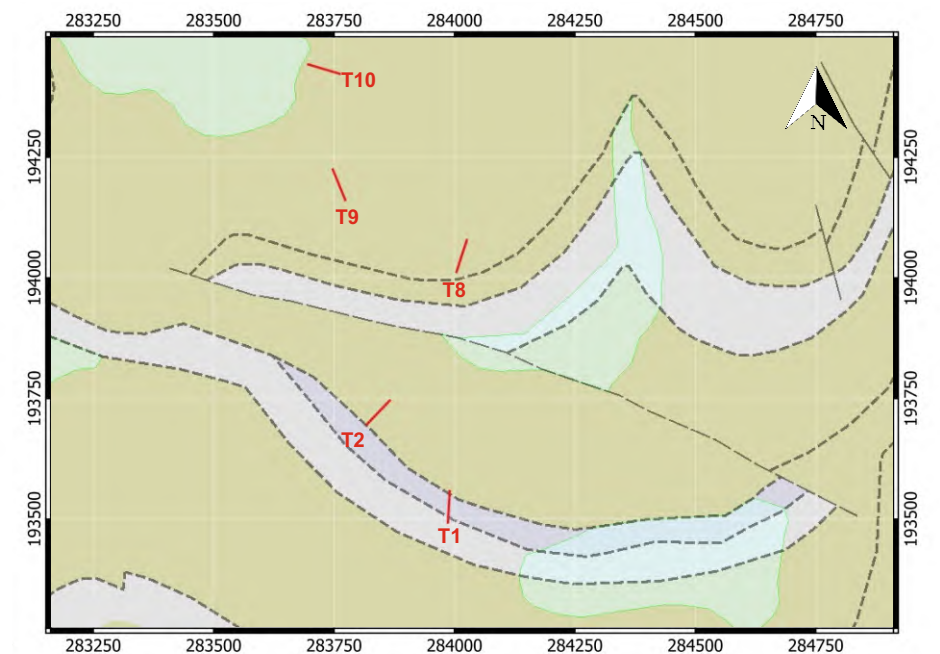
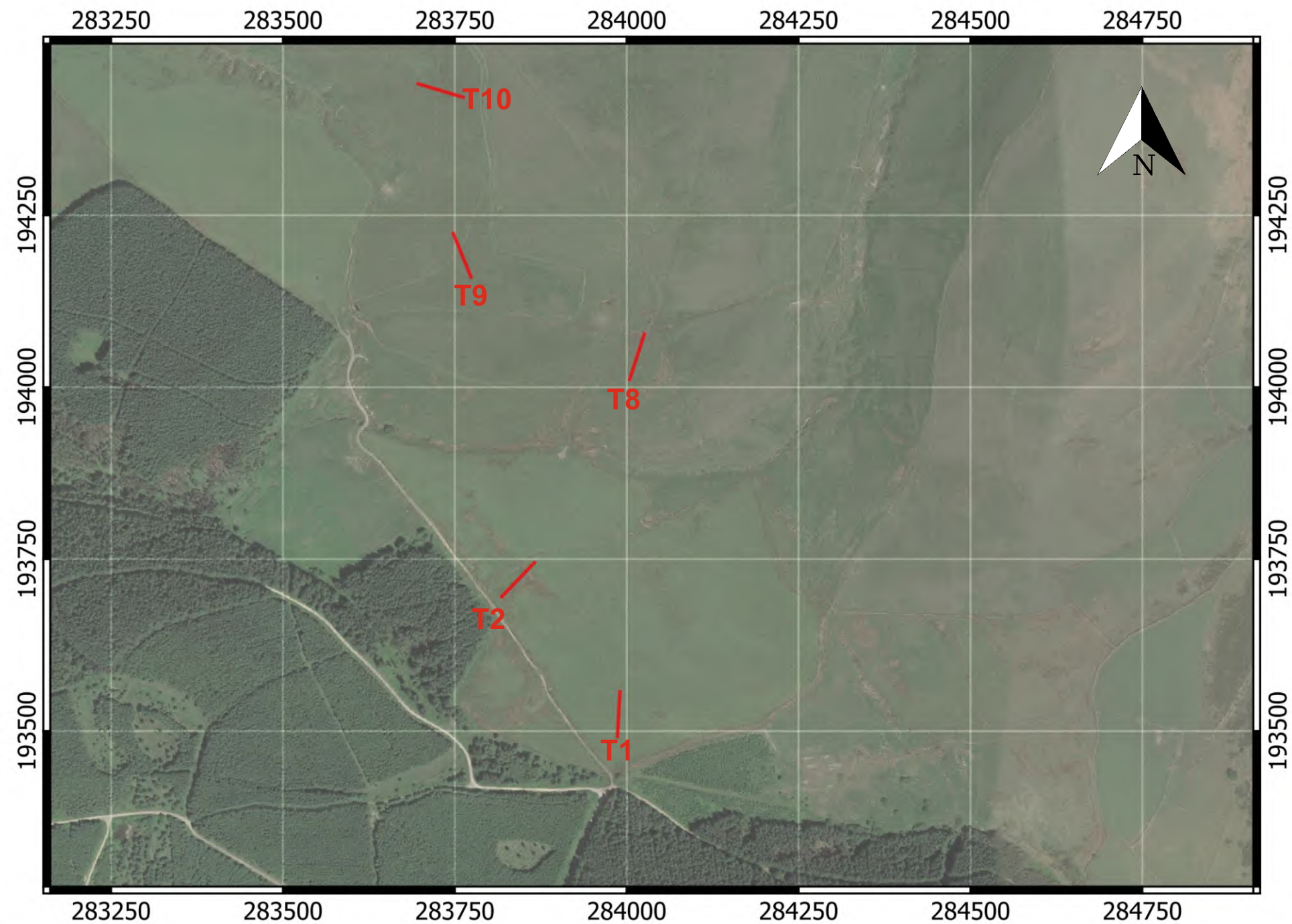
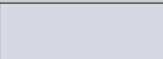
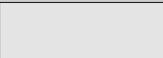


