

COAL MINING RISK ASSESSMENT

Llanilltud Faerdref Primary School

Ref: HSP2021-C3103-G-CMRA-190 – REV A

June 2021



CIVIL | STRUCTURAL | GEOTECHNICAL & ENVIRONMENTAL | TRAFFIC AND TRANSPORT

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COAL MINING RISK ASSESSMENT – REV A

Llanilltud Faerdref Primary School, St. Illtyds Rd,
Church Village, Pontypridd, CF38 1DA
NGR 308660, 186050
June 2021 – (C3103) – REV A

1. INTRODUCTION

HSP Consulting Engineers Ltd were commissioned by Fulcrum Infrastructure Services to update a Coal Mining Risk Assessment to support the feasibility study and planning application for the provision of additional education facilities at the existing Llanilltud Faerdref Primary School in order to provide the Local Planning Authority with information on coal mining and an assessment of its impact on land stability.

The original Coal Mining Risk Assessment was produced by HSP in March 2019. This risk assessment provides an update to the original document following rotary openhole drilling as part of an intrusive ground investigation to support design.

Site Location and Description

The site is located off St Illtyds Road, in the north of Church Village, approximately 4.1km south east of Pontypridd. The site is broadly rectangular in shape and approximately 1.22Ha in area.

Description and Layout of Proposed Development

The site generally comprises the existing school buildings, hardstanding in the form of asphalt playground and car parking in the north western half of the site and grassed playing fields in the south east.

It is proposed to demolish the existing school building and construct a new school to the southeast of the existing school buildings. The car parking, hard and soft landscaping will also be redeveloped as part of the project.

Scope of the Coal Mining Risk Assessment

The purpose of this Coal Mining Risk Assessment Report is to:

- Present a desk-based review of all available information on the coal mining issues which are relevant to the application site;
- Use that information to identify and assess the risks to the proposed development from coal mining legacy, including the cumulative impact of issues;
- Set out appropriate mitigation measures to address the coal mining legacy issues affecting the site, including any necessary remedial works and/or demonstrate how coal mining issues have influenced the proposed development; and
- Demonstrate to the Local Planning Authority that the application site is, or can be made, safe and stable to meet the requirements of national planning policy with regard to development on unstable land.

Geology

The geology of the site is indicated to comprise Glacial Till overlying the Hughes Member, part of the South Wales Upper Coal Measures Formation of the Carboniferous Period. Described by the BGS as '*Grey (productive) coal-bearing mudstones/siltstones with seatearths and minor grey, quartz-rich sandstones, coals and ironstones*'.

The Westernmoor coal seam is recorded in the north of the site with the dip is recorded as 15° south on the BGS Geological Mapping (Ref. 2). The gradient of the seam in combination with

the superficial till deposits may have deterred old workings historically, although the depth of the superficial deposits were unknown at the time the original CMRA was written. Ground investigation has proven the superficial deposits and weathered bedrock geology to be in the range 3.25m – 5.40m.

2. SOURCES OF INFORMATION USED TO INFORM THIS REPORT

The sources of information obtained upon which the risk assessment of coal mining issues have been based are listed below; (The reports / extracts are appended).

- Ref 1. British Geological Survey (BGS) Geology of Britain Viewer.
- Ref 2. BGS 1:50,000 Series Geological Mapping, Sheet 249 Newport, Solid and Drift Edition.
- Ref 3. BGS Borehole Record Viewer.
- Ref 4. Consultants Coal Mining Report August 2019 – Ref 51002166320001
- Ref 5. HSP2021-C3103-G-GPII-175 – Llanilltud Faerdref Ground Investigation

3. IDENTIFICATION AND ASSESSMENT OF SITE-SPECIFIC COAL MINING RISKS

The table below summarises the potential risks associated with coal mining legacy for the proposed development site, identified from *list sources of information*.

