CIL-LONYDD SOLAR FARM

Phase 1 Peat Probing

794-PLN-WWP-JPW2051
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Approval for issue

Glynn Jones	BSc MSc CGeol FGS MIMMM RoGEP (Professional)	[redacted]	14 March 2025

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250313 794-PLN-WWP-JPW2051 Cil-Lonydd Solar Farm Phase 1 Peat Probing Report V1 R0

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Contents

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Appendices

1 INTRODUCTION

1.1.1 RPS Consulting Services Ltd (RPS) was commissioned by RPS (Planning Services) on behalf of Cenin Renewables Ltd to undertake a Phase 1 Peat Survey of an area of land off Cil-Lonydd Farm, between Newbridge and Cwmbran, within Caerphilly County Borough Council (herein referred to as the 'Assessment Site').

1.1.2 The report has been commissioned to support planning application prior to the proposed redevelopment of the Assessment Site generally comprising solar array development and a cable route extending east from the solar array.

2 SITE INFORMATION

2.1.1 The baseline information has been taken from publicly available mapping and a review of an RPS Mining Ground Conditions Review[1],

2.2 Site Location

2.2.1 The Assessment Site boundary is presented in Appendix A included within Figure 1.

2.3 Bedrock Geology

2.3.1 Based on British Geological Society (BGS) mapping[2] (1:50,000-scale) the Assessment Site is indicated to be located on the Hughes Member, generally comprising mudstone, siltstone and sandstone.

2.4 Superficial Geology

2.4.1 Based on BGS mapping (1:50,000-scale) no superficial deposits or Made Ground soils are indicated to be present across the Assessment Site.

2.5 Soils

2.5.1 According to the National Soilscapes Map[3], the area of the Assessment Site proposed for solar array use, is generally indicated to comprise freely draining acid loamy soils over rock. The cable route is indicated to comprise freely draining acid loamy soils over rock in the centre, leading to very acidic loamy upland soils with a wet peaty surface across the east and far west of the route.

2.5.2 The Welsh Government Predictive Agricultural Land Classification (ALC) Map[4] (V2) shows the Assessment Site as mainly Grade 4 (not best) surrounded by Non-Agricultural to the south and north.

2.5.3 A review of National Resources Wales (NRW) Peatlands of Wales[5] mapping indicates no peat as such mapped on the Assessment Site.

[1] RPS. Cil Lonydd Solar Farm - Mining Ground Conditions Review, dated March 2025. Ref: 794-PLN-WWP-JPW2051_Cil Lonydd Solar Farm_V01_240314.

[2] GeoIndex - British Geological Survey accessed March 2025

[3] https://www.landis.org.uk/soilscapes/ accessed March 2025

[4] Predictive Agricultural Land Classification (ALC) Map 2 | DataMapWales accessed March 2025

[5] Natural Resources Wales / Peatland Data Portal Map Layers accessed March 2025

3 PEAT PROBING

3.1 Methodology

3.1.1 The peat depth survey was undertaken on the 4th March 2025 at a density of 100 m x 100 m across all areas of the Assessment Site totalling 72 locations.

3.1.2 Probed depths were obtained by manual insertion of a metal probe to refusal depth, at a recorded maximum depth of 0.50 m below ground level (bgl). Records of the visible ground conditions, probe depth, probe resistance, and observations of soil reside on the probe when removed have been made.

3.1.3 A Peat Depth Survey Location plan is included within Appendix A as Figure 1.

3.2 Results

3.2.1 Tabulated results including peat depth (if present), peat base composition and general location remarks are presented in the Table below. Photograph references are included within Appendix B.

