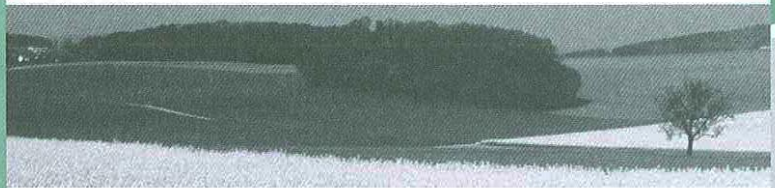


Intrusive Coal Mining Risk Assessment
Proposed Residential Development at
1 The Oaks, Cimla, Neath

Prepared For:
Ms Julie Rees

July 2020

Job No: 16125



REPORT TITLE : **Intrusive Coal Mining Risk Assessment:
Proposed Residential Development at
1 The Oaks, Cimla, Neath**

REPORT STATUS : **Final**

JOB NUMBER : **16125**

DATE : **July 2020**

PREPARED BY : 
.....
(Mr M. Watkins)

REVIEWED BY : 
.....
(Mrs R. Howells)

APPROVED BY : 
.....
(Dr G. C. Lake)

Executive Summary

Site Location	<i>The site is located to the immediate south of The Oaks in Cimla, Neath, SA11 3RJ, and is centred on a National Grid Reference of 276570 195830. The site covers an approximate area of 0.06 hectares.</i>
Proposed Development	<i>Ms Julie Rees is proposing the construction of a two-storey dwelling at a plot known as 1 The Oaks in Cimla, Neath.</i>
Site Work	<i>Five rotary percussive probeholes were sunk beneath the footprint of the proposed dwelling using a Fraste PLG drilling rig to a maximum investigated depth of 35m. Water was used as the flushing medium.</i>
Summary of Rotary Probeholes	<i>Coal seams were encountered, however, no mine workings were encountered in any of the probeholes to a final depth of between 15m and 35m.</i>
Conclusion	<i>Based upon the lack of mine workings encountered in either coal seam, it is considered that there is negligible risk to the proposed house from shallow workings.</i> <i>It is therefore recommended no mitigation measures related to ground instability from the potential collapse of shallow workings are required as part of the construction of the proposed house.</i>

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SECTION 1 Introduction and Proposed Development

Ms Julie Rees is proposing the construction of a two-storey dwelling on a plot known as 1 The Oaks in Cimla, Neath.

A Desk Based Coal Mining Risk Assessment was previously undertaken by Earth Science Partnership in February 2018. A copy of the report is presented in **Annex A**.

The report recommended that an intrusive investigation would be necessary to assess the risk from shallow workings.

Terra Firma (Wales) Limited has been commissioned by Advanced Brickwork Contractors Limited to undertake an Intrusive Coal Mining Risk Assessment for the site.

1.1 Limitations and Exceptions of Investigation

The Intrusive Coal Mining Risk Assessment was conducted, and this report has been prepared for the sole internal reliance of Ms Julie Rees and her 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 (Wales) Limited. 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 geotechnical consultants. Terra Firma (Wales) Limited does not provide legal advice and the advice of lawyers may also be required.

The subsurface geological profiles are generalised by necessity and have been based on the information found at the locations of the exploratory holes and depths sampled and tested.

SECTION 2 Review of Existing Data

2.1 Physical Setting, Current Use and Site Conditions

The site is located to the immediate south of The Oaks in Cimla, Neath, SA11 3RJ, and is centred on a National Grid Reference of 276570 195830. The site covers an approximate area of 0.06 hectares. The location of the site is shown below in **Figure 2.1**