Coal Mining Issue	Yes	No	Risk Assessment
Underground coal mining (recorded at shallow depths)	Y		<p>The Consultants Coal Mining Report for the site (Appendix VI) indicates that the property is within the zone of likely physical influence of three coal seams (6ft Bottom Leaf, Yard and Upper Nine Foot) between 703m and 756m depth, last worked in 1948 (6ft Bottom Leaf).</p> <p>Any ground movements from these coal workings should now have stopped.</p> <p>The Consultants Coal Mining Report for the site indicates probable unrecorded shallow workings as none.</p>
Mine entries (shafts and adits)		N	There are no known mine entries within, or within 20m of, the boundary of the property boundary.
Coal mining geology (fissures)	Y		<p>The CA is not aware of any evidence of damage arising due to geological faults or other lines of weakness that have been affected by coal mining.</p> <p>The Westernmoor coal seam is recorded to outcrop (conjectured) in the north of the site. The seam is recorded as workable.</p>
Record of past mine gas emissions		N	There is no record of a mine gas emission requiring action by the CA within the boundary of the property.
Recorded coal mining surface hazard		N	There are no records of damage notices or claims for the property.
Surface mining (opencast workings)		N	The site is not within the boundary of an opencast site from which coal has been removed by opencast methods.

For those coal mining issues identified as “yes” a discussion and assessment of the risks, both individually and cumulatively, to the application site and the proposed development are given in the next section.

4. MITIGATION STRATEGY PROPOSED

Mitigation – Underground Coal Mining

The Consultants Coal Mining Report for the site (Appendix VI) indicates that the property is within the zone of likely physical influence of three coal seams (6ft Bottom Leaf, Yard and Upper Nine Foot) between 703m and 756m depth, last worked in 1948 (6ft Bottom Leaf). Due to the age and depth of the historically worked seams, movements are likely to have stopped by now and risk to the development from these workings will be negligible.

Mitigation – Coal Mining Geology (coal seam outcropping at surface on site).

The Coal Authority ‘Summary of Findings’ map indicates the Westernmoor coal seam (conjectured) outcrops in the north of the site. The Consultants Coal Mining Report for the site indicates probable unrecorded shallow workings as none.

Following The Coal Authority granting a permit to investigate (Permit No. 21878), rotary probing was undertaken between the 4th to the 7th May 2021. Five exploratory hole locations were advanced to 30m with water flush using rotary drilling techniques. The drilling recorded intact seams of coal within two exploratory locations. Coal in the range of 0.10m to 0.30m in thickness was encountered in two of the five exploratory holes at depths of between 15.10m and 17.50m begl (R02 and R03), significant coal was absent in the remaining three exploratory hole locations. No voids, loss of flush or indication of worked seams were recorded within any of the exploratory locations, therefore HSP consider that the findings of the ground investigation (Ref 5) supports the ‘none’ indicator for probable unrecorded shallow workings within Consultants Coal Mining Report for the site (Appendix VI) which indicates further investigation or treatment works should not be required prior to the re-development of the site.

Whilst unlikely, should coal be encountered within excavations for foundations, drainage or infrastructure, the risk associated with combustion (spontaneous or otherwise) should be limited by the following precautions, dependant on the seam thickness;

- Where coal greater than 450mm in thickness is exposed in foundation trenches it should be sealed from the air using compacted clay or the concrete for the footing. If exposed in service trenches compacted clay should be used above any pipe bedding or service protection.

The coal seam is considered a plausible source of ground gas generation, as is the historic landfill recorded approximately 40m north east of the site. Hazardous ground gas monitoring is within the scope of the ground investigation (Ref 5) undertaken to determine the risk posed to the proposed development.

5. CONCLUSION

There is a low risk of combustion associated with the Westernmoor coal seam outcropping in the north of the site. Should the coal seam be exposed in foundation or service trenches, it should be sealed from the air using compacted clay or concrete, dependant on the seam thickness.