3.2.2 Peat Contour Results are presented within Appendix C as Figure 2.

Table 3-1 - Peat Probing Survey Results

Location ID	Proposed Development Area	Peat Thickness (m bgl)	Probe Base Composition	General Remarks	Photograph Reference
P001	Solar Array	0.15	Cohesive	Grass over peaty organic soil over cohesive strata	-
P002	Solar Array	0.10	Cohesive	Grass over peaty organic soil over cohesive strata	P002-A
P003	Solar Array	0.10	Cohesive	Grass over peaty organic soil, over cohesive strata	-
P004	Solar Array	0.10	Cohesive	Grass over peaty organic soil, over cohesive strata, sloping eastwards	-
P005	Solar Array	0.15	Cohesive	Grass over peaty organic soil, over cohesive strata, sloping eastwards	-
P006	Solar Array	0.50	Cohesive	Grass over dark brown, soft, organic peat, over cohesive strata	P006-A, P006-B
P007	Solar Array	0.10	Cohesive	Grass over peaty organic soil, over cohesive strata	-
P008	Solar Array	0.05	Cohesive	Grass over peaty organic soil over cohesive strata	-
P009	Solar Array	0.20	Cohesive	Grass over dark brown peat, over cohesive strata	P009-A
P010	Solar Array	0.00	Cohesive	Grass over clayey soils, over cohesive strata	P010-A
P011	Solar Array	0.00	Cohesive	Grass and leaves over brown clayey soils, over cohesive strata	-
P012	Solar Array	0.25	Cohesive	Grass over compressed brown clayey soil, over cohesive strata	-
P013	Solar Array	0.40	Cohesive	Surface water over brown clayey soil, over cohesive strata	P013-A
P014	Solar Array	0.50	Cohesive	Grass over wet dark brown peaty soil, over cohesive strata	-
P015	Solar Array	0.00	Cohesive	Grass over clayey soil, over cohesive strata	-
P016	Solar Array	0.00	Cohesive	Grass and leaves over clayey soil, over cohesive strata	-
P017	Solar Array	0.05	Cohesive	Grass over gravelly clay over cohesive strata	-
P018	Solar Array	0.00	Granular	Grass over clayey, gravelly soil, over granular strata	P018-A
P019	Solar Array	0.30	Cohesive	Grass over dark brown peaty soil, over cohesive strata	-
P020	Solar Array	0.00	Granular	Grass over clayey soil, over cohesive strata	-
P021	Solar Array	0.00	Cohesive	Grass and straw over clayey soil, over cohesive strata	-
P022	Solar Array	0.00	Cohesive	Surface water over clayey soil, over cohesive strata	-
P023	Solar Array	0.00	Cohesive	Grass over clayey soil, over cohesive strata	-
P024	Solar Array	0.00	Cohesive	Grass over clayey soil, over cohesive strata	P024-A
P025	Solar Array	0.10	Cohesive	Grass over peaty soil, over cohesive strata	
P026	Solar Array	0.00	Cohesive	Grass over clayey soil, over cohesive strata	
P027	Solar Array	0.00	Granular	Dry drainage ditch with logs, wood, leaves, rocks	P027-A, P027-B
P028	Solar Array	0.00	Cohesive	Grass over clayey soil, over cohesive strata	-
P029	Solar Array	0.20	Cohesive	Sparse grass over soft dark brown peaty soil, over cohesive strata	P029-A, P029-B
P030	Solar Array	0.00	Cohesive	Frozen dark brown and clayey soil	-
P031	Solar Array	0.00	Cohesive	Grass over shallow clayey soil, over cohesive strata	-
P032	Solar Array	0.00	Cohesive	Grass over clayey soil, over cohesive bedrock	-
P033	Solar Array	0.05	Cohesive	Grass over peaty soil, over cohesive strata	-
P034	Solar Array	0.10	Cohesive	Grass over peaty soil, over cohesive strata	P034-A
P035	Solar Array	0.10	Cohesive	Grass over dark brown peaty soil, over cohesive strata	-
P036	Solar Array	0.00	Cohesive	Grass over clayey soil, over cohesive strata	-
P037	Solar Array	0.00	Granular	Relocated due to steep cliff incline, grass over clayey soil, over cohesive strata	P037-A
P038	Solar Array	0.05	Cohesive	Dry straw/ grass over organic soil, over cohesive strata	-
P039	Solar Array	0.00	Cohesive	Grass over clayey soil, over cohesive strata	-
P040	Solar Array	0.00	Cohesive	Grass over shallow clayey soil, over cohesive strata	-
P041	Solar Array	0.00	Granular	Grass over clayey gravelly soil, over granular strata	P041-A
P042	Solar Array	0.00	Cohesive	Grass over shallow clayey soil, over cohesive strata	-
P043	Solar Array	0.00	Cohesive	Grass over shallow clayey soil, over cohesive strata	-

