmawa				Dore	shole Log	Borehole No. BH101
	firn	na	www.terrafirmawa	les.co.uk		l	БОГЕ	ehole Log	
Geotechi	nical & Geoenvironment	al Specialis	ts		Droject N	lo:			Sheet 1 of 3
Project Name:	The Pavilio	ns			Project N 17931	10:	Co-ords:	298014E - 1928N	Hole Type RO
	. Tanımandı				111001		Level	202.40	Scale
Location	: Tonypandy						Level:	202.10m	1:100
Client:			nstruction & Infrastro	ucture Ltd			Dates:	11/06/2024 - 11/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	Type	n Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	. , ,			0.10	202.00			Tarmac (Drillers Description) Fill (Drillers Description)	
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				6.30	195.80			Sandstone (Drillers Description)	
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				9.70	192.40	100	::::::	M 11 /0 11 /0 11	<u> </u>
							:	Mudstone / Sandstone (Drillers Description	10
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				14.00	188.10			Coal (Drillers Description)	14
				14.50	187.60			Mudstone (Drillers Description)	
				15.10	187.00				
				10.10	107.00			Coal (Drillers Description)	E
				46.00	100 10				£ ,_
				16.00	186.10			Mudstone / Sandstone (Drillers Description	16
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	firm		info@terrafirmaw www.terrafirmaw	ales.co.uk			Bore	ehole Log	BH101			
Geotechn	nical & Geoenvironment						ı		Sheet 2 of			
Project lame:	The Pavilio	ns			Project N 17931	0:	Co-ords:	: 298014E - 1928N	Hole Type RO	;		
ocation	: Tonypandy						Level:	202.10m	Scale 1:100			
Client:	Morgan Sir	ndal Cons	truction & Infrasti	ructure Ltd			Dates:	11/06/2024 - 11/06/2024	Logged By Van Elle	y		
Water	Sample	and In S	Situ Testing	Depth	Level	Well	Legend	Stratum Description				
Strikes	Depth (m)	Туре	Results	(m)	(m)	20.752			on)			
				24.50	177.60			Fractured Sandstone Poor Returns (Drill	ers Description)	21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 36 37 38 39 39 39 39		
										40		

	ter firr		Tel: 02920 73 info@terrafirmawa www.terrafirmawa	ales.co.uk			Bore	ehole Log	Borehole N BH101 Sheet 3 of	1	
Project Name:	ical & Geoenvironme The Pavili	ons			Project N	lo:	Co-ords:	298014E - 1928N	Hole Type RO		
Location	Tonypand	y			17931		Level:	202.10m	Scale		
Client:	Morgan S	ndal Cons	truction & Infrastr	ucture Ltd			Dates:	11/06/2024 - 11/06/2024		1:100 Logged By	
Water			Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description			
Water	Depth (m) Type Results			50.00	152.10	Well	Fractured Sandstone Poor Returns (Di			41 42 43 44 45 46 47 48 49 50	
										53 54 55 56 57 57 58 58	

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	≥ teri	ď	Tel: 02920 73					ehole Log	Borehole No.	
firma info@terrafirmawales.co.uk www.terrafirmawales.co.uk						BH-A01				
Project	The Pavilio	nar op o orano.	s		Project N	lo:	Co-ords	: 298015E - 192773N	Sheet 1 of 2 Hole Type	
Name:	THE T UVIII)IIO			17931		00 0103	. 2000102 10277014	RO Scale	
Location: Tonypandy							Level:	199.82m	1:100	
Client:	Morgan Si	ndal Co	nstruction & Infrastr	ucture Ltd			Dates:	12/06/2024 - 12/06/2024	Logged By Van Elle	
Water Strikes	Sampl Depth (m)	e and Ir	Results	Depth (m)	Level (m)	Well	Legend	Stratum Description		
	Depti (iii)	Турс	reduits					Topsoil (Drillers Description)		
				0.50	199.32			Soft to Firm Fill (Drillers Description)	1 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
				13.00	186.82			Void / Broken Ground No Returns (Driller		
									rs Description)	
									E E 15	
				15.80	184.02			Solid No Returns (Drillers Description)	<u> </u>	
								Could the Metallis (Dilliers Describtion)	E 16	
									17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	
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Geotechr Project	nical & Geoenvironment		ts		Project N	lo:			Sheet 2 of 2 Hole Type
Name:	The Pavilio	ns			17931		Co-ords	: 298015E - 192773N	RO
Location	: Tonypandy						Level:	199.82m	Scale 1:100
Client:	Morgan Sir	ndal Co	nstruction & Infrastruc	ture Ltd			Dates:	12/06/2024 - 12/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	and I	n Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Dopar (III)	Турс	results					Solid No Returns (Drillers Description)	=
				21.00	178.82				2
				200	170.02			End of Borehole at 21.000m	Ē *
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	tor		= 1 acces						Borehole No		
	Terr firm	na	Tel: 02920 73 info@terrafirmaw www.terrafirmaw	ales.co.uk		Borehole Log					
Geotechr	nical & Geoenvironmen	ital Specialists							Sheet 1 of 2		
oject me:	The Pavilio	ons			Project N 17931	0:	Co-ords:	298146E - 192758N	Hole Type RO		
cation	: Tonypandy	,			•		Level:	199.90m	Scale 1:100		
ent:	Morgon Cir	adal Can	atruction 9 Infrast	ruoturo I td			Datas	12/06/2024 12/06/2024	Logged By		
1			struction & Infrastr	ucture Lta		ı	Dates:	12/06/2024 - 12/06/2024	Van Elle		
ater ikes	Sample Depth (m)	Type	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description			
	Deptil (III)	Туре	Nesuits					Topsoil (Drillers Description)			
				0.50	199.40			Soft to Firm Fill (Drillers Description)			
				40.00	400.00						
				13.00	186.90			Void / Broken Ground No Returns (Driller	's Description)		
				15.80	184.10			Solid No Returns (Drillers Description)			
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Tel: 02920 735354 info@terrafirmawales.co.uk www.terrafirmawales.co.uk						Borehole Log					
roject ame:	The Pavilio	ns			Project N 17931	0:	Co-ords:	298146E - 192758N	Hole Type RO		
ocation: Tonypandy								199.90m	Scale 1:100		
lient:	Morgan Sin	dal Co	nstruction & Infrastru	ıcture Ltd			Dates:	12/06/2024 - 12/06/2024	Logged By Van Elle		
Vater	Sample	and Ir	n Situ Testing	Depth	Level	Well	Legend	Stratum Description			
trikes	Depth (m)	Туре	Results	(m)	(m)	19.545		Solid No Returns (Drillers Description)	=		
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				21.00	178.90	2.01.2.13		End of Borehole at 21.000m			
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Geotechi Project	nical & Geoenvironmen				Project N	lo:	Ī		Sheet 1 of 2 Hole Type	
Name:	The Pavilio	ons			17931		Co-ords:	298147E - 192757N	RO	
Location	: Tonypandy	′					Level:	199.92m	Scale 1:100	
Client:	Morgan Si	ndal Con	struction & Infrastr	ructure Ltd			Dates:	12/06/2024 - 12/06/2024	Logged By Van Elle	′
Water Strikes	Sample Depth (m)	e and In	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description		
	Deptil (III)	туре	Results		1 . ,	19.55		Topsoil (Drillers Description)		
				0.50	199.42			Soft to Firm Fill (Drillers Description)		1 2 3 4 4 5 6 6 7 10 11 12 12 12 12 12 12 12 12 12 12 12 12
				13.00	186.92			Void / Broken Ground No Returns (Drillers		13
										14
				15.80	184.12			Solid No Returns (Drillers Description)		16
										17

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	terr firr	a na	Tel: 02920 735 info@terrafirmawal www.terrafirmawal	es.co.uk			Bore	ehole Log	Borehole No. BH-A03
Geotechn roject	ical & Geoenvironment				Project N	lo:		0004475 40075714	Sheet 2 of 2 Hole Type
ame:	The Pavilio	ons ———			17931		Co-ords:	298147E - 192757N	RO
ocation:	Tonypandy						Level:	199.92m	Scale 1:100
lient:	Morgan Sir	ndal Con	nstruction & Infrastru	cture Ltd			Dates:	12/06/2024 - 12/06/2024	Logged By Van Elle
Nater Strikes	Sample Depth (m)	Type	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	2 op a. ()	.,,,,	results					Solid No Returns (Drillers Description)	
				21.00	178.92				<u> </u>
				21.00	170.02			End of Borehole at 21.000m	
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	terr firn	a na	Tel: 02920 73 info@terrafirmaw www.terrafirmaw	ales.co.uk			Bore	ehole Log	Borehole No. BH-A04 Sheet 1 of 2
roject lame:	The Pavilio	tal Specialists			Project N	0:	Co-ords:	298148E - 192757N	Hole Type RO
ocation	Tonypandy						Level:	199.95m	Scale 1:100
ient:	Morgan Sin	ndal Cons	truction & Infrastr	ucture Ltd			Dates:	13/06/2024 - 13/06/2024	Logged By Van Elle
/ater rikes	Sample Depth (m)	Type	Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Dopar (III)	1,700	rtodato	0.50	199.45			Topsoil (Drillers Description)	= = = = = = = = = = = = = = = = = = = =
								Fill (Drillers Description)	
				13.00	186.95			Void / Broken Ground No Returns (Driller	
				15.40	184.55			Solid No Returns (Drillers Description)	

	terr firr	a na	Tel: 02920 735 info@terrafirmawal www.terrafirmawal	es.co.uk			Bore	ehole Log	Borehole No. BH-A04
roject	ical & Geoenvironmen	ar op o oranoio			Project N	lo·			Sheet 2 of 2 Hole Type
roject lame:	The Pavilio	ns			17931	10.	Co-ords:	298148E - 192757N	RO RO
ocation	: Tonypandy	,			•		Level:	199.95m	Scale 1:100
lient:	Morgan Sir	ndal Cor	nstruction & Infrastru	cture Ltd			Dates:	13/06/2024 - 13/06/2024	Logged By Van Elle
Nater Strikes	Sample Depth (m)	Type	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Bopai (iii)	1,750	recurs					Solid No Returns (Drillers Description)	
				21.00	178.95				
				200				End of Borehole at 21.000m	' <u> </u>
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Project Name:	nical & Geoenvironmer The Pavilio				Project N	lo:	Co-ords:	: 298149E - 192757N	Sheet 1 of Hole Type	
Location	: Tonypandy	, ,			17931		Level:	199.94m	RO Scale 1:100	
Client:	Morgan Si	ndal Cons	struction & Infrastr	ucture Ltd			Dates:	13/06/2024 - 13/06/2024	Logged By Van Elle	
Water Strikes			Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description		
	Depth (m)	Туре	Results	0.50	199.44			Topsoil (Drillers Description) Fill (Drillers Description)		3 3 4 4 5 6 6 7 7 8 8 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				11.80	188.14			Mudstone / Sandstone (Drillers Description	on)	11 12 13 14 15 16
				18.00	181.94			End of Borehole at 18.000m		17

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	teri	ra na	Tel: 02920 73 info@terrafirmaw www.terrafirmaw	ales.co.uk			Bore	ehole Log	Borehole No. BH-A06	
Geotechi Project Name:	The Pavilio				Project N	lo:	Co-ords:	298150E - 192757N	Sheet 1 of 1 Hole Type RO	
Location	: Tonypandy	/			1		Level:	199.90m	Scale 1:100	
Client:	Morgan Si	ndal Cons	struction & Infrastr	ucture Ltd			Dates:	13/06/2024 - 13/06/2024	Logged By Van Elle	
Water	Sampl	e and In	Situ Testing	Depth	Level	Well	Legend	Stratum Description	Variable	
Strikes	Depth (m)	Туре	Results	(m)	(m)	19.55		Topsoil (Drillers Description)	=	_
				11.80	188.10			Fill (Drillers Description) Mudstone / Sandstone (Drillers Description)	on)	9 10 11 12 13 14 15
				18.00	181.90			End of Borehole at 18.000n		17 18