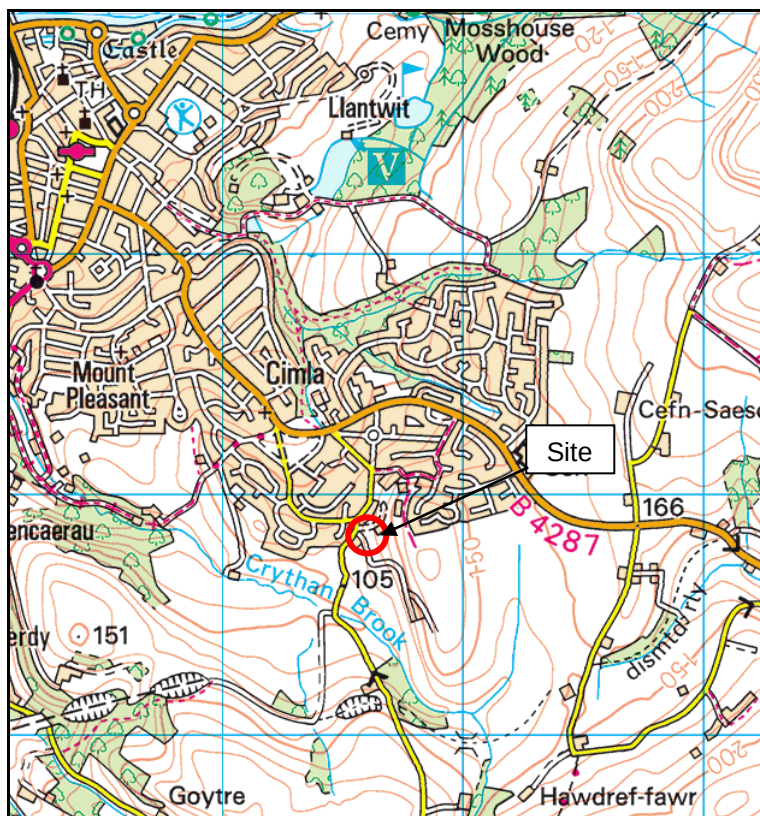


Figure 2.1: Site Location (Ordnance Survey Vector Map)

The site lies on a plateau on the corner of The Oaks and Bwlch Road.

The site is generally flat but the surrounding area falls to the west. No vegetation cover the site with bare soil exposed at the surface.

SECTION 3 Field Investigation

3.1 General

Given the risk to the site from past shallow mining, it was recommended that an exploratory investigation be undertaken at the site. This comprised 5 No. rotary probeholes, sunk at the corners and centre of the proposed dwelling.

3.2 Site Works

The rotary probeholes were drilled using a Fraste PLG drilling rig to a maximum investigated depth of 35m. Water was used as the flushing medium.

The fieldworks were supervised by a Terra Firma (Wales) Limited engineer.

Summaries of ground conditions within the probeholes were made by reference to the drillers logs and an examination of the water flush returns.

The probehole logs are presented in **Annex B**. Their positions are illustrated on **Drawing 01**.

3.3 Rotary Probeholes

A summary of the probehole logs, detailing the depth to bedrock, and occurrence of coal and workings is provided in **Table 2.1**.

Table 3.1 Summary of Ground Conditions				
Location	Depth to bedrock (m)	Coal seam (m)	Coal seam (m)	End of Probehole (m)
PH01	6.2	8.4-8.5 and 9.1-10.0*	12.2-14.1 [#]	35
PH02	6.3	9.6-10.9	14.1-15.0 [#]	35
PH03	5.8	8.3-9.5	12.2-13.7 [#]	16
PH04	6.4	8.8-9.3	11.8-12.8	15
PH05	4.8	8.4-9.5 [#]	12.4-13.6 [#]	15

Notes:

* 'Leaved' coal seam with mudstone partigs'

Described as 'dirty' coal by driller

SECTION 4 Assessment of The Risk from Past Shallow Coal Workings

4.1 Identified Shallow Coal Seams

The site investigation shows the following generalised strata to a depth of 30m:

- Till Deposits
- Weathered Mudstone
- Sandstone
- **Westernmoor coal seam**
- Sandstone
- **Unnamed coal seam**
- Sandstone

Five rotary percussive probeholes were drilled beneath the proposed dwelling.

No mine workings were encountered in any of the probeholes to a depth of 30m.

SECTION 5 Conclusions

5.1 Shallow Mine Workings

Based upon the lack of mine workings encountered in either coal seam, it is considered that there is negligible risk to the proposed house from shallow workings.

It is therefore recommended that no mitigation measures related to ground instability from the potential collapse of shallow workings are required as part of the construction of the proposed house.