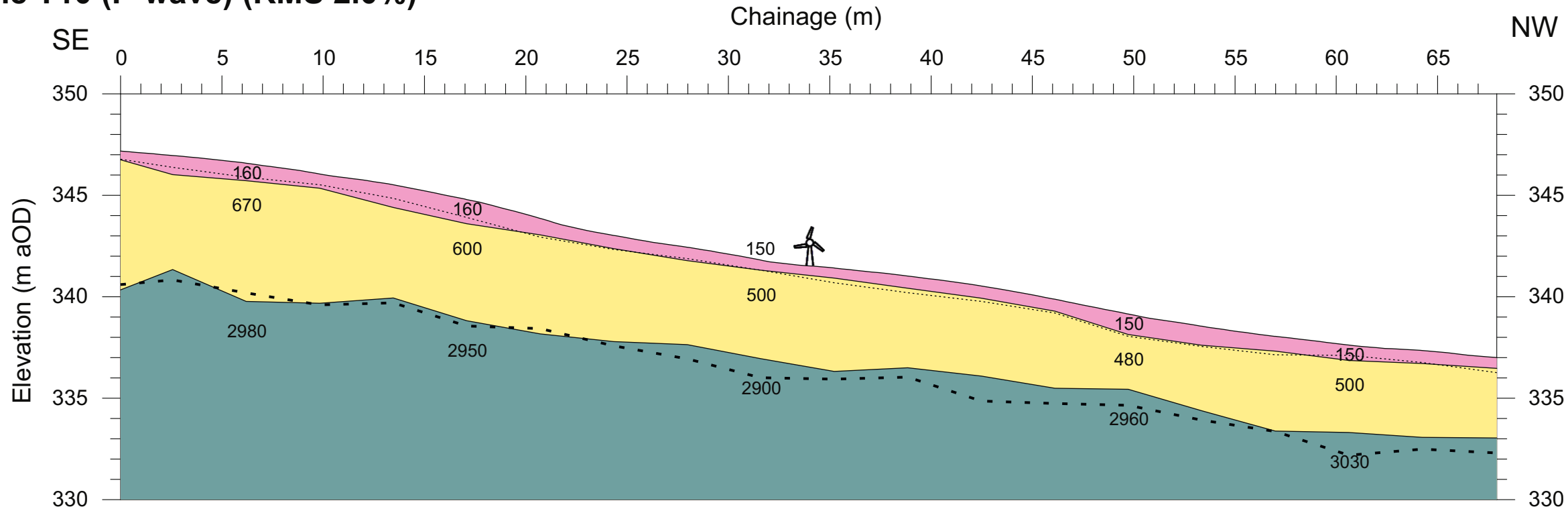


Not to scale

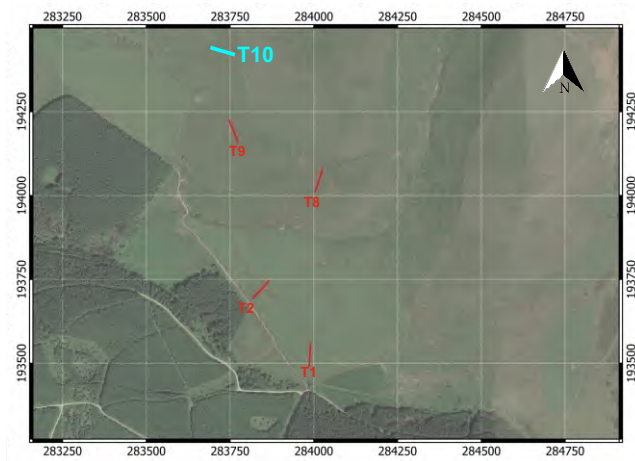
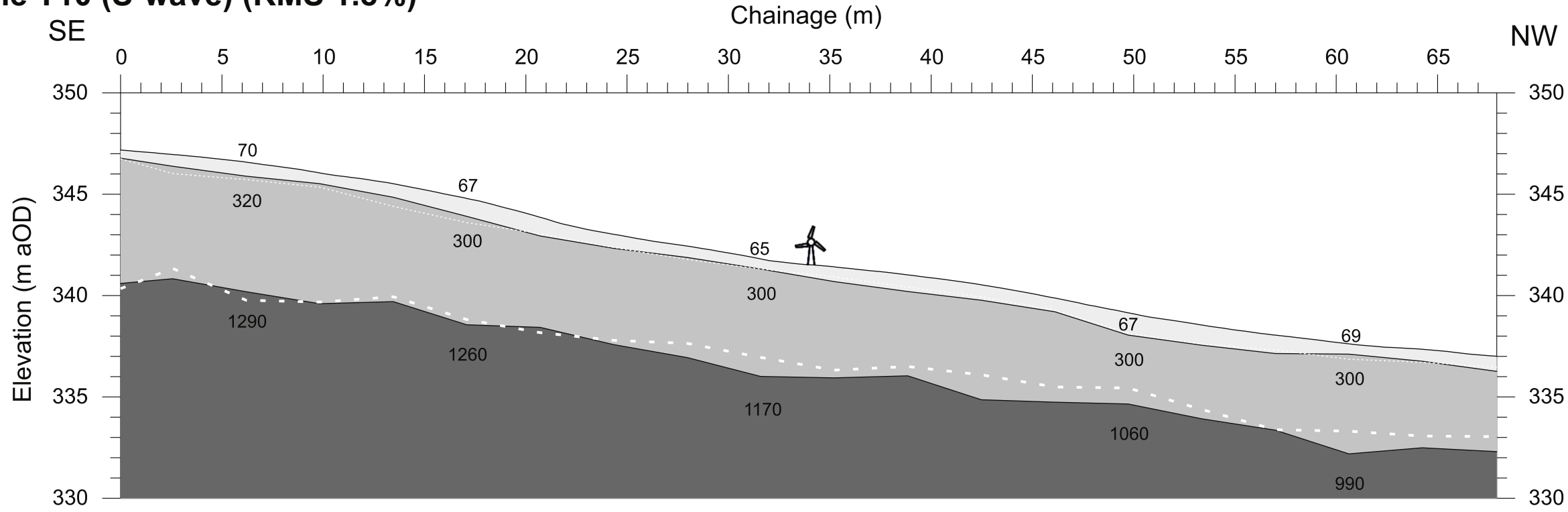
REGIONAL GEOLOGY: (Ref. British Geological Survey):		KEY:	
BEDROCK:		SUPERFICIAL DEPOSITS:	
 Rhondda Member - mandstone		 Devensian Glacial Till - Diamicton	 Wind turbine ID and location
 Rhondda Member - mudstone, miltstone and mandstone			
 Llynfi Member - mudstone, miltstone and mandstone			