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	terr	'n	Tel: 02920 73	5354					Borehole No.
	firr	na	info@terrafirmawa www.terrafirmawa	ales.co.uk			Bore	ehole Log	BH-A07
Geotechnic Project	cal & Geoenvironmen				Project N	o:			Sheet 1 of 1 Hole Type
Name:	The Pavilio	ons			17931		Co-ords:	298151E - 192757N	RO
Location:	Tonypandy						Level:	199.85m	Scale 1:100
Client:	Morgan Sir	ndal Cor	nstruction & Infrastr	ucture Ltd			Dates:	13/06/2024 - 13/06/2024	Logged By Van Elle
Water Strikes			Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	
Ounco	Depth (m)	Туре	Results	(111)	()	19.55		Topsoil (Drillers Description)	
				11.80	188.05			Fill (Drillers Description) Mudstone / Sandstone (Drillers Description)	1 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				18.00	181.85			End of Borehole at 18.000m	

	teri	ra	Tel: 02920 73	5354					Borehole No.	-
	firr	na	info@terrafirmawa www.terrafirmawa	ales.co.uk			Bore	ehole Log	BH-A08	
Geotechn	ical & Geoenvironmer	non epochanista			Project N	0.			Sheet 1 of 1 Hole Type	
Project Name:	The Pavilio	ons			17931	· · · · · · · · · · · · · · · · · · ·	Co-ords:	298144E - 192758N	RO	
Location	Tonypandy	1					Level:	199.85m	Scale 1:100	
Client:	Morgan Si	ndal Cons	struction & Infrastr	ucture Ltd	_		Dates:	13/06/2024 - 13/06/2024	Logged By Van Elle	
Water Strikes	Sampl Depth (m)	e and In S	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description		
				0.50	199.35			Topsoil (Drillers Description) Fill (Drillers Description)		- 1 - 2 - 3 - 4 - 5 - 7 - 8 - 9 - 10
				12.00	187.85			Mudstone / Sandstone (Drillers Description		- 11 - 12 - 12 - 13 - 14 - 15 - 16
				18.00	181.85			End of Borehole at 18.000m	= = = = = = = = = = = = = = = = = = =	- - 18

- 19

	terr firr	a na	Tel: 02920 73 info@terrafirmawa www.terrafirmawa	ales.co.uk		l	Bore	ehole Log	Borehole No.
Geotechr Project lame:	The Pavilio				Project N	0:	Co-ords:	298143E - 192758N	Sheet 1 of 1 Hole Type
ocation	: Tonypandy	,			17001		Level:	199.81m	RO Scale 1:100
lient:	Morgan Sir	ndal Cons	struction & Infrastr	ucture Ltd			Dates:	13/06/2024 - 13/06/2024	Logged By Van Elle
/ater rikes	Sample Depth (m)	e and In S	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Deput (III)	Туре	results	0.50	199.31			Topsoil (Drillers Description) Fill (Drillers Description)	
				12.00	187.81			Mudstone / Sandstone (Drillers Descriptio	
				18.00	181.81			End of Borehole at 18.000m	

Borehole No. Tel: 02920 735354 **Borehole Log** info@terrafirmawales.co.uk **BH-A10** www.terrafirmawales.co.uk Sheet 1 of 1 Project No: Hole Type Project Co-ords: 298142E - 192758N The Pavilions 17931 RO Scale Location: Level: 199.79m Tonypandy 1:100 Logged By Client: Dates: 13/06/2024 - 13/06/2024 Morgan Sindal Construction & Infrastructure Ltd Sample and In Situ Testing Water Well Legend Stratum Description Strikes (m) (m) Depth (m) Туре Results Overburden (Drillers Description) 0.50 199.29 Fill (Drillers Description) 5 - 7 8 9 10 11 12.00 187.79 Mudstone / Sandstone (Drillers Description) 13 14

Remarks: 1. No casing used. 2. No groundwater recorded. 3. Description is provided by the drillers based on the arisings at the surface. 4. Borehole terminated at scheduled depth 5. Borehole backfilled with gravel and OPC. 6. No gas detected during drilling.

18.00

181.79

15

16

17

18

19

20

End of Borehole at 18.000m

	terro Tel: 02920 735354 info@terrafirmawales.co.uk www.terrafirmawales.co.uk						Bore	ehole Log	Borehole No. BH-B01 Sheet 1 of 2
Project Name:	The Pavilio		S		Project N	lo:	Co-ords:	298177E - 192719N	Hole Type RO
Location	: Tonypandy				<u>'</u>		Level:	199.59m	Scale 1:100
Client:	Morgan Sin	ıdal Co	nstruction & Infrastru	ucture Ltd			Dates:	20/06/2024 - 20/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	and Ir	n Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Bopar (iii)	Турс	results	6.50	193.09			Overburden (Drillers Description) Mudstone (Driller Description)	1 1 2 2 3 3 4 4 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				15.50 16.50	184.09 183.09			Coal (Drillers Description) Mudstone (Drillers Description)	11 12 13 14 15 16 17 18 19 19

	Tel: 02920 735354 info@terrafirmawales.co.uk www.terrafirmawales.co.uk					ehole Log	BH-B01		
Geotechn Project Name:	The Pavilion	Specialists S			Project N 17931	0:	Co-ords:	298177E - 192719N	Sheet 2 of 2 Hole Type RO
Location	: Tonypandy						Level:	199.59m	Scale 1:100
Client:	Morgan Sind	lal Const	ruction & Infrastru	ucture Ltd	_		Dates:	20/06/2024 - 20/06/2024	Logged By Van Elle
Water Strikes		and In S	itu Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depair (iii)	Турс	results					Mudstone (Drillers Description)	=
				21.00	178.59			Coal (Drillers Description)	
				21.80	177.79			Sandstone (Drillers Description)	
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				39.00	160.59			End of Borehole at 39.000m	
								Life of Dorellole at 39.000III	

Geotechn	terr firn	na	Tel: 02920 735 info@terrafirmawal www.terrafirmawal	es.co.uk			Bore	ehole Log	Borehole No. BH-B02 Sheet 1 of 2
Project Name:	The Pavilion	ns			Project N 17931	o:	Co-ords:	298178E - 192719N	Hole Type RO
Location	: Tonypandy						Level:	199.58m	Scale 1:100
Client:	Morgan Sin	dal Co	nstruction & Infrastru	cture Ltd			Dates:	19/06/2024 - 19/06/2024	Logged By Van Elle
Water Strikes			Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
Strikes	Depth (m)	Type	Results	6.40 15.20 16.20	(m) 193.18			Overburden (Drillers Description) Mudstone (Drillers Description) Coal (Drillers Description)	1 1 2 3 3 4 4 4 5 5 6 6 7 7 8 8 10 10 11 12 13 13 14 15 16 16 17 17 18 11 11 11 11 11 11 11 11 11 11 11 11
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Tel: 02920 735354 info@terrafirmawales.co.uk www.terrafirmawales.co.uk					Borehole Log				Borehole No. BH-B02 Sheet 2 of 2	
Geotechr Project Name:	The Pavilion	ns			Project N 17931	0:	Co-ords:	298178E - 192719N	Hole Type RO	
Location	: Tonypandy						Level:	199.58m	Scale 1:100	
Client:	Morgan Sin	dal Cons	struction & Infrastr	ucture Ltd			Dates:	19/06/2024 - 19/06/2024	Logged By Van Elle	
Water Strikes		and In	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description		
	1 ()	,,		20.70	178.88			Mudstone (Drillers Description)		
				21.40	178.18			Coal (Drillers Description) Sandstone (Drillers Description)	2	
				39.00	160.58					
				39.00	160.58	1		End of Borehole at 39.000m		
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Tel: 02920 735354 info@terrafirmawales.co.uk www.terrafirmawales.co.uk						l	ehole Log	Borehole No. BH-B03	
Geotechr Project	The Pavilio	al Specialist	s		Project N	o:	Co-ords:	298179E - 192719N	Sheet 1 of 2 Hole Type
Name: Location					17931		Level:	199.56m	RO Scale
									1:100 Logged By
Client:			nstruction & Infrastr				Dates:	19/06/2024 - 19/06/2024	Van Elle
Water Strikes	Sample Depth (m)	Type	Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
				6.40	193.16			Overburden (Drillers Description) Mudstone (Drillers Description)	1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				15.00 16.00	184.56 183.56			Coal (Drillers Description) Mudstone / Sandstone (Drillers Description	11 12 13 14 15 15 16 16 16 16 16 16

	terre	d	Tel: 02920 7353 info@terrafirmawale www.terrafirmawale	es.co.uk		ehole Log	Borehole No. BH-B03		
Geotech	nical & Geoenvironmenta	I Specialists	www.terranifinawale	75.60.UK					Sheet 2 of 2
Project Name:	The Pavilion	ns			Project N 17931	0:	Co-ords:	298179E - 192719N	Hole Type RO
Location	n: Tonypandy				17931		Level:	199.56m	Scale 1:100
Client:	Morgan Sind	dal Con	struction & Infrastruc	cture Ltd			Dates:	19/06/2024 - 19/06/2024	Logged By Van Elle
Water Strikes		and In	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	1 ()	, , , , , , , , , , , , , , , , , , ,		20.50	179.06			Mudstone / Sandstone (Drillers Description	on)
								Coal (Drillers Description)	21
				21.20	178.36			Sandstone (Drillers Description)	22 23 24 25 26 26 27 28 29 29 29 29 29 29 29 29 29 29 29 29 29
				39.00	160.56				- 30
				30.00	.00.00			End of Borehole at 39.000m	40

terro Tel: 02920 735354 info@terrafirmawales.co.uk www.terrafirmawales.co.uk						l	ehole Log	Borehole No. BH-B04	
Geotechr Project	nical & Geoenvironment	al Specialis	is		Project N	o:	0	2004005 400740N	Sheet 1 of 2 Hole Type
Name:	The Pavilio				17931		Co-ords:		RO Scale
Location	: Tonypandy						Level:	199.55m	1:100
Client:	Morgan Sin	idal Co	nstruction & Infrastru	icture Ltd	_		Dates:	19/06/2024 - 19/06/2024	Logged By Van Elle
Water Strikes			n Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	
Strikes	Depth (m)	Туре	Results	6.20 6.20	185.15 184.45			Overburden (Drillers Description) Mudstone (Drillers Description) Coal (Drillers Description) Mudstone / Sandstone (Drillers Description)	1 1 2 3 3 4 4 5 5 4 6 6 7 10 10 11 11 12 12 13 13 14 14 15 16 16 17 17 16 16 17 17
									16 17 18 19 19 20