ANNEX A
Desk Based Coal Mining Risk Assessment

**PROPOSED RESIDENTIAL DEVELOPMENT
LAND AT THE OAKS, CIMLA, NEATH**

MR JASON JONES

**PRELIMINARY MINING
RISK ASSESSMENT**

Prepared for:

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Document Ref. 6815b.2961
Date: February 2018
Status: Final Report
Revision: 0

**PROPOSED RESIDENTIAL DEVELOPMENT
LAND AT THE OAKS, CIMLA, NEATH**

MR JASON JONES

**PRELIMINARY MINING
RISK ASSESSMENT**

Date	Status	Written By	Checked and Approved By
February 2018	Final	Danilo Bettosi	Matthew Eynon
		BSc (Hons) MSc CGeol FGS UK Registered Ground Engineering Professional	BSc (Hons) MSc CGeol FGS EurGeol UK Registered Ground Engineering Specialist
Signature			

**PROPOSED RESIDENTIAL DEVELOPMENT
LAND AT THE OAKS, CIMLA, NEATH**

PRELIMINARY MINING RISK ASSESSMENT

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GENERAL NOTES

1.0 INTRODUCTION AND OBJECTIVES

1.1 Background

Mr Jason Jones (hereafter known as the Client) are proposing to redevelop an area of land off The Oaks (road), Cimla with residential units. The Earth Science Partnership Ltd (ESP), Consulting Engineers, Geologists and Environmental Scientists, were instructed to undertake a desk study of the potential mining risks. The site location is shown on Figure 1.

We have been provided an outline development plan (see Figure 3) however, we understand that this has not been finalised and have assumed that the development will consist of a traditional two storey building with associated areas of hardstanding and landscaping in keeping with the local development.

1.2 Objective and Scope of Works

We understand that the Client intends to apply for planning permission for the proposed development and a Coal Mining Risk Assessment report has been requested by the Local Planning Authority (LPA) in order to assess the application. We have no information on any planning related correspondence from the Coal Authority.

The objective of this report is to obtain and review desk study data on the site in order to undertake a Preliminary Coal Mining Risk Assessment. The scope of works for the investigation was mutually developed with the Client by ESP within an agreed budget, and comprised a desk study review of available historical Ordnance Survey maps, geological maps, memoirs, and further desk study information, assessment and reporting.

We understand that the development site, comprises two parcels of land that are to be considered as one development area (see Figure 2).

The contract was awarded on the basis of a competitive tender quotation. The terms of reference for the assessment are as laid down in the Earth Science Partnership proposal of 4th January 2018 (ref: db/6815b.lt1 proposal). The assessment was undertaken in February 2018.

1.3 Limitations of Report

This report represents the findings of an assessment of mining subsidence risk relating to residential properties as detailed in the text. The brief did not require an assessment of the implications for any other end use, nor of other geotechnical or geo-environmental hazards. The report is not a comprehensive site characterisation and should not be construed as such. Should an alternative end use be considered, the findings of the assessment should be re-examined relating to this use.

Earth Science Partnership

Where preventative, ameliorative or remediation works are required, professional judgement will be used to make recommendations that satisfy the site specific requirements in accordance with good practice guidance.

Earth Science Partnership

Consultation with regulatory authorities will be required with respect to proposed works as there may be overriding regional or policy requirements which demand additional work to be undertaken. It should be noted that both regulations and their interpretation by statutory authorities are continually changing.

This report represents the findings and opinions of experienced geo-environmental and geotechnical specialists. Earth Science Partnership does not provide legal advice and the advice of lawyers may also be required.

1.5 Digital Copy of Report

This report is issued as a digital pdf copy only.

2.0 DESK STUDY AND SITE RECONNAISSANCE

The site description is based on Desk Study information obtained as part of this assessment, along with information provided by the Client. No site reconnaissance visit was undertaken.

2.1 Site Location and Description

The proposed development site is located off The Oaks (road), Cimla. The National Grid Reference of the centre of the site is (SS) 276570, 195830, and the post code is SA11 3RJ. A Site Location Plan is presented as Figure 1.

The site is roughly rectangular in shape and approximately 32m by 18m, covering an area of approximately 0.6Ha. The site is currently occupied by rough vegetation with a number of trees lining the east boundary. Vehicular access to the site is gained via “The Oaks” at the west boundary. The site is currently bounded by:

- To the north, south and west – immediately by housing associated with The Oaks followed by the wider residential areas of Cimla and farmland to the south.
- To the east – by open ground/farmland extending for >1km eastward.