		Tel: +44 (0) 2920 700127 Web: www.terradat.co.uk Email: web@terradat.co.uk	
Title:		LOCATION / GEOLOGY PLAN	
Project:		FOEL TRAWSNANT WIND FARM	
Scale:	1:1000 @ A3	FIGURE 1	
Drawn by/Ref:	AT/7299/1		
Date:	APRIL 2021		

Line T10 (P-wave) (RMS 2.0%)



Line T10 (S-wave) (RMS 1.8%)



COMPRESSION (P) WAVE KEY:

Layer P1 150 - 160 m/s - Unsaturated surface material comprising weak soils and fibrous peat.

Layer P2a 460 - 670 m/s - Comprising stiff, compacted, unsaturated sediments.

Layer P4 2900 - 3030 m/s - Bedrock (Rhondda member).

SHEAR (S) WAVE KEY:

Layer S1 65 - 70 m/s - Very soft, unconsolidated soil*.

Layer S2 300 - 320 m/s - Stiff soils*.

Layer S4 990 - 1290 m/s - Moderately strong bedrock*.

Rock / Soil Description (top 30m)	S-wave velocity (m/s)
Hard rock (<i>strong</i> *)	> 1,500
Rock (<i>moderately strong</i> *)	760 - 1,500
Very dense soil / soft (<i>weak</i> *) rock	360 - 760
Stiff soil	180 - 360
Soft soil	<180

The NEHRP Recommended Provisions for seismic regulation for new buildings, (FEMA-222A and FEMA-223A, 1994)

* UK equivalent classification (Waltham, 1994)

KEY:

Proposed position of wind turbine along seismic section.

S-wave boundaries superimposed on P-wave sections.

P-wave boundaries superimposed S-wave sections.

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SEISMIC SURVEY RESULTS - T10

Project:

FOEL TRAWSNANT WIND FARM

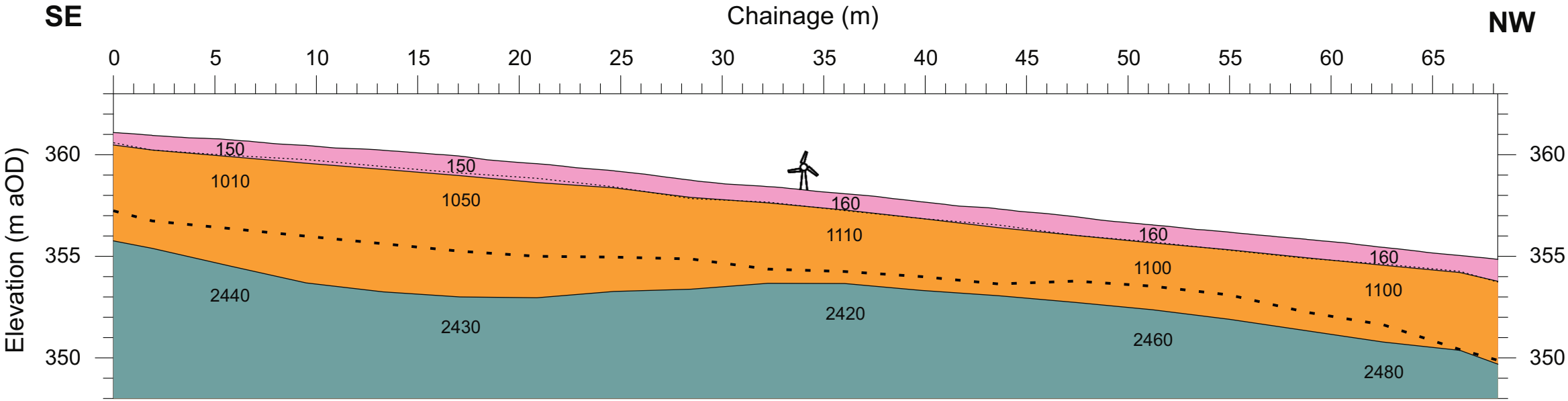
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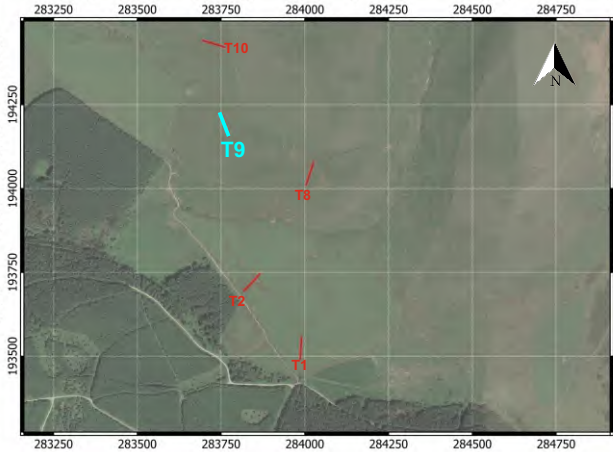
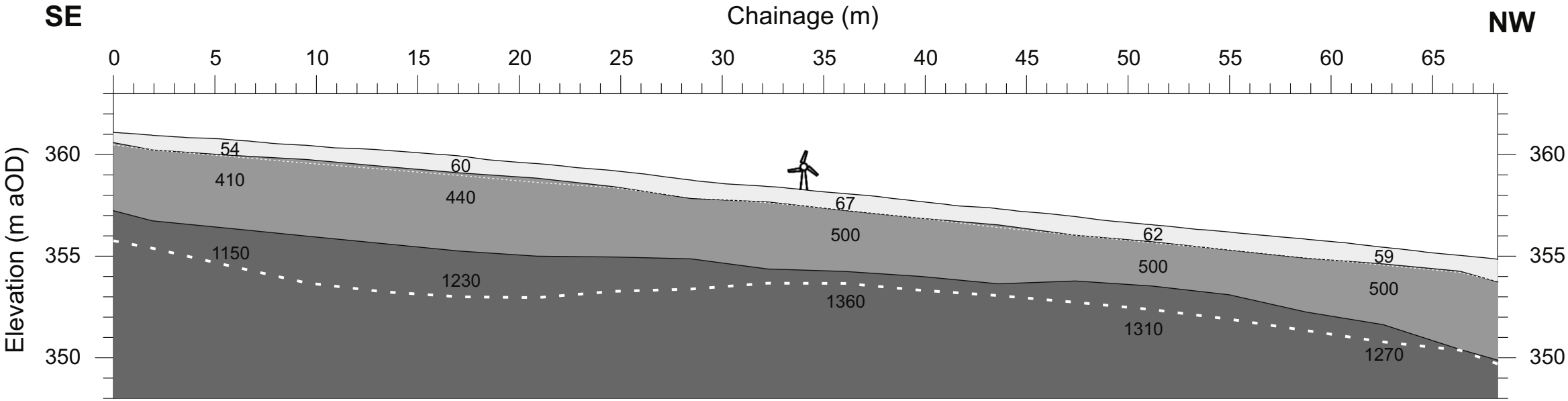
Date: APRIL 2021