Tel: 02920 735354 info@terrafirmawales.co.uk www.terrafirmawales.co.uk						ehole Log	Borehole No. BH-B04		
Geotechn Project Name:	The Pavilio	al Specialists			Project N	0:	Co-ords:	298180E - 192719N	Sheet 2 of 2 Hole Type RO
ocation	Tonypandy						Level:	199.55m	Scale 1:100
Client:	Morgan Sin	ıdal Cor	nstruction & Infrastru	ucture Ltd			Dates:	19/06/2024 - 19/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	and In	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Bopar (III)	1,750	rtoduto	20.20	179.35			Mudstone / Sandstone (Drillers Description Coal (Drillers Description)	n)
				21.00	178.55				
				21.00	176.55			Sandstone (Drillers Description)	<u> </u>
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				39.00	160.55	100 mg/2		End of Borobolo at 20 000m	
								End of Borehole at 39.000m	

	terr firn	Tel: 02920 73: info@terrafirmawa www.terrafirmawa	les.co.uk		l	Bore	hole Log	Borehole No. BH-B05 Sheet 1 of 2	
Project Name:	The Pavilio		S		Project N	lo:	Co-ords:	298181E - 192719N	Hole Type RO
Location	: Tonypandy				1		Level:	199.53m	Scale 1:100
Client:	Morgan Sin	ıdal Co	nstruction & Infrastru	ucture Ltd			Dates:	19/06/2024 - 19/06/2024	Logged By Van Elle
Water Strikes			Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	
SUIKES	Depth (m)	Type	Results	6.20 14.40 15.10	185.13 184.43			Overburden (Drillers Description) Mudstone (Drillers Description) Coal (Drillers Description) Mudstone / Sandstone (Drillers Description	1 1 2 3 3 4 4 4 5 6 6 7 7 10 10 11 11 12 12 13 13 14 14 15 15 16 16 17 17 18 18 19 19 10 10 11 11 11 11 11 11 11 11 11 11 11
				20.00	179.53				20

	terre	a 1 a	Tel: 02920 7353 info@terrafirmawale www.terrafirmawale	es.co.uk		ehole Log	Borehole No. BH-B05		
Geotechi Project Name:	nical & Geoenvironmenta The Pavillior				Project N	lo:	Co-ords:	298181E - 192719N	Sheet 2 of 2 Hole Type RO
Location	n: Tonypandy				117001		Level:	199.53m	Scale 1:100
Client:	Morgan Sind	dal Con	struction & Infrastruc	cture Ltd			Dates:	19/06/2024 - 19/06/2024	Logged By Van Elle
Water Strikes		and In	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Deptil (III)	Туре	resuits					Coal (Drillers Description)	
				39.00	160.53			End of Borehole at 39.000m	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
				39.00	160.53			End of Borehole at 39.000m	
									40

	Tel: 02920 73 info@terrafirmawa www.terrafirmawa	ales.co.uk	Borehole Log				Borehole No. BH-B06 Sheet 1 of 2		
Project Name:	The Pavilio	al Specialist	is		Project N 17931	0:	Co-ords:	298182E - 192718N	Hole Type RO
Location	: Tonypandy				1		Level:	199.52m	Scale 1:100
Client:	Morgan Sin	ıdal Co	nstruction & Infrastr	ucture Ltd			Dates:	19/06/2024 - 19/06/2024	Logged By Van Elle
Water Strikes			n Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	
Ottines	Depth (m)	Type	Results	6.20	185.32			Overburden (Drillers Description) Mudstone (Drillers Description) Coal (Drillers Description) Mudstone / Sandstone (Drillers Description)	16 11 17 17 18
				19.20 19.90	180.32 179.62			Coal (Drillers Description) Sandstone (Drillers Description)	19

	Tel: 02920 73 info@terrafirmawa www.terrafirmawa	ales.co.uk		ehole Log	Borehole No. BH-B06 Sheet 2 of 2				
Project Name:	The Pavilio	tal Specialists ons	ı		Project N	0:	Co-ords	: 298182E - 192718N	Hole Type RO
Location	: Tonypandy						Level:	199.52m	Scale 1:100
Client:	Morgan Sir	ndal Cor	nstruction & Infrastr	ucture Ltd			Dates:	19/06/2024 - 19/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	and In	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	, , ,	,,						Sandstone (Drillers Description)	
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				39.00	160.52		1:::::	End of Borehole at 39.000m	39
								22 5. 25.01010 4. 00.00011	39

F 40

	terr firn	Tel: 02920 735 info@terrafirmawa www.terrafirmawa	les.co.uk			Borehole Log			
Project Name:	The Pavilio		S		Project N	lo:	Co-ords:	298183E - 192718N	Sheet 1 of 3 Hole Type RO
Location	: Tonypandy				-		Level:	199.50m	Scale 1:100
Client:	Morgan Sin	dal Co	nstruction & Infrastru	ıcture Ltd			Dates:	18/06/2024 - 18/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	and Ir	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depart (iii)	Type	TKOSUIG .	6.50	193.00			Overburden (Drillers Description) Mudstone (Drillers Description)	1 1 2 2 3 3 4 4 4 5 5 4 10 10 10 11 12 12 13 13 14 14 15 15 15 16 16 17 17 17 18 11 11 11 11 11 11 11 11 11 11 11 11
				14.00	185.50			Coal (Drillers Description)	
				14.70	184.80			Mudstone / Sandstone (Drillers Description) = 15
				19.00 19.60	180.50 179.90			Coal (Drillers Description) Sandstone (Drillers Description)	15

ferro Tel: 02920 735354 info@terrafirmawales.co.uk www.terrafirmawales.co.uk				I	Bore	ehole Log	Borehole No. BH-B07		
Geotechn	nical & Geoenvironment	ral Specialists					T		Sheet 2 of 3
Project Name:	The Pavilio	ns			Project N 17931	lo:	Co-ords:	298183E - 192718N	Hole Type RO
Location	: Tonypandy				11,991		Level:	199.50m	Scale
Location	. Torryparidy						Level.	199.50111	1:100
Client:	Morgan Sin	ndal Cons	struction & Infrastr	ucture Ltd	1	1	Dates:	18/06/2024 - 18/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	Type	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Deptil (III)	туре	Nesuits				1:::::	Sandstone (Drillers Description)	
									
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	Tel: 02920 735 info@terrafirmawal www.terrafirmawal	es.co.uk			ehole Log	Borehole No. BH-B07			
Project Name:	nical & Geoenvironment The Pavilio		ts		Project N	lo:	Co-ords:	: 298183E - 192718N	Sheet 3 of 3 Hole Type RO
Location	ı: Tonypandy				1		Level:	199.50m	Scale 1:100
Client:	Morgan Sin	ndal Co	nstruction & Infrastru	cture Ltd			Dates:	18/06/2024 - 18/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	Type	n Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
		71		42.00	157.50			Sandstone (Drillers Description) End of Borehole at 42.000m	42
									44 - 44 - 45 - 46 - 47 - 48
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									52 = 52 = 53 = 54
									51 52 53 54 55 56 56 57 58 59
									59

	terr	a	Tel: 02920 73 info@terrafirmaw www.terrafirmaw	ales.co.uk			Bore	ehole Log	Borehole No. BH-B08
Geotechn	nical & Geoenvironment	tal Specialist	s	aios.co.ait	D : (N	1	I	_	Sheet 1 of 2
Project Name:	The Pavilio	ns			Project N 17931	0:	Co-ords:	298176E - 192720N	Hole Type RO
Location	: Tonypandy				1		Level:	199.60m	Scale 1:100
Client:	Morgan Sin	ndal Co	nstruction & Infrastr	ructure Ltd			Dates:	20/06/2024 - 20/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	Type	Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (III)	Туре	Results	6.50	193.10			Overburden (Drillers Description) Mudstone (Drillers Description)	1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				15.50 16.50	184.10 183.10			Coal (Drillers Description) Mudstone (Drillers Description)	11 12 13 14 14 15 16 17 18 18 19 19 19 10 10 10 10 10 10 10 10 10 10 10 10 10

	terro firm	a n a	Tel: 02920 735 info@terrafirmawal www.terrafirmawal	es.co.uk			Bore	ehole Log	Borehole No. BH-B08 Sheet 2 of 2
Project Name:	The Pavilion	I Specialists			Project N	0:	Co-ords:	: 298176E - 192720N	Hole Type RO
Location	: Tonypandy						Level:	199.60m	Scale 1:100
Client:	Morgan Sind	dal Cons	struction & Infrastru	cture Ltd			Dates:	20/06/2024 - 20/06/2024	Logged By Van Elle
Water Strikes		and In S	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Dopar (III)	Турс	results					Mudstone (Drillers Description)	
				21.00	178.60			Coal (Drillers Description)	2
				21.80	177.80			Sandstone (Drillers Description)	2
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				39.00	160.60	<u> </u>		End of Borehole at 39.000m	
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	terr	a	Tel: 02920 73 info@terrafirmaw www.terrafirmaw	ales.co.uk			Bore	ehole Log	Borehole No. BH-B09
Geotechn	nical & Geoenvironment	al Specialist	s	a103.00.an	Dania at N		T	_	Sheet 1 of 2
Project Name:	The Pavilio	ns			Project N 17931	0:	Co-ords:	298175E - 192720N	Hole Type RO
Location	: Tonypandy				•		Level:	199.62m	Scale 1:100
Client:	Morgan Sin	ndal Co	nstruction & Infrastr	ucture Ltd			Dates:	20/06/2024 - 20/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	Type	Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Deptil (III)	Туре	Results	6.50	193.12			Overburden (Drillers Description) Mudstone (Drillers Description)	1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				15.50 16.50	184.12 183.12			Coal (Drillers Description) Mudstone (Drillers Description)	11 12 13 14 14 15 16 17 18 18 19 19 19 10 10 10 10 10 10 10 10 10 10 10 10 10

Client: Morgan Sindal Construction & Infrastructure Ltd Dates: 20/06/2024 - 20/06/2024 Water Sample and In Situ Testing Depth Level Wall Level Statute Description	BH-B09 Sheet 2 of 2
Client: Morgan Sindal Construction & Infrastructure Ltd Water Strikes Sample and In Situ Testing Depth (m) Type Results Depth (m) Type Results Depth (m) Type Results Depth (m) Type Results Mudstone (Drillers Description) 21.00 178.62 Coal (Drillers Description)	Hole Type RO
Water Strikes Sample and In Situ Testing Depth (m) Type Results Depth (m) Well Legend Stratum Description	Scale 1:100
Strikes Depth (m) Type Results (m) (m) Well Legend Stratum Description Additional Control of Coal (Drillers Description) Stratum Description Additional Coal (Drillers Description)	Logged By Van Elle
21.00 178.62 Mudstone (Drillers Description) Coal (Drillers Description)	
Coal (Drillers Description)	
21.80 177.82 Sandstone (Drillers Description)	2
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39.00 160.62 End of Borehole at 39.000m	
End of Borenoie at 39.000m	

Geotechn	terr firm	na	Tel: 02920 735 info@terrafirmawal www.terrafirmawal	es.co.uk			Bore	ehole Log	Borehole No. BH-B10 Sheet 1 of 2
Project Name:	The Pavilio	ns			Project N 17931	o:	Co-ords:	298174E - 192720N	Hole Type RO
Location	: Tonypandy						Level:	199.64m	Scale 1:100
Client:	Morgan Sin	ıdal Co	nstruction & Infrastru	cture Ltd			Dates:	20/06/2024 - 20/06/2024	Logged By Van Elle
Water Strikes			Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	
Suikes	Depth (m)	Type	Results	6.50 15.50 16.50	193.14 184.14 183.14			Overburden (Drillers Description Mudstone (Drillers Description) Coal (Drillers Description) Mudstone (Drillers Description)	1 1 2 2 3 3 4 4 4 5 5 6 6 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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	terro firm	-	Tel: 02920 735 info@terrafirmawal www.terrafirmawal	es.co.uk			Bore	ehole Log	Borehole No. BH-B10 Sheet 2 of 2
Geotechr Project Name:	The Pavilion	I Specialists			Project N 17931	0:	Co-ords:	298174E - 192720N	Hole Type RO
Location	: Tonypandy						Level:	199.64m	Scale 1:100
Client:	Morgan Sind	dal Cons	truction & Infrastru	cture Ltd			Dates:	20/06/2024 - 20/06/2024	Logged By Van Elle
Water Strikes		and In S	Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Bopar (III)	1,700	recuito					Mudstone (Drillers Description)	
				21.00	178.64			Coal (Drillers Description)	2
				21.80	177.84			Sandstone (Drillers Description)	2
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				39.00	160.64		1::::::	End of Borehole at 39.000m	
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	terre firn	a n a	Tel: 02920 735 info@terrafirmawa www.terrafirmawa	les.co.uk		l	Bore	ehole Log	Borehole No. BH-C01 Sheet 1 of 2
Project Name:	The Pavilior	al Specialists	;		Project N	0:	Co-ords:	298161E - 192685N	Hole Type RO
Location	: Tonypandy						Level:	200.08m	Scale 1:100
Client:	Morgan Sin	dal Coı	nstruction & Infrastru	ucture Ltd			Dates:	20/06/2024 - 20/06/2024	Logged By Van Elle
Water Strikes		and In	Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depin (iii)	Туре	Results	4.00	196.08			Overburden (Drillers Description) Sandstone / Mudstone (Drillers Description) Soft Poor Returns (Drillers Description)	6 6 7 8 9 10 11 11 11 11 11 11 11 11 11 11 11 11
				16.00	184.08			Solid Poor Returns (Drillers Description)	10
				18.60	181.48			Soft Poor Returns (Drillers Description)	11
				19.50	100.00			Solid Poor Returns (Drillers Description)	20