We have not been provided with a topographic or level survey, however, Ordnance Survey information indicates the site is at an elevation of between 118 and 120mAOD and the site slopes to the south from the north/west boundaries.

A search for underground utilities was not included in the brief for this assessment, however, as the site is within a relatively modern residential estate, buried services should be anticipated.

2.2 Site History

The site history has been assessed from a review of available historical Ordnance Survey County Series and National Grid maps and aerial photographs obtained from Groundsure Environmental Insight. The historical maps are presented in Appendix A. The mapping has been reviewed to identify historical features that may be associated with mining activities and have not been assessed to determine aspects of geoenvironmental risk.

Table 1: Review of Historical Maps

Date	On-Site	In Vicinity of Site
1884 - 1900	The site is indicated to be vacant with minor roads present at the west and south boundaries.	A series of historic features associated with mineral extraction are noted and recorded as follows: • 4no. old quarries approximately 250m to the north east; • Old coal pits approximately 100m and 500m to the west and 700m to the north; • Old coal levels approximately 300m and 650m to the south west. • Old Gravel Pit approximately 200m to the north east. The South Wales Mineral Railway is indicated approximately 800m to the south.
1919 – 1921	A small structure is shown at the south east boundary. No other significant changes are indicated.	A number of the historical mineral extraction features are no longer annotated, however the mapping continues to indicate these historical quarries and pits on the mapping.
1935 – 1968	The structure in the south east portion is no longer indicated. No other significant changes are indicated.	No significant changes are indicated.
1970 – 1989	No significant changes are indicated.	A number of the historic mineral extraction features are no longer shown and redevelopment is shown on at the location of a number of these features, such as the coal levels to the north west, the old quarries to the north east and the old pits to the west.
1993 – Present Day	No significant changes are indicated.	The Oaks development is now indicated and located to the north.

2.3 Previous Investigations

We are not aware of any previous geotechnical investigations at the site.

2.4 Geology

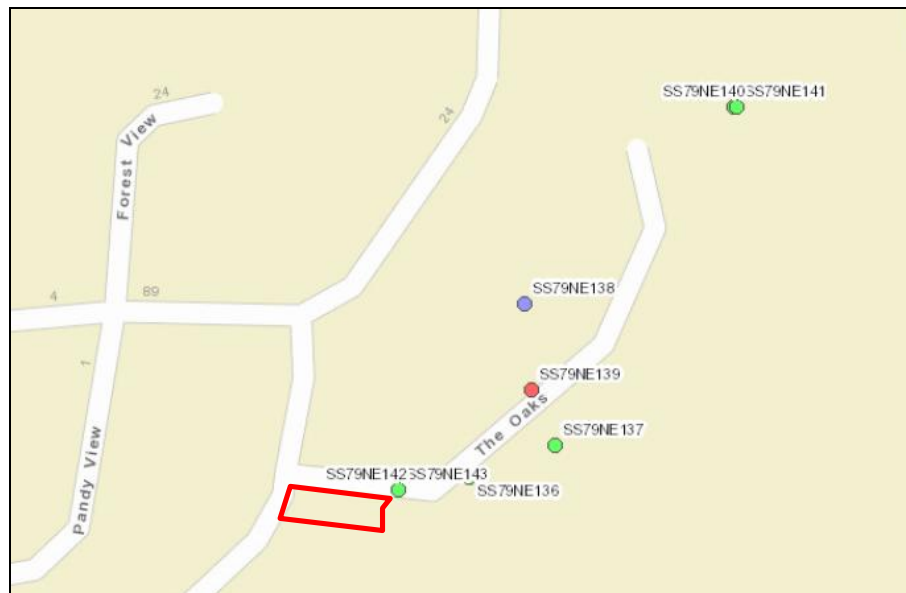
2.4.1 Published Geology

The published geological map for the area of the site (1:10,560 scale, SS79NE) indicates the site to be underlain by Glacial Till, over the undifferentiated Hughes Beds of the Upper Coal Measures. Reference to the up-to-date mapping published on the website of the British Geological Survey (BGS, 2018) confirms the above succession. Given the historical neighbouring residential areas, a layer of Made Ground is also anticipated and deposition of construction arisings on the site cannot be discounted. The geological map suggests that the bedrock strata dip to the north/north east at dip angles of between 12 and 15 degrees with geological fault indicated to the east and west of the site.