FIGURE 2

Line T9 (P-wave) (RMS 2.3%)



Line T9 (S-wave) (RMS 2.2%)



COMPRESSION (P) WAVE KEY:

- Layer P1 ~150 m/s** - Unsaturated surface material comprising weak soils / fibrous peat.
- Layer P2b 1010 - 1100 m/s** - Comprising very stiff, compacted, partially saturated sediments at shallow horizons, transitioning into weathered / weak rock.
- Layer P4 2420 - 2480 m/s** - Bedrock (Rhondda member).

SHEAR (S) WAVE KEY:

- Layer S1 54 - 67 m/s** - Very soft, unconsolidated soil*.
- Layer S3 410 - 500 m/s** - Very dense soil / soft (weak) weathered rock*.
- Layer S4 1150 - 1270 m/s** - Moderately strong bedrock*.

Rock / Soil Description (top 30m)	S-wave velocity (m/s)
Hard rock (<i>strong</i> *)	> 1,500
Rock (<i>moderately strong</i> *)	760 - 1,500
Very dense soil / soft (<i>weak</i> *) rock	360 - 760
Stiff soil	180 - 360
Soft soil	<180

The NEHRP Recommended Provisions for seismic regulation for new buildings, (FEMA-222A and FEMA-223A, 1994)
* UK equivalent classification (Waltham, 1994)

KEY:

- Proposed position of wind turbine along seismic section.
- S-wave boundaries superimposed on P-wave sections.
- P-wave boundaries superimposed S-wave sections.

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Title:
SEISMIC SURVEY RESULTS - T9

Project:
FOEL TRAWSNANT WIND FARM

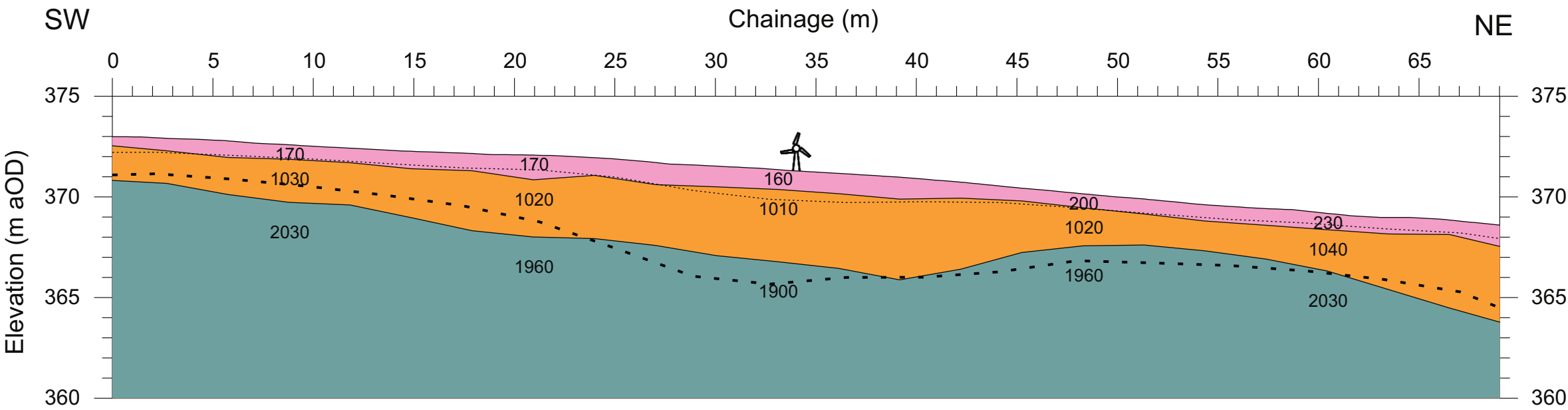
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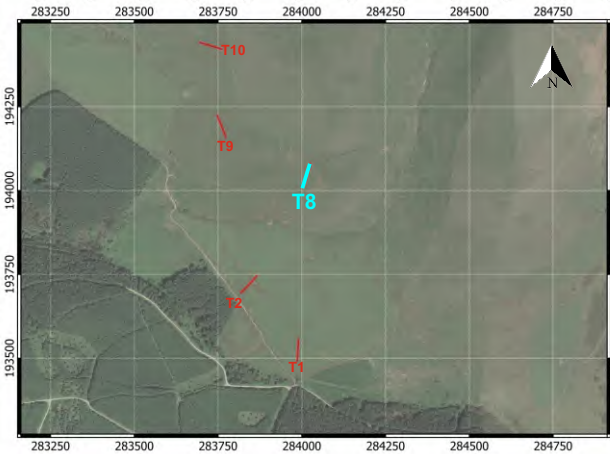
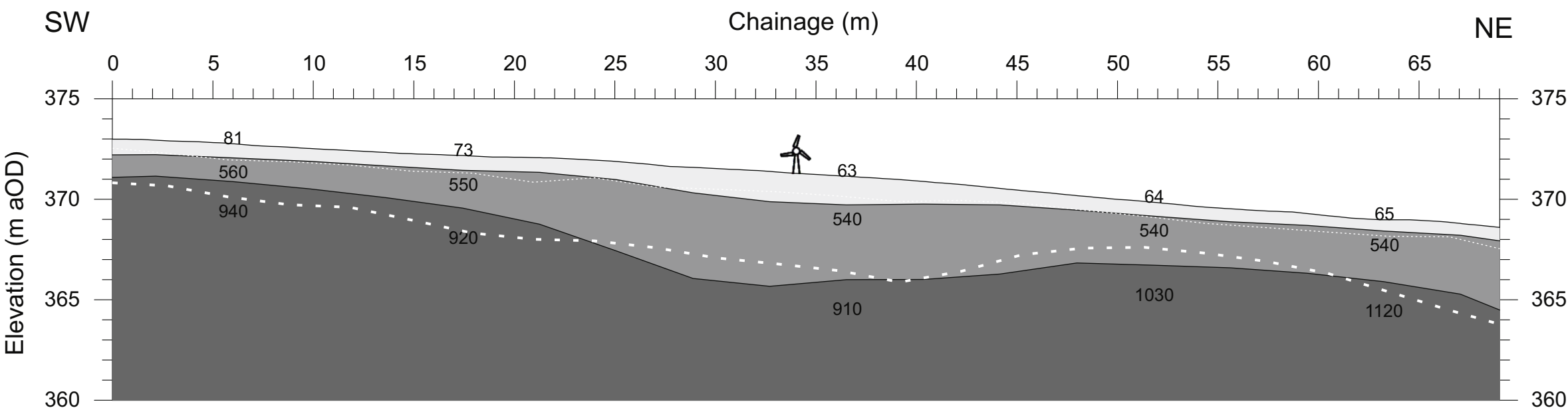
Date: APRIL 2021