	≥ terr	a	Tel: 02920 7353	354					Borehole No.
	firn	na	info@terrafirmawale www.terrafirmawale	es.co.uk			Bore	ehole Log	BH-C01
	nical & Geoenvironment	•	s		Project N	O.			Sheet 2 of 2 Hole Type
Project Name:	The Pavilion	ns			17931	o.	Co-ords:	298161E - 192685N	RO
Location	: Tonypandy						Level:	200.08m	Scale 1:100
Client:	Morgan Sin	dal Co	nstruction & Infrastruc	cture Ltd			Dates:	20/06/2024 - 20/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	and I	n Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depart (III)	турс	results					Solid Poor Returns (Drillers Description)	
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				36.00	164.08			End of Borehole at 36.000m	36
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									= 38
									31 31 32 33 34 34 35 35 36 36 36 36 36 36 36 36 36 36 36 36 36
									= 39
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	terr firn	a na	Tel: 02920 73: info@terrafirmawa www.terrafirmawa	les.co.uk		l	Bore	ehole Log	Borehole No. BH-C02
Project Name:	The Pavilio	al Specialis	S		Project N	0:	Co-ords:	: 298162E - 192684N	Sheet 1 of 2 Hole Type RO
Location	: Tonypandy				-		Level:	200.10m	Scale 1:100
Client:	Morgan Sin	ndal Co	nstruction & Infrastru	ucture Ltd			Dates:	21/06/2024 - 21/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	and I	n Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Туре	Results	4.00	196.10			Overburden (Drillers Description) Mudstone (Drillers Description) Coal (Drillers Description)	1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				16.00	184.10			Mudstone / Sandstone (Drillers Description) = 16
)
				18.50	181.60			Coal (Drillers Description)	
				19.50	180.60			Sandstone (Drillers Description)	20

Shee Project Name: The Pavilions Project No: 17931 Co-ords: 298162E - 192684N Final Project No: 17931 Co-ord	H-C02 neet 2 of 2
Sheet	
Name: The Pavilions 17931 Co-ords: 298162E - 192684N F Location: Tonypandy Level: 200.10m Stratum Description Client: Morgan Sindal Construction & Infrastructure Ltd Dates: 21/06/2024 - 21/06/2024 Logg Var Water Strikes Sample and In Situ Testing Depth (m) Depth (m) Well Legend (m) Stratum Description	
Client: Morgan Sindal Construction & Infrastructure Ltd Dates: 21/06/2024 - 21/06/2024 Var	lole Type RO
Water Strikes Depth (m) Type Results Dates: 21/06/2024 - 21/06/2024 Var	Scale 1:100
Strikes Depth (m) Type Results (m) (m) Vveil Legend Stratum Description	ogged By Van Elle
Surkes Depth (m) Type Results (III) (III)	
Sandstone (Dilliers Description)	
33.00 167.10 Soft Poor Returns (Drillers Description) 34.50 165.60 Solid Poor Returns (Drillers Description) 36.00 164.10 End of Borehole at 36.000m	

	terr firn	a na	Tel: 02920 73: info@terrafirmawa www.terrafirmawa	les.co.uk		l	Bore	ehole Log	Borehole No. BH-C03
Project Name:	The Pavilio	tal Specialis	S		Project N	o:	Co-ords:	298163E - 192684N	Sheet 1 of 2 Hole Type RO
Location	: Tonypandy				-		Level:	200.10m	Scale 1:100
Client:	Morgan Sin	ndal Co	nstruction & Infrastru	ucture Ltd			Dates:	21/06/2024 - 21/06/2024	Logged By Van Elle
Water Strikes			n Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Type	Results	4.00	196.10			Overburden (Drillers Description) Mudstone (Drillers Description) Coal (Drillers Description)	1 1 2 2 4 4 1 5 6 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				16.00	184.10			Mudstone / Sandstone (Drillers Description	16
				18.50	181.60			Coal (Drillers Description)	<u>=</u> 19
				19.50	180.60			Sandstone (Drillers Description)	20

	terr	<u>'</u>	Tel: 02920 73	35354					Borehole No.
	firn	na	info@terrafirmaw www.terrafirmaw	ales.co.uk			Bore	ehole Log	BH-C03
	cal & Geoenvironment	tal Specialis							Sheet 2 of 2
Project Name:	The Pavilio	ns			Project N 17931	0:	Co-ords	: 298163E - 192684N	Hole Type RO
Location:	Tonypandy						Level:	200.10m	Scale 1:100
Client:	Morgan Sir	ndal Co	nstruction & Infrastr	ucture Ltd			Dates:	21/06/2024 - 21/06/2024	Logged By Van Elle
Water	Sample	and li	n Situ Testing	Depth	Level	Well	Legend	Stratum Description	Variable
Strikes	Depth (m)	Туре	Results	(m)	(m)	VVCII	Legend		
							[::::::	Sandstone (Drillers Description)	E
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				33.00	167.10			Soft Poor Returns (Drillers Description)	33
									E E
									34
				34.50	165.60			Solid Poor Returns (Drillers Description)	<u>F</u>
									35
									E
				36.00	164.10	1130		End of Borehole at 36.000n	
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	terr firn	a na	Tel: 02920 73 info@terrafirmawa www.terrafirmawa	ales.co.uk		l	Bore	ehole Log	Borehole No. BH-C04
Project Name:	The Pavilio	al Specialisi ns	S		Project N	o:	Co-ords:	: 298164E - 192683N	Sheet 1 of 2 Hole Type RO
Location	: Tonypandy				<u>'</u>		Level:	200.12m	Scale 1:100
Client:	Morgan Sin	ıdal Co	nstruction & Infrastru	ucture Ltd			Dates:	21/06/2024 - 21/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	and I	n Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Гуре	Results	4.00	196.12			Overburden (Drillers Description) Mudstone (Drillers Description) Coal (Drillers Description)	1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				16.00	184.12			Mudstone / Sandstone (Drillers Description) = 16
)
				18.50	181.62			Coal (Drillers Description)	19
				19.50	180.62			Sandstone (Drillers Description)	20

	terre	a	Tel: 02920 735	es.co.uk			Bore	ehole Log	Borehole No. BH-C04
	nical & Geoenvironmenta	al Specialists	www.terrafirmawal	es.co.uk			1		Sheet 2 of 2
Project Name:	The Pavilior	าร			Project N 17931	0:	Co-ords:	298164E - 192683N	Hole Type RO
Location	: Tonypandy				111111		Level:	200.12m	Scale 1:100
Client:	Morgan Sind	dal Coi	nstruction & Infrastru	cture Ltd	T	1	Dates:	21/06/2024 - 21/06/2024	Logged By Van Elle
Water Strikes		and In	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Jepui (III)	Туре	results	33.00 34.50 36.00	167.12 165.62			Sandstone (Drillers Description) Soft Poor Returns (Drillers Description) Solid Poor Returns (Drillers Description) End of Borehole at 36.000m	21
									40

Geotechn	terr firn	na	Tel: 02920 735 info@terrafirmawale www.terrafirmawale	es.co.uk		ı	Bore	ehole Log	Borehole No. BH-C05 Sheet 1 of 2
Project Name:	The Pavilio	ns			Project N 17931	o:	Co-ords:	298165E - 192683N	Hole Type RO
Location	: Tonypandy						Level:	200.09m	Scale 1:100
Client:	Morgan Sin	dal Co	nstruction & Infrastruc	cture Ltd			Dates:	21/06/2024 - 21/06/2024	Logged By Van Elle
Water Strikes			Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Type	Results	4.20	195.89			Overburden (Drillers Description) Mudstone (Drillers Description)	1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 10 10 11 11 12 12 13 13 14 14 15 14 14 15 15 16 16 17 17 17 17 17 17 17 17 17 17 17 17 17
				14.80	185.29			Coal (Drillers Description)	
				15.80	184.29			Mudstone / Sandstone (Drillers Descriptio	17
				18.30	181.79			Coal (Drillers Description)	E
				19.20	180.89			Sandstone (Drillers Description)	19

	terr firn	a na	Tel: 02920 73 info@terrafirmawa www.terrafirmawa	ales.co.uk		[Bore	ehole Log	Borehole No. BH-C05
Geotechi Project Name:	The Pavilio				Project N	lo:	Co-ords:	: 298165E - 192683N	Sheet 2 of 2 Hole Type RO
_ocation	: Tonypandy				17931		Level:	200.09m	Scale 1:100
Client:	Morgan Sir	ndal Cons	struction & Infrastr	ucture Ltd			Dates:	21/06/2024 - 21/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	Type	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
								Sandstone (Drillers Description)	
				32.50	167.59			Soft Poor Returns (Drillers Description)	
				34.50	165.59			Solid Poor Returns (Drillers Description)	
				36.00	164.09			End of Borehole at 36.000m	