Whilst faulting is indicated in the area, the conjectural outcrop of the Westernmoor Seam (2 feet thickness) is indicated in the central portion of the site, with a thin “unnamed” seam indicated to outcrop at the west boundary. A number of other significant (and historically worked) coal seams are recorded in the local area. A Conceptual Geological Cross Section is presented as Figure 4.

2.4.2 Available BGS Borehole Records

A number of BGS borehole records are identified immediately to the north and northwest of the site boundary and are anticipated to relate to the established Oaks development. Relevant extracts from these records are present in Appendix C and the locations in relation to the site shown on Insert 1 below.



Insert 1: Plan of BGS Recorded Borehole Locations

The records indicate a ground model comprising Glacial Deposits over the Hughes Sandstone. Coal was encountered in some of the boreholes at depths of between 7.5m (SS79NE141) and 23.9m (SS79NE137) with the depth to coal becoming shallower toward the north. Immediately to the north of the site, a cavity was recorded at 9m depth (SS79NE143) and 7m of soft Made Ground recorded (SS79NE142).

2.5 Coal Authority Records

2.5.1 Coal Authority Website

Reference to the Coal Authority website (CA, January 2017) provides the following salient information:

- There are no records of past, or probable underground workings in the vicinity of the site;
- A coal seam crops out in an north west – south east orientation across the site – the published geological map identifies this seam as the Westernmoor (see Section 2.4.1).
- There are no recorded mine entries within the site boundaries.
- A zone of ‘Development High Risk’ runs alongside the coal outcrop, including across the site.

2.5.2 Coal Authority Mining Report

A Coal Authority mining report has been obtained for the site and is presented in Appendix B. This indicates that, based on the available Coal Authority records:

- The property is not within a surface area that could be affected by past underground mining.
- The property is in an area where the Coal Authority believe there is coal at or close to the surface. This coal may have been worked at some time in the past.
- The property is not within a surface area that could be affected by present underground mining.
- The property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods. However, reserves of coal exist in the local area which could be worked at some time in the future.
- No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.
- There are no known coal mine entries within, or within 20 metres of, the boundary of the property.
- The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres, since 31 October 1994.
- The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

The Coal Authority mining report also states that, in view of the mining circumstances, a prudent developer would seek appropriate technical advice before any works are undertaken.

3.0 IDENTIFICATION AND ASSESSMENT OF SITE SPECIFIC COAL MINING RISKS

3.1 Identified Coal Mining Risks

The potential coal mining risks identified at the site are summarised in Table 2 below:

Table 2: Identified Coal Mining Risks

Coal Mining Issue	Identified Hazard	Risk Assessment
Underground Coal Mining (recorded at shallow depth ¹)	No	See Section 3.2.
Underground Coal Mining (unrecorded shallow ¹)	Probable	See Section 3.2.
Recorded Mine entries (shafts and adits)	No	See Section 3.3.
Unrecorded Mine entries (shafts and adits)	Possible	See Section 3.3.
Recorded Coal Mining Geology (fissures)	No	None identified.
Recorded Past Mine Gas Emissions or Potential	No	None identified.
Recorded Surface Coal Mining Hazard	No	None identified.
Recorded Surface Mining (opencast workings)	No	None identified.
Notes: 1. The Coal Authority defines shallow depth as within 30m of the ground surface.		

3.2 Abandoned Shallow Workings

The site is underlain by the Coal Measures bedrock and is located in an area of past mining, as evidenced by the number of historical mine entries and quarries around the site (see Section 2.2). The geological mapping indicates that beneath the superficial deposits, the Westernmoor Coal Seam outcrops at the site, probably dipping to the north/north east. The Westernmoor Seam is indicated to be 2ft (0.6m) in thickness in the area, with other commercially viable seams recorded locally to have been heavily worked.

Available BGS records indicate a Coal seam (likely the Westernmoor) is present at depths of between ~7m and ~23m below ground level with cavities also recorded at depths of less than 10m adjacent to the north boundary of the site.

The earliest mapping (1876) indicates the features such as quarries, pits and levels are already disused, suggesting they pre-date 1876. The Coal Authority have no records of any past abandoned mine workings within the seam beneath the site, however, it must be appreciated that the records held by the Authority are incomplete, particularly for workings dating from before the 1870s when it first became a legal requirement to deposit mine surveys with regulators.