P044	Solar Array	0.00	Cohesive	Grass over shallow clayey soil, over cohesive strata	-
P045	Cable Route	0.00	-	Concrete Road	-
P046	Cable Route	0.20	Granular	Grass over soft dark brown peaty soil, over granular strata	-
P047	Cable Route	0.15	Granular	Grass over soft dark brown peaty soil, over granular strata	P047-A
P048	Cable Route	0.10	Granular	Grass over soft dark brown peaty soil, over granular strata	-
P049	Cable Route	N/A	-	Area frozen, tree cover from south	-
P050	Cable Route	N/A	-	Area frozen, tree cover from south	-
P051	Cable Route	N/A	-	Area frozen, tree cover from south	P051-A
P052	Cable Route	N/A	-	Area frozen, tree cover from south	-
P053	Cable Route	N/A	-	Area frozen, tree cover from south	-
P054	Cable Route	0.10	Cohesive	Short and long grass over soft dark brown soil, over cohesive strata	P054-A
P055	Cable Route	0.20	Cohesive	Short and long grass over soft dark brown soil, over cohesive strata	-
P056	Cable Route	0.10	Cohesive	Short and long grass over soft dark brown soil, over cohesive strata	-
P057	Cable Route	0.00	Granular	Compressed track, some gravel over light brown clayey soil	P057-A, P057-B
P058	Cable Route	0.00	Granular	Compressed track, some gravel over light brown clayey soil	-
P059	Cable Route	0.00	Granular	Compressed track, some gravel over light brown clayey soil	-
P060	Cable Route	0.00	Granular	Compressed track, some gravel over light brown clayey soil	P060-A
P061	Cable Route	0.00	Granular	Compressed track, some gravel over light brown clayey soil	
P062	Cable Route	0.00	Granular	Compressed track, some gravel over light brown clayey soil	P062-A
P063	Cable Route	0.00	Granular	Angular gravel track	-
P064	Cable Route	0.00	Granular	Angular gravel track	-
P065	Cable Route	0.00	Granular	Angular gravel track	-
P066	Cable Route	0.00	Granular	Angular gravel track	-
P067	Cable Route	0.00	Granular	Angular gravel track	P067-A
P068	Cable Route	0.00	Granular	Angular gravel track	-
P069	Cable Route	0.00	Granular	Angular gravel track	-
P070	Cable Route	0.00	Granular	Angular gravel track	-
P071	Cable Route	0.00	Granular	Angular gravel track	-
P072	Cable Route	0.00	Granular	Angular gravel track	-

Appendix A

PROPOSED PEAT DEPTH SURVEY LOCATION PLAN

Notes
1. This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.
2. If received electronically it is the recipients responsibility to print to correct scale. Only written dimensions should be used.

Legend

- Site Boundary
- Peat Probing Survey Point (Total = 71)

Rev	Description	By	CB	Date

MAKING COMPLEX EASY
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Project: Cil Lonydd Solar Farm

Title: Proposed Peat Depth Survey Locations

Status	Drawn By	PM/Checked By
Draft	OW	GJ

Project Number	Scale @ A3	Date Created
JPW2051	1:12,000	13/03/25

Figure Number	Rev
1	-

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Document: \\chris-aw-fs-01\Projects\1794-PLN-WMP-JPW2051 - CIL-LONYDD SOLAR FARM\3_Data\7_GIS - CAD Data\Drawings\Tech\JPW2051-0001-01 peat probing aprx. A3 Details right

Appendix B

PHOTOGRAPHS

Ref. P002-A

Ref. P006-A

Ref. P006-B

Ref. P009-A

RPS | Consulting UK & Ireland
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Client: Cenin Renewables Ltd