		Tel: 02920 735	254			Borehole No.			
	firm	no	info@terrafirmawal www.terrafirmawal	es.co.uk			Bore	ehole Log	BH-C06
Geotech	nical & Geoenvironment	al Specialis	s	001001411					Sheet 1 of 2
Project Name:	The Pavilio	ns			Project N 17931	0:	Co-ords:	298166E - 192683N	Hole Type RO
Location	: Tonypandy						Level:	200.09m	Scale 1:100
Client:	Morgan Sir	ndal Co	nstruction & Infrastru	cture Ltd			Dates:	24/06/2024 - 24/06/2024	Logged By Van Elle
Water Strikes			n Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	
Silikes	Depth (m)	Туре	Results	4.50	195.59			Overburden (Drillers Description) Mudstone (Drillers Description)	1 1 2 1 3 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
								Coal (Drillers Description)	15
				15.50	184.59			Mudstone / Sandstone (Drillers Descriptio	n)
				18.00	182.09			Coal (Drillers Description)	18
				18.80	181.29			Sandstone (Drillers Description)	19

	teri	ra	Tel: 02920 73			ı	Dar.	abolo I og	Borehole No.
	firr	na	info@terrafirmawa www.terrafirmawa	ales.co.uk ales.co.uk			Bore	ehole Log	BH-C06
Geotechn Project Name:	The Pavilio		ts		Project N	lo:	Co-ords	: 298166E - 192683N	Sheet 2 of 2 Hole Type RO
Location	: Tonypandy	′			1111111		Level:	200.09m	Scale 1:100
Client:	Morgan Si	ndal Co	nstruction & Infrastr	ucture Ltd			Dates:	24/06/2024 - 24/06/2024	Logged By Van Elle
Water Strikes			n Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Туре	Results			19 N S		Sandstone (Drillers Description)	<u> </u>
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									35
				36.00	164.09			End of Parabala at 26 000mm	
								End of Borehole at 36.000m	37
									37
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									38
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	terr firn	a na	Tel: 02920 735 info@terrafirmawa www.terrafirmawa	les.co.uk		l	Bore	ehole Log	Borehole No. BH-C07
Project Name:	The Pavilio	al Specialis	ts		Project N	0:	Co-ords:	298167E - 192682N	Sheet 1 of 2 Hole Type RO
Location	: Tonypandy						Level:	200.09m	Scale 1:100
Client:	Morgan Sin	ndal Co	nstruction & Infrastru	ucture Ltd			Dates:	24/06/2024 - 24/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	and I	n Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Deput (III)	Туре	Results	4.50 14.50 15.50	185.59			Overburden (Drillers Description) Mudstone (Drillers Description) Coal (Drillers Description) Mudstone / Sandstone (Drillers Description)	1 1 2 3 3 4 4 5 5 4 5 6 6 6 6 6 6 7 7 6 7 6 7 6 7 7 6 7
				18.00 18.80	182.09 181.29			Coal (Drillers Description) Sandstone (Drillers Description)	16 = 16 = 17 = 18 = 19 = 19
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	teri	a	Tel: 02920 73 info@terrafirmawa www.terrafirmawa	ales.co.uk			Bore	ehole Log	Borehole No. BH-C07
Geotechi Project	The Pavilio	atal Specialists			Project N		Co-ords:	_	Sheet 2 of 2 Hole Type
Name:	The Pavillo	ons			17931		Co-oras:	298107E - 192082N	RO
Location	: Tonypandy	•					Level:	200.09m	Scale 1:100
Client:	Morgan Si	ndal Cons	struction & Infrastr	ucture Ltd			Dates:	24/06/2024 - 24/06/2024	Logged By Van Elle
Water Strikes			Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Type	Results	36.00	164.09			Sandstone (Drillers Description) End of Borehole at 36.000m	21

- 39

	terr firn	a no	Tel: 02920 735 info@terrafirmawa www.terrafirmawa	les.co.uk			Bore	ehole Log	Borehole No. BH-C08
Project Name:	nical & Geoenvironment The Pavilio	al Specialis	ts		Project N	0:	Co-ords:	298168E - 192682N	Sheet 1 of 2 Hole Type RO
Location	: Tonypandy				1		Level:	200.08m	Scale 1:100
Client:	Morgan Sin	ndal Co	nstruction & Infrastru	ıcture Ltd			Dates:	24/06/2024 - 24/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	and I	1 Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Doput (III)	Туре	i vesuits	14.50 15.50 18.00	185.58 184.58 182.08 181.28			Overburden (Drillers Description) Mudstone (Drillers Description) Coal (Drillers Description) Mudstone / Sandstone (Drillers Description) Coal (Drillers Description)	1 1 2 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
									<u> </u>
						2.00			

	terr		Tel: 02920 73	535/					Borehole No.
	firm		info@terrafirmaw www.terrafirmawa	ales.co.uk			Bore	hole Log	BH-C08
	cal & Geoenvironment		www.terrammaw	ales.co.uk			T		Sheet 2 of 2
roject lame:	The Pavilio	ns			Project N 17931	0:	Co-ords:	298168E - 192682N	Hole Type RO
ocation	Tonypandy				1		Level:	200.08m	Scale 1:100
lient:	Morgan Sin	ıdal Cons	truction & Infrastr	ucture Ltd			Dates:	24/06/2024 - 24/06/2024	Logged By Van Elle
Nater	Sample	and In S	Situ Testing	Depth	Level	Well	Legend	Stratum Description	
trikes	Depth (m)	Туре	Results	(m)	(m)	10.000		Sandstone (Drillers Description)	
				36.00	164.08			End of Borehole at 36.000n	

Geotechn	terr firm	Tel: 02920 735; info@terrafirmawale www.terrafirmawale	es.co.uk	Davis et M		Bore	ehole Log	BH-C09 Sheet 1 of 2	
Project Name:	The Pavilio	ns			Project N 17931	0:	Co-ords:	298169E - 192682N	Hole Type RO Scale
Location	: Tonypandy						Level:	200.13m	1:100
Client:	Morgan Sin	dal Co	nstruction & Infrastruc	cture Ltd		T	Dates:	25/06/2024 - 25/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	and Ir	Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Deptii (iii)	Туре	ivesuits	5.00	195.13			Overburden (Drillers Description) Mudstone (Drillers Description)	1 1 2 2 3 3 4 4 4 5 5 4 10 10 11 11 12 12 13 13 13 14 15 15 16 16 17 17 17 18 11 11 12 11 12 11 13 13 14 15 15 16 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18
				14.00	186.13			Coal (Drillers Description)	14
				15.00	185.13			Mudstone / Sandstone (Drillers Description	
				17.60	182.53			Coal (Drillers Description)	
				18.50	181.63			Sandstone (Drillers Description)	19

	teri	ra	Tel: 02920 73						Borehole No.
	firr	na	info@terrafirmaw www.terrafirmaw	ales.co.uk ales.co.uk			Bore	ehole Log	BH-C09
Geotechr Project			S		Project N	lo:		2224225 422221	Sheet 2 of 2 Hole Type
Name:	The Pavilio	ons			17931		Co-ords:	: 298169E - 192682N	RO
Location	: Tonypandy	′					Level:	200.13m	Scale 1:100
Client:	Morgan Si	ndal Co	nstruction & Infrast	ructure Ltd			Dates:	25/06/2024 - 25/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	e and Ir	Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Deptir (iii)	Турс	rtosuito					Sandstone (Drillers Description)	
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				36.00	164.13		1	End of Borehole at 36.000m	36
									37
									E 37
									38
									<u> </u>
									39

Geotechn	terr firm	na	Tel: 02920 735; info@terrafirmawale www.terrafirmawale	es.co.uk			Bore	ehole Log	Borehole No. BH-C10 Sheet 1 of 2
Project Name:	The Pavilio	ns			Project N 17931		Co-ords:	298170E - 192681N	Hole Type RO
Location	: Tonypandy						Level:	200.12m	Scale 1:100
Client:	Morgan Sin	dal Co	nstruction & Infrastruc	cture Ltd		1	Dates:	25/06/2024 - 25/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	and Ir	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (iii)	Турс	results	5.00	195.12			Overburden (Drillers Description) Mudstone (Drillers Description)	1 1 2 2 3 3 4 4 4 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				14.00	186.12			Coal (Drillers Description)	14
				15.00	185.12			Mudstone / Sandstone (Drillers Description	
				17.60	182.52			Coal (Drillers Description)	18
				18.50	181.62			Sandstone (Drillers Description)	19

	teri	ra	Tel: 02920 73	ales.co.uk			Bore	ehole Log	Borehole No. BH-C10
Geotech		ntal Specialis	www.terrafirmaw	ales.co.uk	Project N			_	Sheet 2 of 2 Hole Type
Name:	The Pavilion	ons			17931		Co-ords	: 298170E - 192681N	RO
Location	: Tonypandy	y					Level:	200.12m	Scale 1:100
Client:	Morgan Si	ndal Co	nstruction & Infrasti	ructure Ltd			Dates:	25/06/2024 - 25/06/2024	Logged By Van Elle
Water Strikes			n Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	
Cuntoo	Depth (m)	Туре	Results	()	()	19.545	7	Sandstone (Drillers Description)	<u> </u>
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				36.00	164.12		1	End of Borehole at 36.000m	
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Geotechn	terr firm	na	Tel: 02920 735 info@terrafirmawal www.terrafirmawal	es.co.uk		l	Bore	ehole Log	Borehole No. BH-C11 Sheet 1 of 2
Project Name:	The Pavilio	ns			Project N 17931	0:	Co-ords:	298171E - 192681N	Hole Type RO
Location	: Tonypandy						Level:	200.16m	Scale 1:100
Client:	Morgan Sin	ıdal Co	nstruction & Infrastru	cture Ltd			Dates:	25/06/2024 - 25/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	and Ir	Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depart (iii)	Турс	recounts	5.30	194.86			Overburden (Drillers Description) Mudstone (Drillers Description)	1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				13.70	186.46			Coal (Drillers Description)	14
				14.60	185.56			Mudstone / Sandstone (Drillers Description	n) = 15
				17.00	183.16 182.16			Coal (Drillers Description)	17
				10.00	102.10			Sandstone (Drillers Description)	19

	terr		Tol: 02020 72	5351					Borehole No.
	firn	na na	Tel: 02920 73 info@terrafirmaw www.terrafirmaw	ales.co.uk			Bore	ehole Log	BH-C11
	ical & Geoenvironment	al Specialists		aroorooran					Sheet 2 of 2
Project Name:	The Pavilio	ns			Project N 17931	lo:	Co-ords:	298171E - 192681N	Hole Type RO
Location:	Tonypandy				•		Level:	200.16m	Scale 1:100
Client:	Morgan Sin	ndal Cor	nstruction & Infrastr	ucture Ltd			Dates:	25/06/2024 - 25/06/2024	Logged By Van Elle
Water	Sample	and In	Situ Testing	Depth	Level	Well	Legend	Stratum Description	74.7.2.10
Strikes	Depth (m)	Туре	Results	(m)	(m)	10.545		Sandstone (Drillers Description)	
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				36.00	164.16			End of Borehole at 36.000n	
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	terr firn	a no	Tel: 02920 735 info@terrafirmawal www.terrafirmawal	es.co.uk			Bore	ehole Log	BH-C12
Geotechi Project Name:	The Pavilio	tal Specialis	ls		Project N	lo:	Co-ords:	298172E - 192680N	Sheet 1 of 2 Hole Type RO
Location	: Tonypandy						Level:	200.11m	Scale 1:100
Client:	Morgan Sin	ndal Co	nstruction & Infrastru	cture Ltd			Dates:	25/06/2024 - 25/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	and I	n Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Deptil (III)	Туре	Results	5.30	194.81			Overburden (Drillers Description) Mudstone (Drillers Description)	1 1 2 2 1 1 3 3 1 1 1 1 1 1 1 1 1 1 1 1
				13.70	186.41			Coal (Drillers Description)	14
				14.60	185.51			Mudstone / Sandstone (Drillers Description	= 15 = = = = 16
				17.00	183.11			Coal (Drillers Description)	17
				18.00	182.11			Sandstone (Drillers Description)	18