Given the above, and the fact that the seams in the local area are extensively worked in places with a highly variable ground model (depth to coal/cavities etc.) recorded in close vicinity to the site, we cannot wholly discount the possibility of shallow unrecorded coal mine workings and we consider that based on available evidence and the absence of site specific investigation data, the subsidence risk beneath the site is High.

3.3 Mine Entries

No mine entries have been identified within the immediate vicinity of the site, or that could impact on the proposed development. However, in any historical mining area such as this, the possible presence of unrecorded mine entries on the site cannot be discounted.

The closest recorded mine entries are over 100m from the site and, given the suspected very shallow workings beneath the site, we consider that these are likely to have been accessed from a more local mine entry. Hence, if old workings are identified at very shallow depth beneath the site (say less than 10m), we consider that an unrecorded mine entry is also likely to be present in the vicinity – this could be located on an adjacent site and, therefore, may not impact on the development.

As a minimum, during site clearance operations and all excavation, a careful watch should be maintained for any isolated pockets of loose fill, brickwork or other anomalous features which may be indicative of past mining operations. Any such features should be subject to further investigation.

3.4 Recommended Investigation Works

As discussed in Sections 3.2 and 3.3, we consider that there is sufficient evidence that the Westernmoor coal seam beneath the site has been worked in the past, and these workings could pose a subsidence risk to future development. Therefore, we recommend further intrusive investigation to further define the risk.

We recommend an initial rotary borehole investigation comprising a minimum of three boreholes to a nominal depth of 30m to confirm the geological succession, the depth to and thickness of the Westernmoor coal seam, and to assess the potential for shallow mine workings.

Should the drilling works identify shallow coal and or historic mine workings, it may be necessary to undertake further works at the site which could include additional detailed mining investigations and grouting of historic workings in order to stabilise the site and allow development.

Coal seams and workings are under the ownership of the Coal Authority and their permission is required prior to such drilling works. Permission provided by the Coal Authority is likely to include certain requirements such as water flush drilling due to the proximity of existing residential properties.

It should be appreciated that in any area of past mining activity the possibility of the existence of unrecorded mine entries cannot be discounted. During site clearance operations and all excavation, a careful watch should be maintained for any isolated pockets of loose fill, brickwork or other anomalous features which may be indicative of past mining operations. Any such features should be subject to further investigation.

4.0 REFERENCES

BRITISH GEOLOGICAL SURVEY (BGS). 2018. Website accessed February 2018.

BRITISH STANDARDS INSTITUTION (BSI). 2015. Code of Practice for Ground Investigations. BS5930:2015. HMSO, London.

COAL AUTHORITY (CA). 2014. Risk Based Approach to Development Management. Guidance for Developers.

COAL AUTHORITY (CA). 2018. Website accessed February 2018.

HEALY P.R. AND HEAD J.M. 1984. Construction over Abandoned Mine Workings. CIRIA Special Publication SP32/PSA Civil Engineering Technical Guide 34.

ANNEX B
Rotary Probehole Logs



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Borehole No.

PH01

Sheet 1 of 2

Project Name:	1 The Oaks	Project No:	16125	Co-ords:		Hole Type	RO
Location:	Cimla, Neath	Level:				Scale	1:100
Client:	Ms Julie Rees	Dates:	29/07/2020 -			Logged By	TD

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Type	Results						
								Clay and Gravel (driller's description)	1
									2
									3
									4
									5
				6.20				Weathered SANDSTONE and clay (driller's description).	6
									7
									8
				8.40				COAL	9
				8.50				SANDSTONE	
				9.10				COAL	
									10
				10.00				SANDSTONE	11
									12
				12.20				Dirty COAL (driller's description).	13
									14
				14.10				SANDSTONE with mudstone bands	15
									16
									17
									18
									19
									20

Remarks: 1. ODEX casing used to 7m.



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Borehole No.

PH01

Sheet 2 of 2

Project Name:	1 The Oaks	Project No:	16125	Co-ords:		Hole Type	RO
Location:	Cimla, Neath	Level:				Scale	1:100
Client:	Ms Julie Rees	Dates:	29/07/2020 -			Logged By	TD

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Type	Results						
								SANDSTONE with mudstone bands	21
									22
									23
									24
									25
									26
									27
									28
									29
									30
									31
									32
									33
									34
				35.00				End of Borehole at 35.000m	35
									36
									37
									38
									39
									40

Remarks: 1. ODEX casing used to 7m.



