

Our Ref: GCL/14278/Let2

Your Ref:

Contact: Gwyn Lake

Terra Firma (Wales) Ltd. Consulting Geotechnical & Geo-Environmental Engineers Site Investigation Contractors

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25th February 2020

Infinite Renewables Limited Number 1 Waterton Park Bridgend CF31 3PH

For the attn. of Gillian Jones

Dear Gillian,

# COAL MINING RISKS ASSESSMENT – PROPOSED SOLAR FARM, MALTHOUSE FARM

#### 1.0 Introduction

The Royal Mint are proposing the construction of a new solar farm at Malthouse Farm, Llantrisant. The area is located adjacent to the existing wind turbine which has recently been constructed.

The planning application for the development has highlighted that part of the development area lies within a Coal Authority development high risk area. This risk designation refers to a small coal outcrop which is suggested to outcrop across part of the development area.

### 2.0 **Previous Investigation**

Terra Firma Wales Previously carried out a site investigation for the wind turbine (report No 14728) in August 2017. The investigation consisted of a number of machine excavation trial pits and a rotary cored borehole. A copy of the borehole log is attached to the rear of this letter. The ground conditions encountered are summarised in **Table 2.1**.

	Table 2.1	General Summary of Ground Conditions					
Depth (m)		Thickness (m)	Stratum				
GL -	19.0	-	Medium dense brown grey clayey sandy GRAVEL				
19.0 ·	>30	-	SANDSTONE				







# 3.0 Geology

The 1:50000-scale geological map of the area (Sheet 248 solid and drift editions) shows the site to be underlain by the rocks of the Hughes Member, Carboniferous in age. These rocks comprise green-grey, lithic arenites ("Pennant sandstones") with conglomerate lenses at bases of units; thin mudstone/siltstone and seatearth interbeds and mainly thin coals.

The Daren Ddu coal seam is shown outcropping to the north of the site. The seam dips towards the north and will therefore not underlie the site.

The seam mentioned that outcrops across the site is not shown on the geological map. The seam is also absent on the county series maps.

A fault is shown running horizontally across the northern part of the site area.

Till deposits are shown to overly the solid geology.

### 4.0 Assessment of the risk from past shallow mining

The Coal Authority viewer suggests that a small outcrop is located beneath parts of the development area. However, there is no record of the seam in the local geological maps and no mention of the possible unnamed seam in the geological memoirs for the area. Tera Firma have held discussions with the Coal Authority, and they were unsure as to what the outcrop referred to as they held no record of the seam. Given the lack of information on the seam it is considered that it is likely that the seam is of inferior size/quality and therefore highly unlikely that the seam would have been worked historically.

It should also be noted that there is a substantial thickness of superficial cover below the site which would make working the seam uneconomical. The absence of any coal mining features shown on historical maps and lack of information on the seam confirms this statement.

It is therefore concluded that there is insignificant risk to the proposed development caused by unrecorded shallow coal mining.

I trust that the above is to your satisfaction, however, if you have any queries or require any further information please do not hesitate to contact me. In the meantime I await your further instructions.

Yours sincerely for: Terra Firma (Wales) Ltd

Mr Mathew T C Lake

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Project Na	ame:	Malthou	use			Projec 14278	t No.		Co-ords:		Hole Type RC
Location:		Llantrisa	ant						Level:		Scale 1:50
Client:		Infinite I	Renev	wables	s Limite	d			Dates:	09/08/2017	Logged By ML
Water Strikes	Depth (m)	Type /FI		Corin	ng RQD	Depth (m)	Level (m)	Well	Legend	Stratum Descriptio	
Remarks:										Brown sandy GRAVEL (drillers d	escription)

		Terra Firma (Wales) I								Tel: 02920 735354	Borehole No.	
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# **terrafirma**

Terra Firma (Wales) Limited 5 Deryn Court, Wharfedale Road Pentwyn, Cardiff

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Borehole No.

Location: Llantrisant Level: Scale 1:50	Project Name: Malthouse							Project No. 14278			Co-ords:		
Client: Infinite Renewables Limited Dates: 09/08/2017 Logged By ML   Water (m) Type (m) Top File Coring TCR SCR RQD Depth (m) Level (m) Well Legend Stratum Description   Water (m) TCR SCR RQD 00 20.40 20.50 20.40 20.50 20.40 20.50 Stratum Description   20.90 - 21.10 21.20 - 21.30 21.10 - 21.70 C 100 0 20.90 21.10 20.90 21.10 Medium strong thinly bedded dark grey fine grained silty SANDSTONE slightly weathered. 30degree planar rough bedding planes very closely to closely spaced at ~0.05m. Highly fractured.   21.70 - 22.00 22.00 - 23.50 C 100 40 20 21.70   23.60 - 23.70 C 40 10 10 23.50   23.50 - 25.00 100 10 10 23.50	_ocatio	n: L	lantris	ant				14270				Scale	
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