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	tirn	na	www.terrafirmawa	les.co.uk			DUI	Ellole Log	Sheet 2 of 2
Project Name:	The Pavilio	tal Specialist	S		Project N	0:	Co-ords:	298172E - 192680N	Hole Type RO
Location	ı: Tonypandy						Level:	200.11m	Scale 1:100
Client:	Morgan Sin	ndal Co	nstruction & Infrastru	ucture Ltd			Dates:	25/06/2024 - 25/06/2024	Logged By Van Elle
Water Strikes			n Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	
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	teri firr	ra no	Tel: 02920 73 info@terrafirmawa www.terrafirmawa	ales.co.uk			Bore	ehole Log	Borehole No. BH-C13
Project	The Pavilio		ts		Project N	lo:	Co-ords:	. 200472F 402690N	Sheet 1 of 1 Hole Type
Name:	The Pavillo	DIIS			17931		Co-ords:	298172E - 192680N	RO
Location	: Tonypandy	1					Level:	200.08m	Scale 1:100
Client:	Morgan Si	ndal Co	nstruction & Infrastr	ucture Ltd			Dates:	25/06/2024 - 25/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	e and I	n Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
								Overburden FIII (Drillers Description)	2
				9.40	190.68			Void Broken Ground No Returns (Drillers	Description) 10
				12.00	188.08			Solid No Returns (Drillers Description)	12
				18.00	182.08			End of Borehole at 18.000m	— 18
									19

	terre	a	Tel: 02920 735	354					Borehole No.
	firm	na	info@terrafirmawal	es.co.uk			Bore	ehole Log	BH-D01
	nical & Geoenvironmento	al Specialist		001001411			П		Sheet 1 of 3
Project Name:	The Pavilion	ns			Project N 17931	0:	Co-ords:	298107E - 192732N	Hole Type RO
Location	: Tonypandy				11001		Level:	200.48m	Scale
Location	. Torryparidy						LCVCI.	200.40111	1:100
Client:			nstruction & Infrastru	cture Ltd		1	Dates:	13/06/2024 - 13/06/2024	Logged By Van Elle
Water Strikes		and Ir	Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Bepin (iii)	Турс	recounts					Overburden (Drillers Description)	1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				12.00	188.48			Mudstone / Sandstone (Drillers Description	1) E 1:
				44.40	400.00				1-
				14.40	186.08			Soft Coal (Drillers Description)	
				15.00	185.48			Sandstone (Drillers Description)	1:

	terr firm	d na	Tel: 02920 73 info@terrafirmaw www.terrafirmaw	ales.co.uk		l	Bore	ehole Log	Borehole No. BH-D01	
Geotechn	ical & Geoenvironment	tal Specialists	WWW.torrammaw	a103.00.ar			П		Sheet 2 of 3	
oject ame:	The Pavilio	ns			Project N 17931	0:	Co-ords:	298107E - 192732N	Hole Type RO	
cation	: Tonypandy				17301		Level:	200.48m	Scale 1:100	
ient:	Morgan Sir	ndal Con	struction & Infrastr	ructure Ltd			Dates:	13/06/2024 - 13/06/2024	Logged By Van Elle	
Vater trikes			Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description		
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				35.20	165.28				E	-
				33.20	103.20			Solid No Returns (Drillers Description)	E	-
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	firn	no	info@terrafirmawal	es.co.uk			Bore	ehole Log	BH-D01	
Geotechr	nical & Geoenvironment	al Specialis							Sheet 3 of 3	
Project Name:	The Pavilio	ns			Project N 17931	o:	Co-ords	: 298107E - 192732N	Hole Type RO	
_ocation	: Tonypandy						Level:	200.48m	Scale 1:100	
Client:	Morgan Sin	ıdal Co	nstruction & Infrastru	cture Ltd			Dates:	13/06/2024 - 13/06/2024	Logged By Van Elle	_
Water Strikes	Sample Depth (m)	and I	n Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description		_
	Deptil (III)	Турс	Nesuits			19.55		Solid No Returns (Drillers Description)	<u></u>	-
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								End of Borehole at 42.000r	"	
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Geotechnic	ter firr	ma	Tel: 02920 73 info@terrafirmaw www.terrafirmaw	ales.co.uk			Bore	ehole Log	Borehole No. BH-D02 Sheet 1 of 2	
Project Name:	The Pavili				Project N	lo:	Co-ords:	298108E - 192732N	Hole Type RO	
Location:	Tonypand	y			11931		Level:	200.45m	Scale 1:100	
Client:	Morgan Si	ndal Cons	truction & Infrastr	ructure Ltd			Dates:	14/06/2024 - 14/06/2024	Logged By Van Elle	
Water Strikes		Type	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description		
	Depth (m)	Туре	Results	0.50	199.95			Topsoil (Drillers Description)		
				13.00	187.45			Fill (Drillers Description)		- 10
				13.00	167.43			Void / Broken Ground No Return (Drillers	Description)	
				16.40	184.05			Solid (Drillers Description)		- 1 - 1 - 1

	≥ terr	a	Tel: 02920 7353	354					Borehole No.
	firn	na	info@terrafirmawale	es.co.uk			Bore	ehole Log	BH-D02
Geotech	nical & Geoenvironment	al Specialis	ts						Sheet 2 of 2
Project Name:	The Pavilion	ns			Project N 17931	0:	Co-ords:	: 298108E - 192732N	Hole Type RO
Location	: Tonypandy						Level:	200.45m	Scale 1:100
Client:	Morgan Sin	dal Co	nstruction & Infrastruc	cture Ltd			Dates:	14/06/2024 - 14/06/2024	Logged By Van Elle
Water Strikes			n Situ Testing	Depth (m)	Level	Well	Legend	Stratum Description	
Strikes Strikes	Depth (m)	Туре	Results	24.00	176.45	Well	Legend	Solid (Drillers Description) End of Borehole at 24.000m	25
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	teri		Tel: 02920 73 info@terrafirmaw www.terrafirmaw	ales.co.uk			Bore	ehole Log	Borehole No. BH-D03
Project Name:	The Pavilio				Project N	lo:	Co-ords:	298109E - 192732N	Sheet 1 of 2 Hole Type RO
Location	: Tonypandy	/			11.00		Level:	200.44m	Scale 1:100
Client:	Morgan Si	ndal Cons	struction & Infrastr	ucture Ltd			Dates:	14/06/2024 - 14/06/2024	Logged By Van Elle
Water	Sampl	e and In S	Situ Testing	Depth	Level	Well	Legend	Stratum Description	74
Strikes	Depth (m)	Туре	Results	(m)	(m)		1	Topsoil (Drillers Description)	E
				0.50	199.94			Fill (Drillers Description)	
				13.00	187.44			Void / Broken Ground No Returns (Driller	s Description)
				16.40	184.04			Solid No Returns (Drillers Description)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

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Geotechn	terr firn	na	Tel: 02920 735 info@terrafirmawal www.terrafirmawal	les.co.uk			Bore	ehole Log	Borehole No. BH-D03 Sheet 2 of 2	
Project Name:	The Pavilio	ns	-		Project N 17931	lo:	Co-ords:	: 298109E - 192732N	Hole Type RO	
Location	: Tonypandy						Level:	200.44m	Scale 1:100	
Client:	Morgan Sin	ndal Co	nstruction & Infrastru	cture Ltd			Dates:	14/06/2024 - 14/06/2024	Logged By Van Elle	
Water Strikes			Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description		
Cuinco	Depth (m)	Туре	Results	()	(111)			Solid No Returns (Drillers Description)		
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				24.00	176.44	14/13/6	:	End of Borehole at 24.000m		
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Project Name: The Pavilions The Pavilions Project No: 17931 Co-ords: 298110E - 192732N Level: 200.39m Client: Morgan Sindal Construction & Infrastructure Ltd Dates: 14/06/2024 - 14/06/2024 Water Strikes Project No: 17931 Level: 200.39m Dates: 14/06/2024 - 14/06/2024 Well Legend Stratum Description Topsoil (Drillers Description) Fill (Drillers Description)	Sheet 1 of 2 Hole Type RO Scale 1:100 Logged By Van Elle
Location: Tonypandy Level: 200.39m Client: Morgan Sindal Construction & Infrastructure Ltd Dates: 14/06/2024 - 14/06/2024 Water Strikes Sample and In Situ Testing Depth (m) Type Results Depth (m) Type Results Topsoil (Drillers Description)	Scale 1:100 Logged By Van Elle
Client: Morgan Sindal Construction & Infrastructure Ltd Dates: 14/06/2024 - 14/06/2024 Water Strikes Depth (m) Type Results Depth (m) Type Results Depth (m) Topsoil (Drillers Description)	Logged By Van Elle
Water Strikes Depth (m) Type Results Depth (m) Type Results Depth (m) Type Results Topsoil (Drillers Description)	Van Elle
Depth (m) Type Results (m) (m) Veli Legend Stratum Description Topsoil (Drillers Description)	= = = = = = = = = = = = = = = = = = =
Depth (m) Type Results (III) (III) Topsoil (Drillers Description)	
	Description) =
13.00 187.39 Void / Broken Ground No Returns (Drillers D	Description)
16.40 183.99 Solid No Returns (Drillers Description)	
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	terro firm	่ า a	Tel: 02920 7353 info@terrafirmawale www.terrafirmawale	es.co.uk		ı	Bore	ehole Log	Borehole No. BH-D04
Geotechi Project Name:	The Pavilion				Project N	lo:	Co-ords:	298110E - 192732N	Sheet 2 of 2 Hole Type RO
Location	ı: Tonypandy				177001		Level:	200.39m	Scale 1:100
Client:	Morgan Sino	dal Cor	nstruction & Infrastruc	cture Ltd			Dates:	14/06/2024 - 14/06/2024	Logged By Van Elle
Water Strikes			Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	
Strikes Strikes		Туре	Results	24.00	176.39	Well The second	Legend	Solid No Returns (Drillers Description) End of Borehole at 24.000m	24 1
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	teri	a na	Tel: 02920 73 info@terrafirmaw www.terrafirmaw	ales.co.uk			Bore	ehole Log	Borehole No. BH-D05	
Project	nical & Geoenvironmer				Project N	lo:	Co order	. 200444E 400720N	Sheet 1 of 2 Hole Type	
Name:	The Pavilio	ons			17931		Co-ords:	298111E - 192732N	RO	
Location	: Tonypandy	′					Level:	200.40m	Scale 1:100	
Client:	Morgan Si	ndal Cons	struction & Infrastr	ructure Ltd			Dates:	14/06/2024 - 14/06/2024	Logged By Van Elle	
Water Strikes	Sample Depth (m)	e and In	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description		
	Deptil (III)	Туре	INESUILS			19 757		Topsoil (Drillers Description)	=	
				0.50	199.90			Fill (Drillers Description)		9
				13.00	187.40			Void / Broken Ground No Returns (drillers		13
				16.40	184.00			Solid No Returns (Drillers Description)		14 15 16

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	terr	a na	Tel: 02920 735 info@terrafirmawal www.terrafirmawal	es.co.uk		l	Bore	ehole Log	Borehole No. BH-D05
Geotechr Project Name:	The Pavilio		ts		Project N	o:	Co-ords	298111E - 192732N	Sheet 2 of 2 Hole Type RO
Location	: Tonypandy				17931		Level:	200.40m	Scale 1:100
Client:	Morgan Sin	ndal Co	nstruction & Infrastru	cture Ltd			Dates:	14/06/2024 - 14/06/2024	Logged By Van Elle
Water Strikes			n Situ Testing	Depth (m)	Level	Well	Legend	Stratum Description	
Strikes	Depth (m)	Туре	Results	24.00	(m) 176.40		Legelia	Solid No Returns (Drillers Description) End of Borehole at 24.000m	23 24 25 26 27 28 29 29 29 20 21 23 20 20 21 21 21 21 21 22 25 26 27 28 29 29 20 20 21 21 23 20 20 20 20 20 20 20 20 20 20 20 20 20
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	terr	C	Tel: 02920 73	35354					Borehole No.
	firn	na	info@terrafirmawa www.terrafirmawa	ales.co.uk			Bore	ehole Log	BH-D06
Geotechr Project Name:	The Pavilio	ns			Project N	lo:	Co-ords:	298112E - 192732N	Sheet 1 of 2 Hole Type RO
Location	: Tonypandy				1		Level:	200.42m	Scale 1:100
Client:	Morgan Sir	ndal Cons	struction & Infrastr	ucture Ltd			Dates:	14/06/2024 - 14/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	and In	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
				0.50	199.92			Topsoil (Drillers Description) Fill (Drillers Description)	1 1 2 3 3 4 4 5 6 6 7 7 8 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				13.00	187.42			Void / Broken Ground (Drillers Description	1) = 1.
				16.40	184.02			Solid No Returns (Drillers Description)	1.