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Borehole No.

PH02

Sheet 1 of 2

Project Name:	1 The Oaks	Project No:	16125	Co-ords:		Hole Type	RO
Location:	Cimla, Neath	Level:				Scale	1:100
Client:	Ms Julie Rees	Dates:	29/07/2020 -			Logged By	TD

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Type	Results						
								Clay and Gravel (driller's description)	1
									2
									3
									4
									5
				6.30				Weathered SANDSTONE and clay (driller's description).	6
									7
									8
									9
				9.80				COAL	10
				10.90				SANDSTONE	11
									12
									13
				14.10				Dirty COAL (driller's description).	14
				15.00				SANDSTONE	15
									16
									17
									18
									19
									20

Remarks: 1. ODEX casing used to 7m. 2. Ground gas monitoring well installed to 4.0m below ground level.



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Borehole No.

PH02

Sheet 2 of 2

Project Name:	1 The Oaks	Project No:	16125	Co-ords:		Hole Type	RO
Location:	Cimla, Neath	Level:		Scale	1:100	Logged By	TD
Client:	Ms Julie Rees	Dates:	29/07/2020 -				

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Type	Results						
								SANDSTONE	21
									22
									23
									24
									25
									26
									27
									28
									29
									30
									31
									32
									33
									34
				35.00				End of Borehole at 35.000m	35
									36
									37
									38
									39
									40

Remarks: 1. ODEX casing used to 7m. 2. Ground gas monitoring well installed to 4.0m below ground level.



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Borehole No.

PH03

Sheet 1 of 1

Project Name:	1 The Oaks	Project No:	16125	Co-ords:		Hole Type	RO
Location:	Cimla, Neath	Level:				Scale	1:100
Client:	Ms Julie Rees	Dates:	29/07/2020 -			Logged By	TD

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Type	Results						
								Clay and Gravel (driller's description)	1
									2
									3
									4
									5
				5.80				Weathered SANDSTONE (driller's description).	6
									7
									8
				8.30				COAL	9
									10
				9.50				SANDSTONE	11
									12
				12.20				Dirty COAL (driller's description).	13
									14
				13.70				SANDSTONE	15
									16
				16.00				End of Borehole at 16.000m	17
									18
									19
									20

Remarks: 1. ODEX casing used to 7m.



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Borehole No.

PH04

Sheet 1 of 1

Project Name:	1 The Oaks	Project No:	16125	Co-ords:		Hole Type	RO
Location:	Cimla, Neath	Level:		Scale	1:100	Logged By	td
Client:	Ms Julie Rees	Dates:	29/07/2020 -				

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Type	Results						
								Clay and Gravel (driller's description)	1
									2
									3
									4
									5
				6.40				Weathered SANDSTONE and clay (driller's description)	6
									7
									8
				8.80				COAL	9
				9.30				SANDSTONE	10
									11
				11.80				COAL	12
				12.80				SANDSTONE	13
									14
				15.00				End of Borehole at 15.000m	15
									16
									17
									18
									19
									20

Remarks: 1. ODEX casing used to 7m. 2. Ground gas monitoring well installed to 4.0m below ground level.



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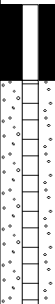
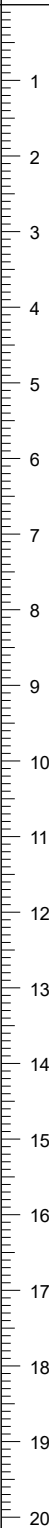
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Borehole No.