FIGURE 3

Line T8 (P-wave) (RMS 3.3%)



Line T8 (S-wave) (RMS 3.7%)



COMPRESSION (P) WAVE KEY:

- Layer P1 170 - 230 m/s** - Unsaturated surface material comprising weak soils and fibrous peat.
- Layer P2b 1010 - 1040 m/s** - Comprising very stiff, compacted, partially saturated sediments at shallow horizons, transitioning into weathered bedrock.
- Layer P4 1960 - 2030 m/s** - Bedrock (Rhondda member)

SHEAR (S) WAVE KEY:

- Layer S1 64 - 81 m/s** - Very soft, unconsolidated soil*.
- Layer S3 540 - 560 m/s** - Very dense soil / weak(soft) weathered rock*.
- Layer S4 920 - 1120 m/s** - Moderately strong bedrock*.

Rock / Soil Description (top 30m)	S-wave velocity (m/s)
Hard rock (<i>strong</i> *)	> 1,500
Rock (<i>moderately strong</i> *)	760 - 1,500
Very dense soil / soft (<i>weak</i> *) rock	360 - 760
Stiff soil	180 - 360
Soft soil	<180

The NEHRP Recommended Provisions for seismic regulation for new buildings, (FEMA-222A and FEMA-223A, 1994)
* UK equivalent classification (Waltham, 1994)

KEY:

- Proposed position of wind turbine along seismic section.
- S-wave boundaries superimposed on P-wave sections.
- P-wave boundaries superimposed S-wave sections.

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SEISMIC SURVEY RESULTS - T8

Project:
FOEL TRAWSNANT WIND FARM

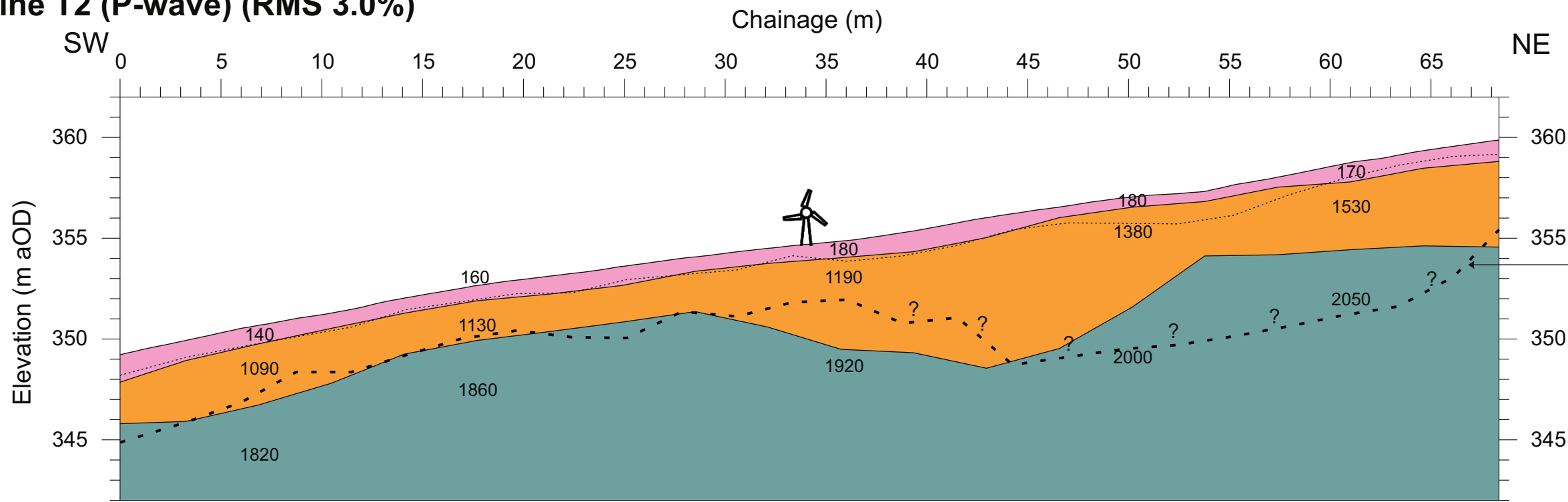
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Drawn by/Ref: AT/7299/4