	terr firn	na	Tel: 02920 735 info@terrafirmawal www.terrafirmawal	es.co.uk			Bore	ehole Log	Borehole No. BH-D06 Sheet 2 of 2
Project Name:	The Pavilio		S		Project N	lo:	Co-ords:	298112E - 192732N	Hole Type RO
Location	: Tonypandy				1		Level:	200.42m	Scale 1:100
Client:	Morgan Sin	ndal Co	nstruction & Infrastru	cture Ltd			Dates:	14/06/2024 - 14/06/2024	Logged By Van Elle
Water Strikes			n Situ Testing	Depth (m)	Level	Well	Legend	Stratum Description	
Strikes	Depth (m)	Туре	Results	24.00	176.42	well	Legend	Solid No Returns (Drillers Description) End of Borehole at 24.000m	24 24 24 24 24 24 24 24 24 24 24 24 24 2
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	teri	a	Tel: 02920 73 info@terrafirmawa www.terrafirmawa	ales.co.uk			Bore	ehole Log	Borehole No. BH-D07
Project	nical & Geoenvironmer				Project N	lo:	Co-ords:	: 298113E - 192731N	Sheet 1 of 3 Hole Type
Name: Location					17931		Level:	200.37m	RO Scale 1:100
Client:	Morgan Si	ndal Con	struction & Infrastru	ucture Ltd			Dates:	17/06/2024 - 17/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	e and In	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
				0.50	199.87			Topsoil (Drillers Description) Fill (Drillers Description)	1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				12.20	188.17			Mudstone / Sandstone (Drillers Description	DON) E 12
				14.50	185.87			Soft Coal (Drillers Description)	<u> </u>
				15.10	185.27			Sandstone (Drillers Description)	15 15 15 15 15 15 15 15 15 15 15 15 15 1

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Project Name:	The Pavilio		ts		Project N	lo:	Co-ords	: 298113E - 192731N	Sheet 2 of 3 Hole Type
Location:	Tonypandy	,			17931		Level:	200.37m	RO Scale 1:100
Client:	Morgan Si	ndal Co	nstruction & Infrastr	ucture Ltd			Dates:	17/06/2024 - 17/06/2024	Logged By Van Elle
Water Strikes			n Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	Van Ene
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				32.90	167.47			Soft Broken Ground No Returns (Drillers	Description) 33
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				35.00	165.07				E
				35.00	165.37			Solid No Returns (Drillers Description)	35
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	terr firn	na	Tel: 02920 7353 info@terrafirmawale www.terrafirmawale	es.co.uk		ehole Log	Borehole No. BH-D07		
Project Name:	The Pavilion		ts		Project N 17931	0:	Co-ords:	: 298113E - 192731N	Sheet 3 of 3 Hole Type RO
Location	: Tonypandy				1		Level:	200.37m	Scale 1:100
Client:	Morgan Sin	dal Co	nstruction & Infrastruc	cture Ltd			Dates:	17/06/2024 - 17/06/2024	Logged By Van Elle
Water Strikes	Sample Depth (m)	and I	n Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Dopur (III)	Турс	results	42.00	158.37			Solid No Returns (Drillers Description)	4
				42.00	158.37			End of Borehole at 42.000m	

Borehole No. Tel: 02920 735354 **Borehole Log** info@terrafirmawales.co.uk **BH-D08** www.terrafirmawales.co.uk Sheet 1 of 3 Project No: Hole Type Project Co-ords: 298114E - 192731N The Pavilions 17931 RO Scale Location: Level: 200.50m Tonypandy 1:100 Logged By Client: Dates: 18/06/2024 - 18/06/2024 Morgan Sindal Construction & Infrastructure Ltd Van Elle Sample and In Situ Testing Water Well Legend Stratum Description Strikes (m) (m) Depth (m) Туре Results Topsoil (Drillers Description) 0.60 199.90 Fill (Drillers Description) 5 - 7 8 9 10 11 12.00 188.50 12 Mudstone / Sandstone (Drillers Description) 13 14

Remarks: 1. No casing used. 2. No groundwater recorded. 3. Description is provided by the drillers based on the arisings at the surface. 4. Borehole terminated at scheduled depth 5. Borehole backfilled with gravel and OPC. 6. No gas detected during drilling.

15.00

15.60

185.50

184.90

Coal (Drillers Description)

Sandstone (Drillers Description)

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	terr firn	a na	Tel: 02920 73 info@terrafirmawa www.terrafirmawa	ales.co.uk			Bore	ehole Log	Borehole No. BH-D08
Geotechr roject	ical & Geoenvironment	al Specialists			Project N	U.			Sheet 2 of 3 Hole Type
ame:	The Pavilio	ns			17931	0.	Co-ords:	298114E - 192731N	RO
ocation	: Tonypandy						Level:	200.50m	Scale 1:100
lient:	Morgan Sin	ndal Con	struction & Infrastr	ucture Ltd			Dates:	18/06/2024 - 18/06/2024	Logged By Van Elle
Vater trikes	Sample Depth (m)	Type	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description	
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				32.90	167.60			Soft Poor Returns (Drillers Description)	
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				35.00	165.50			Solid Poor Returns (Drillers Description)	<u>_</u>
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	terr	Tel: 02920 7353	es.co.uk			Bore	ehole Log	Borehole No. BH-D08	
Geotech	nical & Geoenvironment	al Specialis	www.terrafirmawale	es.co.uk					Sheet 3 of 3
Project Name:	The Pavilio	ns			Project N 17931	0:	Co-ords	: 298114E - 192731N	Hole Type RO
Location	ı: Tonypandy				•		Level:	200.50m	Scale 1:100
Client:	Morgan Sin	ıdal Co	nstruction & Infrastruc	cture Ltd			Dates:	18/06/2024 - 18/06/2024	Logged By Van Elle
Water Strikes			n Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Туре	Results	()	()			Solid Poor Returns (Drillers Description)	=
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				42.00	158.50			End of Borehole at 42.000m	
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Borehole No. Tel: 02920 735354 **Borehole Log** info@terrafirmawales.co.uk **BH-D09** www.terrafirmawales.co.uk Sheet 1 of 3 Project No: Hole Type Project Co-ords: 298115E - 192731N The Pavilions 17931 RO Scale Location: Level: 200.47m Tonypandy 1:100 Logged By Client: Dates: 18/06/2024 - 18/06/2024 Morgan Sindal Construction & Infrastructure Ltd Van Elle Sample and In Situ Testing Water Well Legend Stratum Description Strikes (m) (m) Depth (m) Туре Results Topsoil (Drillers Description) 0.60 199.87 Fill (Drillers Description) 5 - 7 8 9 10 11 12.00 188.47 12 Mudstone / Sandstone (Drillers Description) 13 14 15.00 185.47 15 Coal (Drillers Description) 15.60 184.87 Sandstone (Drillers Description)

Remarks: 1. No casing used. 2. No groundwater recorded. 3. Description is provided by the drillers based on the arisings at the surface. 4. Borehole terminated at scheduled depth 5. Borehole backfilled with gravel and OPC. 6. No gas detected during drilling.

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	terr firn	a na	Tel: 02920 73 info@terrafirmawa www.terrafirmawa	ales.co.uk		ı	Bore	ehole Log	Borehole No. BH-D09
Project	The Pavilio	tal Specialists			Project N	0:	Co-ords:	298115E - 192731N	Sheet 2 of 3 Hole Type
lame: ocation					17931		Level:	200.47m	RO Scale
lient:			struction & Infrastr	ructure I td			Dates:	18/06/2024 - 18/06/2024	1:100 Logged By
Water			Situ Testing	Depth	Level				Van Elle
Strikes	Depth (m)	Туре	Results	(m)	(m)	Well	Legend	Stratum Description	
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				35.00	165.47			Solid Poor Returns (Drillers Description)	
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	firm	no	info@terrafirmawa www.terrafirmawa	les.co.uk			Bor	ehole Log	BH-D0	9
Geotechr	nical & Geoenvironment	al Specialis					1		Sheet 3 of	
Project Name:	The Pavilio	ns			Project N 17931	o:	Co-ords	298115E - 192731N	Hole Type RO	:
_ocation	: Tonypandy						Level:	200.47m	Scale 1:100	
Client:	Morgan Sir	ndal Co	nstruction & Infrastru	ucture Ltd			Dates:	18/06/2024 - 18/06/2024	Logged By Van Elle	/
Water	Sample	and li	n Situ Testing	Depth	Level					
Strikes	Depth (m)	Туре	Results	(m)	(m)	Well	II Legend Stratum Description			
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Geotechi Project Name:	The Pavilio	ital Specialists	5		Project N	lo:	Co-ords	: 298106E - 192733N	Sheet 1 of 3 Hole Type RO	
Location	: Tonypandy	,			17931		Level:	200.45m	Scale 1:100	
Client:	Morgan Sii	ndal Coi	nstruction & Infrastr	ucture Ltd			Dates:	18/06/2024 - 18/06/2024 Logge Van E		
Water Strikes			Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description		
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				0.60	199.85			Fill (Drillers Description)	n)	
				12.30	188.15			Mudstone / Sandstone (Drillers Description	in)	
				15.20	185.25			Coal (Drillers Description)		
				16.00	184.45			Sandstone (Drillers Description)	<u> </u>	

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Project	nical & Geoenvironmer		ts		Project N	lo:	Co-ords	: 298106E - 192733N	Sheet 2 of 3 Hole Type
Name:					17931		Level:	200.45m	RO Scale
Client:			nstruction & Infrastru	ucture Ltd			Dates:	18/06/2024 - 18/06/2024	1:100 Logged By Van Elle
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				36.00	164.45			Solid Poor Returns (Drillers Description)	36
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	terr	Tel: 02920 735	5254					Borehole No).	
	firn	na	info@terrafirmawa www.terrafirmawa	les.co.uk les.co.uk			Bore	ehole Log	BH-D10	
Geotechr	nical & Geoenvironment	al Specialis	ts				1		Sheet 3 of	
Project lame:	The Pavilio	ns			Project N 17931	0:	Co-ords	: 298106E - 192733N	Hole Type RO	
ocation	: Tonypandy						Level:	200.45m	Scale 1:100	
Client:	Morgan Sin	ıdal Co	nstruction & Infrastru	ucture Ltd			Dates: 18/06/2024 - 18/06/2024		Logged By Van Elle	
Water Strikes	Sample Depth (m)	and I	n Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description		
	Depair (iii)	42.00		158.45			Solid Poor Returns (Drillers Description) End of Borehole at 42.000r	n	41	
				42.00	130.43			End of Borehole at 42.000r		43 44 44 45 45 46 47 47 48 48 49 49 50 51 51 51 55 55 55 55 55 56 60 60 60 60 60 60 60 60 60 60 60 60 60

	teri	'n	Tel: 02920 73	35354					Borehole N	No.
	firr	na	info@terrafirmawa www.terrafirmawa	ales.co.uk			Bore	ehole Log	BH-D1	
Geotech Project	nical & Geoenvironmer	ntal Specialists			Project N	lo:			Sheet 1 of Hole Typ	
Name:	The Pavilio	ons			17931		Co-ords:	298105E - 192733N	RO	
Location	: Tonypandy	1					Level: 200.42m		Scale 1:100	
Client:	Morgan Si	ndal Cons	truction & Infrastr	ucture Ltd			Dates:	18/06/2024 - 18/06/2024	Logged B Van Elle	
Water Strikes	Sampl Depth (m)	e and In S	Situ Testing Results	Depth (m)	Level (m)	Well	Legend	Stratum Description		
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				0.60	199.82			Fill (Drillers Description)		1 1 2 3 3 4 4 5 5 6 6 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				12.30 15.20 16.00	188.12 185.22 184.42			Mudstone / Sandstone (Drillers Description) Coal (Drillers Description) Sandstone (Drillers Description)	on)	11 12 13 14 15 15 16
								Canasione (Dimeis Description)		17