No voids, loss of flush or indication of worked seams were recorded within any of the exploratory locations, indicating further investigation or treatment works should not be required prior to the re-development of the site based on the Coal Authority records and the ground investigation.

The risk of ground gas associated with the South Wales Upper Coal Measures (and historic landfill off site) have been investigated as part of the ground investigation for design (Ref 5).

RELEVANT APPENDICES

Appendix I: Consultants Coal Mining Report (CA Ref: Ref 51002166320001) dated August 2019 and Summary of Findings Map

Appendix II: Site Location Plan

Appendix III: Rotary Open Hole Logs and Ground Investigation Layout Plan

Appendix I



The Coal
Authority

Consultants

Coal Mining Report

Llanilltud Faerdref Primary School
St Illtyds Road
Pontypridd
Church Village
Rhondda Cynon Taff
CF38 1DF

Date of enquiry: 20 August 2019
Date enquiry received: 20 August 2019
Issue date: 20 August 2019

Our reference: 51002166320001
Your reference: C3103 Llanilltud Primary

Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

HSP CONSULTING

Enquiry address

Llanilltud Faerdref Primary School
St Illtyds Road
Pontypridd
Church Village
Rhondda Cynon Taff
CF38 1DF

How to contact us

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NG18 4RG

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 @coalauthority

 /company/the-coal-authority

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 /thecoalauthority



Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	6FT BOTTOM LEAF	Coal	43RI	703	North-West	3.4	South	180	1948
unnamed	YARD	Coal	43PY	715	West	2.6	North-West	180	1941
unnamed	UPPER NINE FOOT	Coal	43Q9	750	West	38.5	East	173	1941
unnamed	UPPER NINE FOOT	Coal	43Q8	756	West	6.7	North-East	175	1938

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

None available.

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
WESTERNMOOR	Coal	Yes	Within	N/A	84

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

Withdrawal of support notices

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices

Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.