Date: APRIL 2021

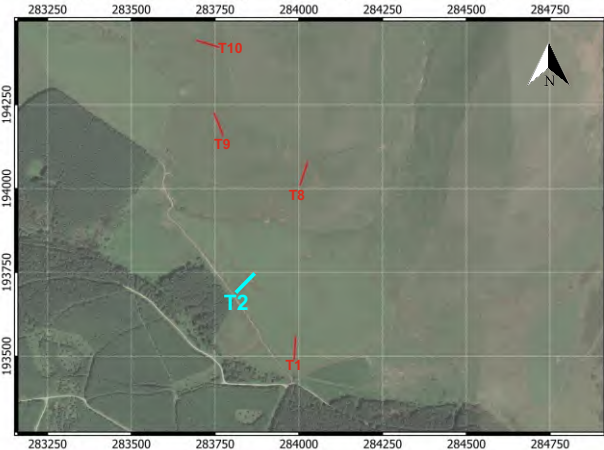
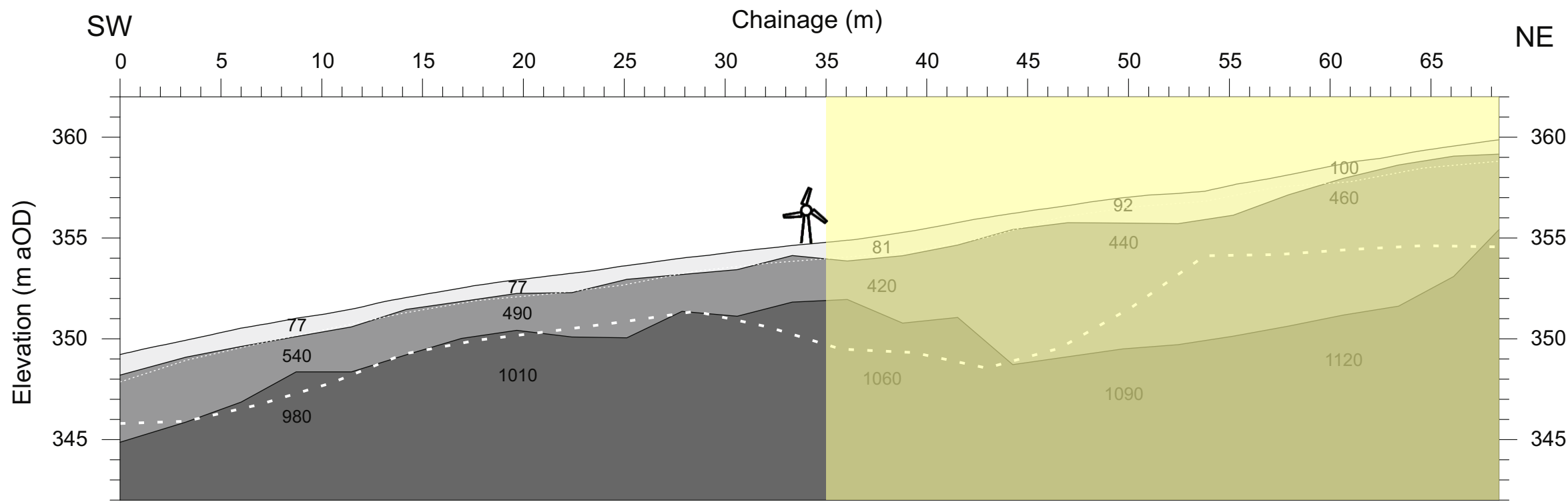
FIGURE 4

Line T2 (P-wave) (RMS 3.0%)



40 - 70m - Reduced confidence of Layer S4 boundary.
- - - ? - - -

Line T2 (S-wave) (RMS 4.7%)



COMPRESSION (P) WAVE KEY:

- Layer P1 140 - 180 m/s** - Unsaturated surface material comprising weak soils and fibrous peat.
- Layer P2b 1090 - 1530 m/s** - Comprising very stiff, compacted, partially saturated sediments at shallow horizons, transitioning into weathered / weak rock.
- Layer P4 1820 - 2050 m/s** - Bedrock (Rhondda member)

SHEAR (S) WAVE KEY:

- Layer S1 77 - 100 m/s** - Very soft, unconsolidated soil*.
- Layer S3 490 - 540 m/s** - Very dense soil / soft (weak) weathered rock*.
- Layer S4 920 - 1120 m/s** - Moderately strong bedrock*.

Rock / Soil Description (top 30m)	S-wave velocity (m/s)
Hard rock (<i>strong</i> *)	> 1,500
Rock (<i>moderately strong</i> *)	760 - 1,500
Very dense soil / soft (<i>weak</i> *) rock	360 - 760
Stiff soil	180 - 360
Soft soil	<180

The NEHRP Recommended Provisions for seismic regulation for new buildings, (FEMA-222A and FEMA-223A, 1994)
* UK equivalent classification (Waltham, 1994)

KEY:

- Section of S-wave profile with reduced reliability / reduced confidence.
- Proposed position of wind turbine along seismic section.
- S-wave boundaries superimposed on P-wave sections.
- P-wave boundaries superimposed S-wave sections.

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Title:
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Project:
FOEL TRAWSNANT WIND FARM