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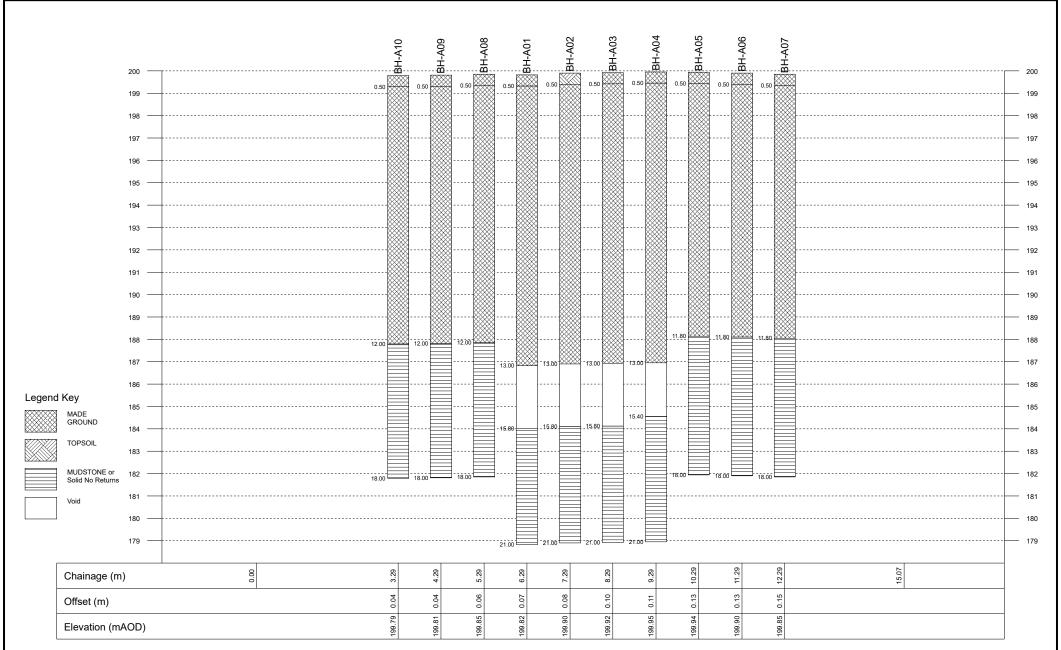
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Geotechr Project Name:	The Pavilio	tal Specialists	S		Project N	lo:	Co-ords:	: 298105E - 192733N	Sheet 2 of 3 Hole Type
Location	: Tonypandy	,			17931		Level:	200.42m	RO Scale 1:100
Client:	Morgan Sir	ndal Coi	nstruction & Infrastr	ucture Ltd			Dates:	18/06/2024 - 18/06/2024	Logged By Van Elle
Water Strikes			Situ Testing	Depth (m)	Level (m)	Well	Legend	Stratum Description	
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	firn	no	info@terrafirmawal	es.co.uk es.co.uk		I	Bor	ehole Log	BH-D1	
	nical & Geoenvironment	al Specialis	ts		5		T		Sheet 3 of	
Project lame:	The Pavilio	ns			Project N 17931	o: 	Co-ords	: 298105E - 192733N	Hole Type RO	
.ocation	: Tonypandy						Level:	200.42m	Scale	
									1:100 Logged B	.,
Client:			nstruction & Infrastru	cture Ltd			Dates:	18/06/2024 - 18/06/2024	Van Elle	
Water Strikes	Sample Depth (m)	Type	n Situ Testing Results	Depth (m)	Level (m)	Well	Legend			
			42.00					Solid Poor Returns (Drillers Description)		41
				42.00	158.42			F. J. (D. J. J. 40.000		42
								End of Borehole at 42.000r	n	_
				42.00	158.42			End of Borehole at 42.000r		42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60
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Client: Morgan Sindal Construction & Infrastructure Ltd

Title: Borehole Line A Vertical Scale: 1:169 Horizontal Scale: 1:88 Engineer: ADB

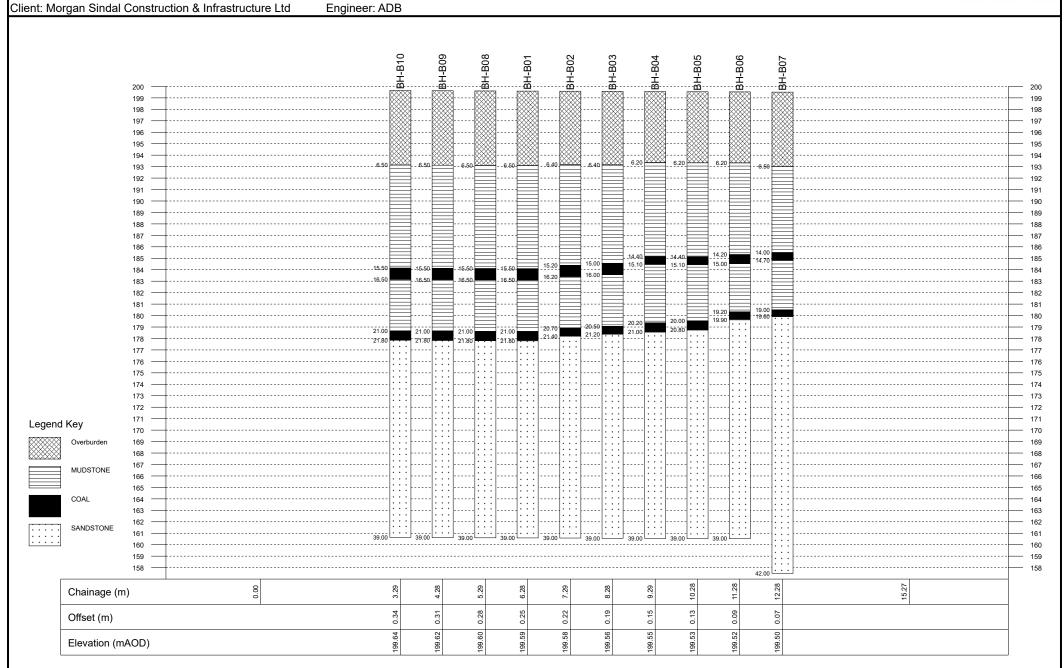




Client: Morgan Sindal Construction & Infrastructure Ltd

Title: Borehole Line B Vertical Scale: 1:330 Horizontal Scale: 1:89



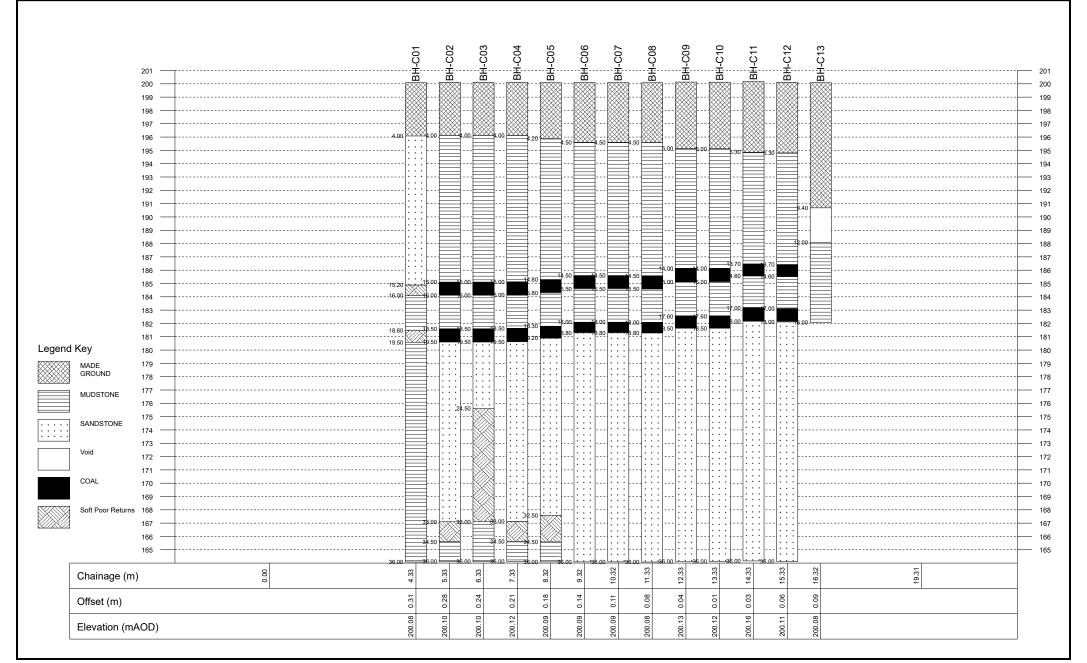


Client: Morgan Sindal Construction & Infrastructure Ltd

Title: Borehole Line C Vertical Scale: 1:284 Horizontal Scale: 1:112

Engineer: ADB



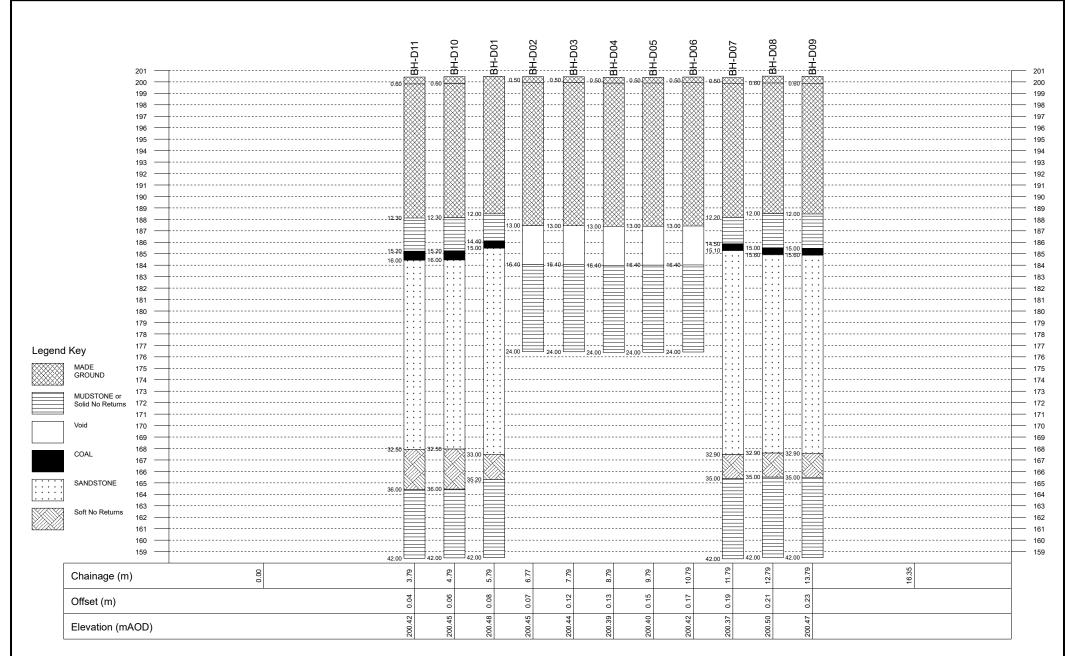


Client: Morgan Sindal Construction & Infrastructure Ltd

Title: Borehole Line D Vertical Scale: 1:330 Horizontal Scale: 1:95

Engineer: ADB







DRAWING

August 2024 17931