PH05

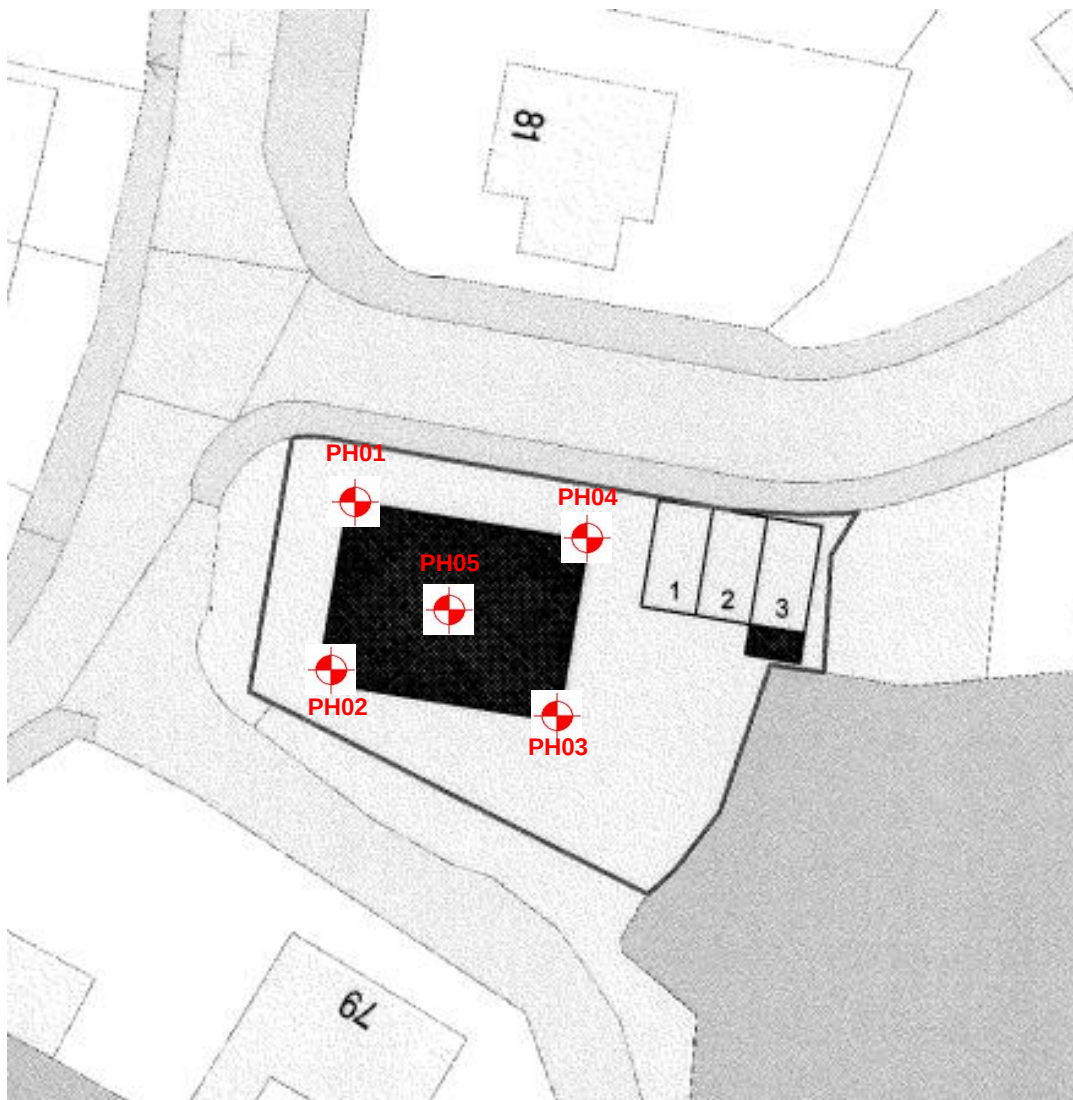
Sheet 1 of 1

Project Name:	1 The Oaks	Project No:	16125	Co-ords:		Hole Type	RO
Location:	Cimla, Neath	Level:				Scale	1:100
Client:	Ms Julie Rees	Dates:	29/07/2020 -			Logged By	TD

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Type	Results						
									

Remarks: 1. ODEX casing used to 7m. 2. Ground gas monitoring well installed to 4.0m below ground level.

Drawings



Job Number:

16125

Job Title:

1 The Oaks, Cimla, Neath

Drawing Title:

Exploratory Hole Layout

Drawing Number:

01

Scale:

Not To Scale

Legend:

 Probehole Location

North



Intrusive Coal Mining Risk Assessment
Proposed Residential Development at
1 The Oaks, Cimla, Neath

Prepared For:
Ms Julie Rees

July 2020

Job No: 16125