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VAT receipt

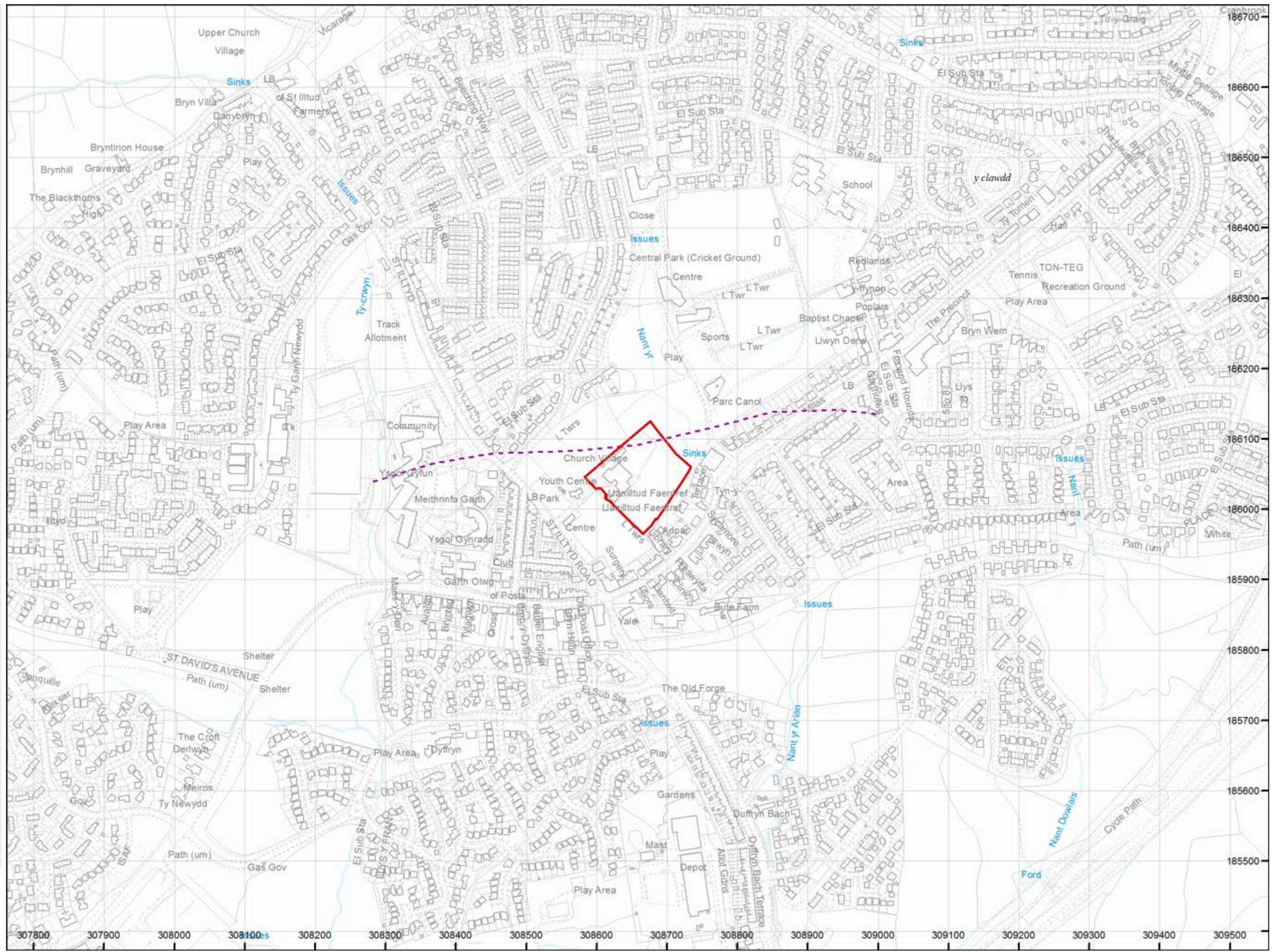
Issued by	The Coal Authority 200 Lichfield Lane Mansfield Nottinghamshire NG18 4RG
Tax point date	20 August 2019
Issued to	HSP CONSULTING LAWRENCE HOUSE 4 MEADOWBANK WAY EASTWOOD NOTTINGHAMSHIRE NG16 3SB
Property search for	LLANILLTUD FAERDREF PRIMARY SCHOOL ST ILLTYDS ROAD PONTYPRIDD CHURCH VILLAGE RHONDDA CYNON TAFF CF38 1DF
Reference number	51002166320001
Date of issue	20 August 2019
Cost	£112.13
VAT @ 20%	£22.43
Total received	£134.56
VAT registration	598 5850 68

The map highlights any specific surface or subsurface features within or near to the boundary of the site.

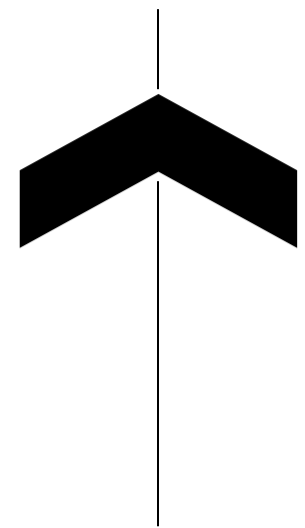
Key

- Approximate position of the enquiry boundary shown 
- Outcrop (Conjectured) 

How to contact us
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+44 (0)1623 637 000 (International)
www.groundstability.com



Appendix II



^i ^STV^ qj à-ääi Çc-ÉÇÉñmää ~óçpAUççä

bj PpâÉAUpáÉi ~óçl i

pA-É-ÉMÇRMj ðN
cl o#kcl oj ^qfl k
MUMQVMON

Appendix III



DO NOT SCALE
NOTES:



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Eastwood, Nottingham, NG16 3SB
Tel: 01773 535 555 Fax: 0870 600 6091
www.hspconsulting.com

CLIENT:
Fulcrum Infrastructure Management

PROJECT:
Llanilltud Faerdref Primary School

TITLE:
Site Investigation Location Plan

SCALE@SIZE :	ISSUE:
NTS	FINAL

DESIGN/DRAWN:	DATE:
HB	May 2021

PROJECT No:	DRAWING No:
C3103	002

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Borehole Log

Borehole No.