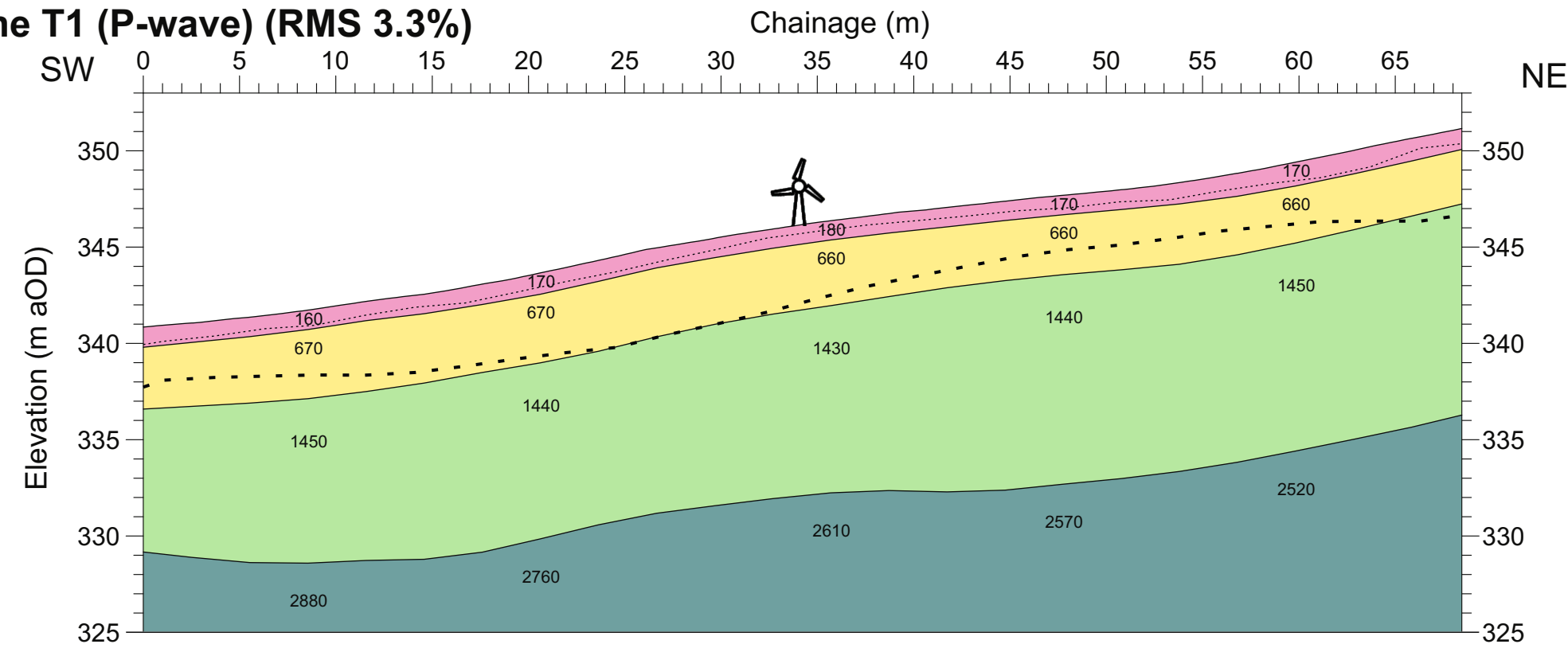
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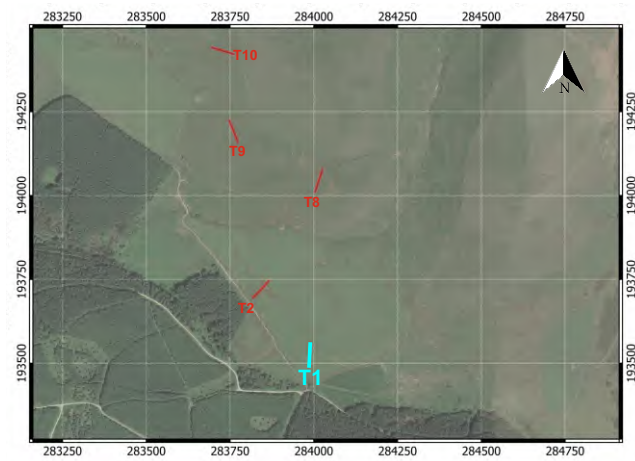
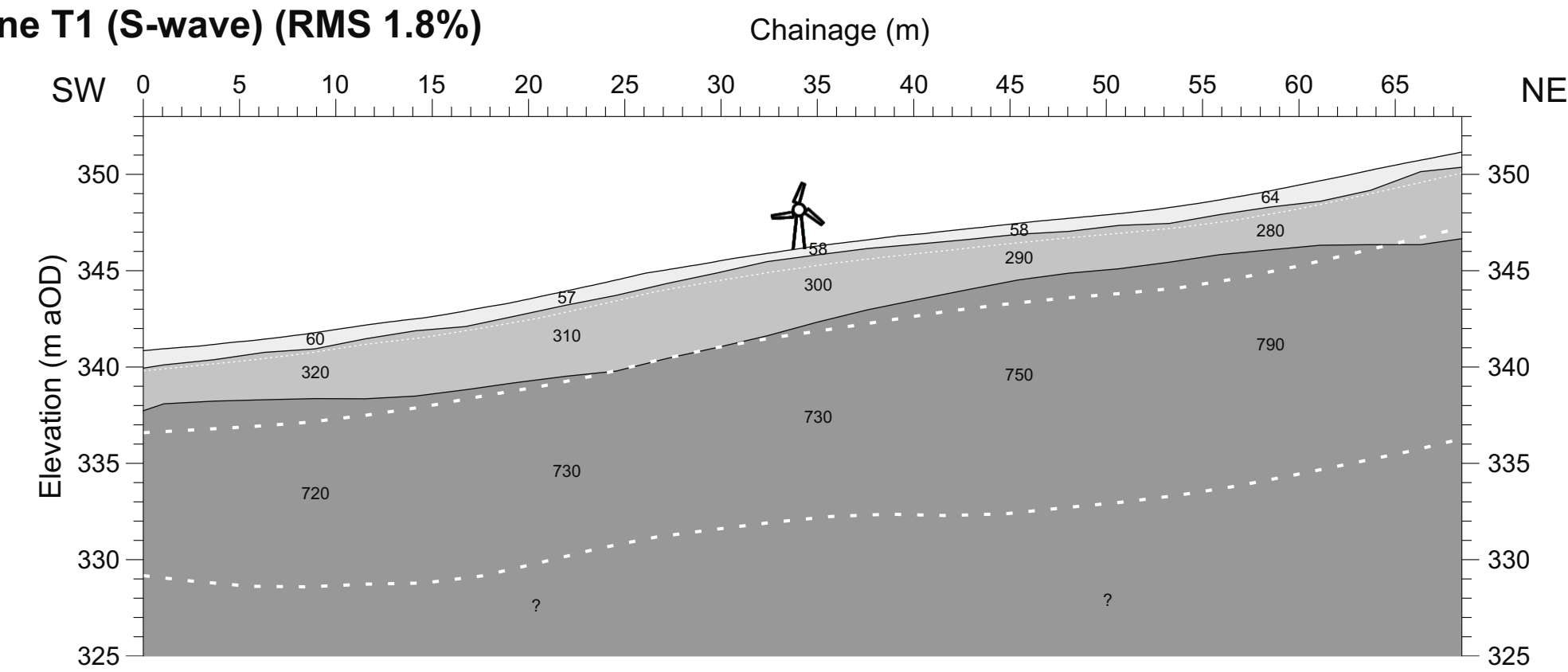
Date: APRIL 2021