Project: Cil-Lonydd Solar Farm | Job Ref: 794-PLN-WWP-JPW2051

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Ref. P010-A

Ref. P013-A

Ref. P018-A

Ref. P024-A

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Ref. P027-A

Ref. P027-B

Ref. P029-A

Ref. P029-B

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Ref. P034-A

Ref. P037-A

Ref. P041-A

Ref. P047-A

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Ref. P051-A

Ref. P054-A

Ref. P057-A

Ref. P057-B

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Ref. P060-A

Ref. P062-A

Ref. P067-A

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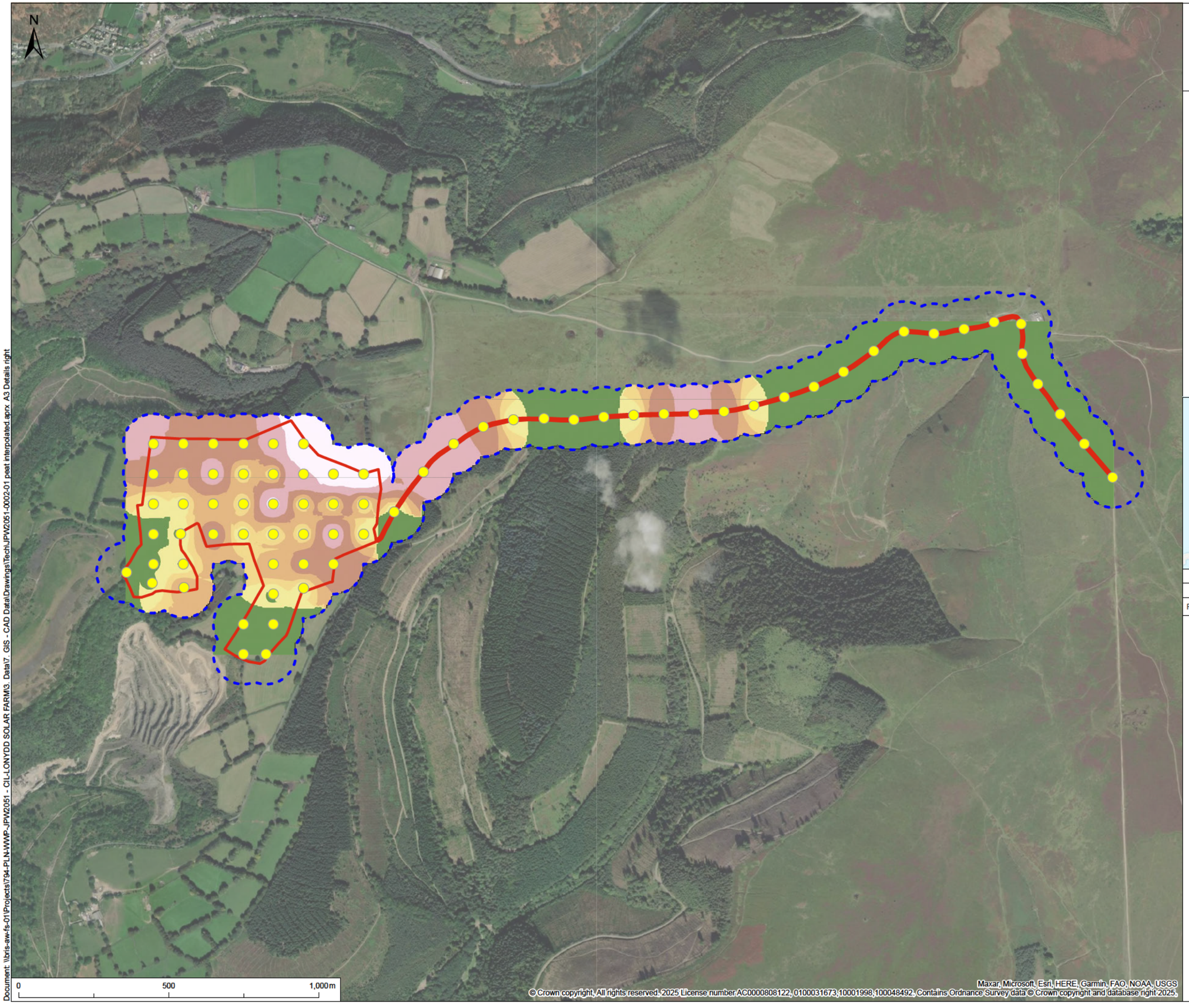
Project: Cil-Lonydd Solar Farm | Job Ref: 794-PLN-WWP-JPW2051

Checked By: EL | Date: 06/03/2025

Appendix C

PEAT CONTOUR RESULTS



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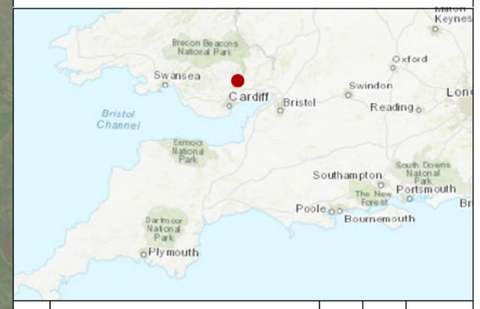
Legend

- Site Boundary
- Peat Anaylsis Boundary (100m)
- Peat Probing Survey Point (Total = 71)

Interpolated Peat Depth (cm)

- 0
- 0.1 - 1.5
- 1.5 - 2.5
- 2.5 - 7.5
- 7.5 - 12.5
- 12.5 - 25
- 25 - 5



Rev	Description	By	CB	Date

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Project: Cil Lonydd Solar Farm

Title: Peat Contour Results

Status	Drawn By	PM/Checked By
Draft	OW	GJ
Project Number	**Scale @ A3**	**Date Created**
JPW2051	1:12,000	13/03/25
Figure Number		**Rev**
2		-

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CIL-LONYDD SOLAR FARM

Phase 1 Peat Probing

2025-03-13

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