R01

Sheet 1 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308657.00 - 186000.00

Hole Type RO

Location: Pontypridd

Level: 104.69

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	104.49		Grass over brown sandy silty TOPSOIL with many rootlets and occasional sandstone fine to coarse angular to subrounded gravel.
								Brown sandy CLAY with occasional fine to coarse angular to subrounded sandstone gravels. [Diamicton Till].
	▼				4.90	99.79		Grey MUDSTONE with occasional sandstone bands. [Hughes Member].
Continued on next sheet								

Remarks
Borehole terminated at 30.50m. Groundwater strikes at 4.10m and 14.00m begl.





Borehole Log

Borehole No.

R01

Sheet 2 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308657.00 - 186000.00

Hole Type RO

Location: Pontypridd

Level: 104.69

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
▼									
					13.50	91.19			
									11
									12
									13
									14
								Grey SANDSTONE with trace Coal and Mudstone bands. [Hughes Member].	15
									16
									17
									18
									19
									20

Continued on next sheet

Remarks

Borehole terminated at 30.50m. Groundwater strikes at 4.10m and 14.00m begl.





Borehole Log

Borehole No.

R01

Sheet 3 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308657.00 - 186000.00

Hole Type RO

Location: Pontypridd

Level: 104.69

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								21 22 23 24 25 26 27 28 29 30

Continued on next sheet

Remarks

Borehole terminated at 30.50m. Groundwater strikes at 4.10m and 14.00m begl.





Borehole Log

Borehole No.

R01

Sheet 4 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308657.00 - 186000.00

Hole Type RO

Location: Pontypridd

Level: 104.69

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					30.50	74.19	.....	End of borehole at 30.50 m
								31
								32
								33
								34
								35
								36
								37
								38
								39
								40

Remarks
 Borehole terminated at 30.50m. Groundwater strikes at 4.10m and 14.00m begl.





Borehole Log

Borehole No.

R02

Sheet 1 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308649.00 - 186019.00

Hole Type RO

Location: Pontypridd

Level: 104.61

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.15	104.46		Brown sandy silty TOPSOIL with many rootlets	
								Brown sandy CLAY with occasional fine to coarse angular to subrounded sandstone cobbles and gravels. [Diamicton Till].	1
					1.70	102.91		Grey sandy CLAY with occasional fine to coarse angular to subrounded sandstone cobbles and gravels. [Diamicton Till].	2
					2.70	101.91		Grey weathered MUDSTONE. [Hughes Member].	3
									4
					5.10	99.51		Grey MUDSTONE. [Hughes Member].	5
									6
									7
									8
									9
									10

Continued on next sheet

Remarks

Borehole terminated at 30.50m. Groundwater strike at 13.50m begl.



Borehole Log

Borehole No.

R02

Sheet 2 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308649.00 - 186019.00

Hole Type RO

Location: Pontypridd

Level: 104.61

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
▼								
				13.70	90.91			
				16.80	87.81		Black COAL. [Hughes Member].	
				17.10	87.51		Grey SANDSTONE and MUDSTONE bands with trace Coal. [Hughes Member].	
								Continued on next sheet

Remarks
Borehole terminated at 30.50m. Groundwater strike at 13.50m begl.



Borehole Log

Borehole No.

R02

Sheet 3 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308649.00 - 186019.00

Hole Type RO

Location: Pontypridd

Level: 104.61

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
[Pattern]								
								21
								22
								23
								24
								25
								26
								27
								28
								29
							30	

Continued on next sheet

Remarks
Borehole terminated at 30.50m. Groundwater strike at 13.50m begl.





Borehole Log

Borehole No.

R02

Sheet 4 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308649.00 - 186019.00

Hole Type RO

Location: Pontypridd

Level: 104.61

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					30.50	74.11	.....	End of borehole at 30.50 m
								31
								32
								33
								34
								35
								36
								37
								38
								39
								40

Remarks
Borehole terminated at 30.50m. Groundwater strike at 13.50m begl.



Borehole Log

Borehole No.

R03

Sheet 1 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308692.00 - 186046.00

Hole Type RO

Location: Pontypridd

Level: 103.89

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20	103.69		Brown sandy silty TOPSOIL with many rootlets.	1
								Brown sandy silty CLAY with fine to coarse angular to subrounded sandstone gravels and cobbles. [Diamicton Till].		2
					2.30	101.59		Grey MUDSTONE with occasional Sandstone bands. [Hughes Member].	3
									4
									5
									6
									7
									8
									9
									10

Continued on next sheet

Remarks

Borehole terminated at 30.50m. Groundwater strike at 13.50m begl.





Borehole Log

Borehole No.

R03

Sheet 2 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308692.00 - 186046.00

Hole Type RO

Location: Pontypridd

Level: 103.89

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
▼									11
									12
									13
									14
					15.10	88.79		Black COAL. [Hughes Member].	15
					15.40	88.49		Grey MUDSTONE with Sandstone bands. [Hughes Member].	16
									17
					17.40	86.49		Black COAL. [Hughes Member].	18
					17.50	86.39		Grey MUDSTONE. [Hughes Member].	
					17.70	86.19		Grey SANDSTONE. [Hughes Member].	
								19	
								20	

Continued on next sheet

Remarks

Borehole terminated at 30.50m.

Groundwater strike at 13.50m begl.





Borehole Log

Borehole No.

R03

Sheet 3 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308692.00 - 186046.00

Hole Type RO

Location: Pontypridd

Level: 103.89

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								21
								22
								23
								24
								25
								26
								27
								28
								29
								30

Continued on next sheet

Remarks

Borehole terminated at 30.50m.

Groundwater strike at 13.50m begl.





Borehole Log

Borehole No.

R03

Sheet 4 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308692.00 - 186046.00

Hole Type RO

Location: Pontypridd

Level: 103.89

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					30.50	73.39	.....	End of borehole at 30.50 m
								31
								32
								33
								34
								35
								36
								37
								38
								39
								40

Remarks
Borehole terminated at 30.50m. Groundwater strike at 13.50m begl.





Rotary Core Log

Borehole No.

R04

Sheet 1 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308686.00 - 186004.00

Hole Type RO

Location: Pontypridd

Level: 104.23

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.20	104.03		Brown sandy silty TOPSOIL with occasional rootlets.	
										Brown sandy silty CLAY fine to coarse sandstone gravel. [Diamicton Till].	1
							3.50	100.73		Grey sandy CLAY with fine to coarse angular to subrounded gravels and cobbles. [Diamicton Till].	2
										Grey weathered fractured MUDSTONE. [Hughes Member].	3
							5.40	98.83			4
											5
											6
											7
											8
											9
											10

Continued on next sheet

Remarks
Borehole terminated at 30.50m. Groundwater strike at 13.00m begl.





Borehole Log

Borehole No.

R04

Sheet 1 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308686.00 - 186004.00

Hole Type RO

Location: Pontypridd

Level: 104.23

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20	104.03		Brown sandy silty TOPSOIL with occasional rootlets. Brown sandy silty CLAY fine to coarse sandstone gravel. [Diamicton Till].	1
					3.50	100.73		Grey sandy CLAY with fine to coarse angular to subrounded gravels and cobbles. [Diamicton Till].	4
					5.40	98.83		Grey weathered fractured MUDSTONE. [Hughes Member].	6
									7
									8
									9
									10

Continued on next sheet

Remarks

Borehole terminated at 30.50m. Groundwater strike at 13.00m begl.



Borehole Log

Borehole No.

R04

Sheet 2 of 4

Project Name: Llanilltud Faerdref Primary School	Project No. C3103	Co-ords: 308686.00 - 186004.00	Hole Type RO
Location: Pontypridd		Level: 104.23	Scale 1:50
Client: Fulcrum Infrastructure Management.		Dates: 04/05/2021 -	Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
	▼								
					13.20	91.03			

11
12
13
14
15
16
17
18
19
20

Grey SANDSTONE with occasional Mudstone bands and trace Coal. {Hughes Member}.

Continued on next sheet

Remarks
Borehole terminated at 30.50m. Groundwater strike at 13.00m begl.





Borehole Log

Borehole No.

R04

Sheet 3 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308686.00 - 186004.00

Hole Type RO

Location: Pontypridd

Level: 104.23

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								21
								22
								23
								24
								25
								26
								27
								28
								29
								30

Continued on next sheet

Remarks
Borehole terminated at 30.50m. Groundwater strike at 13.00m begl.





Borehole Log

Borehole No.

R04

Sheet 4 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308686.00 - 186004.00

Hole Type RO

Location: Pontypridd

Level: 104.23

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					30.50	73.73	.....	End of borehole at 30.50 m
								31
								32
								33
								34
								35
								36
								37
								38
								39
								40

Remarks
Borehole terminated at 30.50m. Groundwater strike at 13.00m begl.





Borehole Log

Borehole No.

R05

Sheet 1 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308692.00 - 186017.00

Hole Type RO

Location: Pontypridd

Level: 104.39

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
					0.20	104.19		Brown sandy silty TOPSOIL with occasional rootlets.	1	
								Brown sandy silty CLAY fine to coarse sandstone gravels and cobbles. [Diamicton Till].		2
					3.20	101.19		Grey CLAY with fine to coarse gravels of weathered Mudstone. [Diamicton Till].		3
					4.30	100.09		Grey MUDSTONE. [Hughes Member].	4	
									5	
									6	
									7	
									8	
									9	
	▼								10	

Continued on next sheet

Remarks

Borehole terminated at 30.50m..

Groundwater strike at 9.90m begl.





Borehole Log

Borehole No.

R05

Sheet 2 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308692.00 - 186017.00

Hole Type RO

Location: Pontypridd

Level: 104.39

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
Well					11.40	92.99		Grey SANDSTONE with occasional Mudstone bands. [Hughes Member].
					14.20	90.19			Dark grey MUDSTONE with occasional Coal bands. [Hughes Member].
					15.40	88.99		Grey SANDSTONE with Mudstone bands and trace Coal. [Hughes Member].
Continued on next sheet								

Remarks
Borehole terminated at 30.50m.. Groundwater strike at 9.90m begl.





Borehole Log

Borehole No.

R05

Sheet 3 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308692.00 - 186017.00

Hole Type RO

Location: Pontypridd

Level: 104.39

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								21
								22
								23
								24
								25
								26
								27
								28
								29
								30

Continued on next sheet

Remarks
Borehole terminated at 30.50m.. Groundwater strike at 9.90m begl.





Borehole Log

Borehole No.

R05

Sheet 4 of 4

Project Name: Llanilltud Faerdref Primary School

Project No. C3103

Co-ords: 308692.00 - 186017.00

Hole Type RO

Location: Pontypridd

Level: 104.39

Scale 1:50

Client: Fulcrum Infrastructure Management.

Dates: 04/05/2021 -

Logged By Dom Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					30.50	73.89	.....	End of borehole at 30.50 m
								31
								32
								33
								34
								35
								36
								37
								38
								39
								40

Remarks
Borehole terminated at 30.50m.. Groundwater strike at 9.90m begl.





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