FIGURE 5

Line T1 (P-wave) (RMS 3.3%)



Line T1 (S-wave) (RMS 1.8%)



COMPRESSION (P) WAVE KEY:

- Layer P1 ~150 m/s** - Unsaturated surface material comprising weak soils and fibrous peat.
- Layer P2a 460 - 670 m/s** - Stiff, compacted, unsaturated sediments.
- Layer P3 1430 - 1450 m/s** - Transition layer comprising stiff soils / weak (soft) rock.
- Layer P4 2520 - 2880 m/s** - Bedrock (Llynfi member).

SHEAR (S) WAVE KEY:

- Layer S1 <70 m/s** - Very soft soils*.
- Layer S2 280 - 320 m/s** - Stiff soils*.
- Layer S3 720 - 790 m/s** - Moderately strong bedrock*.

NOTE: The P and S wave models correlate very well; however, the P-wave model reveals four distinct layers of contrasting velocity whereas the S-wave model is unable to define the deepest refraction boundary, either due to reduced ground penetration or limited contrast in the S-wave velocity with the overlying material.

Rock / Soil Description (top 30m)	S-wave velocity (m/s)
Hard rock (<i>strong</i> *)	> 1,500
Rock (<i>moderately strong</i> *)	760 - 1,500
Very dense soil / soft (<i>weak</i> *) rock	360 - 760
Stiff soil	180 - 360
Soft soil	<180

The NEHRP Recommended Provisions for seismic regulation for new buildings, (FEMA-222A and FEMA-223A, 1994)

* UK equivalent classification (Waltham, 1994)

KEY:

- Proposed position of wind turbine along seismic section.
- S-wave boundaries superimposed on P-wave sections.
- P-wave boundaries superimposed S-wave sections.

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Title:

SEISMIC SURVEY RESULTS - T1

Project:

FOEL TRAWSNANT WIND FARM

Scale: 1:500 @ A3

Drawn by/Ref: AT/7299/3

Date: APRIL 2021

FIGURE 6

APPENDICES

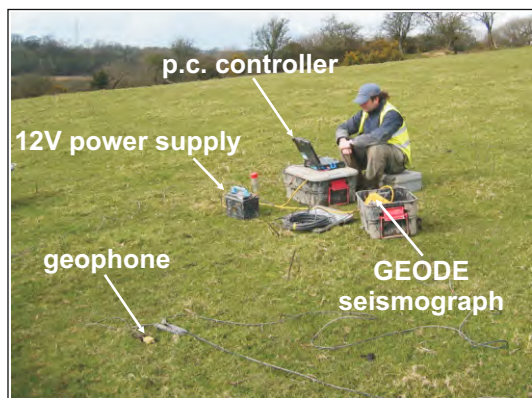
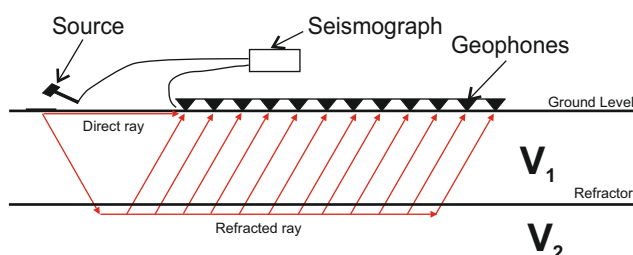
Appendix - Seismic Refraction Survey

Seismic refraction is a useful method for investigating geological structure and rock properties. The technique involves the observation of a seismic signal that has been refracted between layers of contrasting seismic velocity, i.e., at a geological boundary between a high velocity layer and an overlying lower velocity layer.

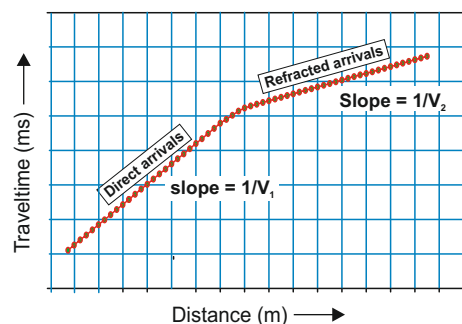
Shots are deployed at the surface and recordings made via a linear array of sensors (geophones or hydrophones). Refracted seismic signal travels laterally through the higher velocity layer (refractor) and generates a 'head-wave' that returns to surface. Beyond a certain distance away from the shot, the signal that has been refracted at depth is observed as first-arrival signal at the geophones. Observation of the travel-times of refracted signal from selectively deployed shots enables derivation of the depth profile of the refractor layer. Shots are typically fired at locations at and beyond both ends of the geophone spread and at regular intervals along its length.

The results of the seismic refraction survey are usually presented in the form of seismic velocity boundaries on interpreted cross-sections. Seismic sections represent the measured bulk properties of the subsurface and enable correlation between point source datasets (boreholes/trialpits) where underlying material is variable. Reference to the published seismic velocity tables enables derivation of rippability values.

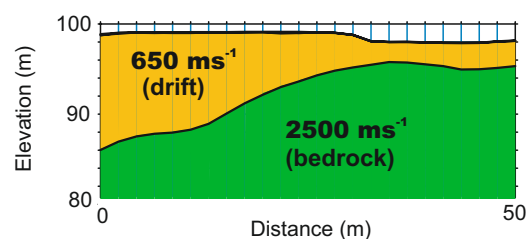
Typical field set-up



Travel-time curve



Modelled velocity section

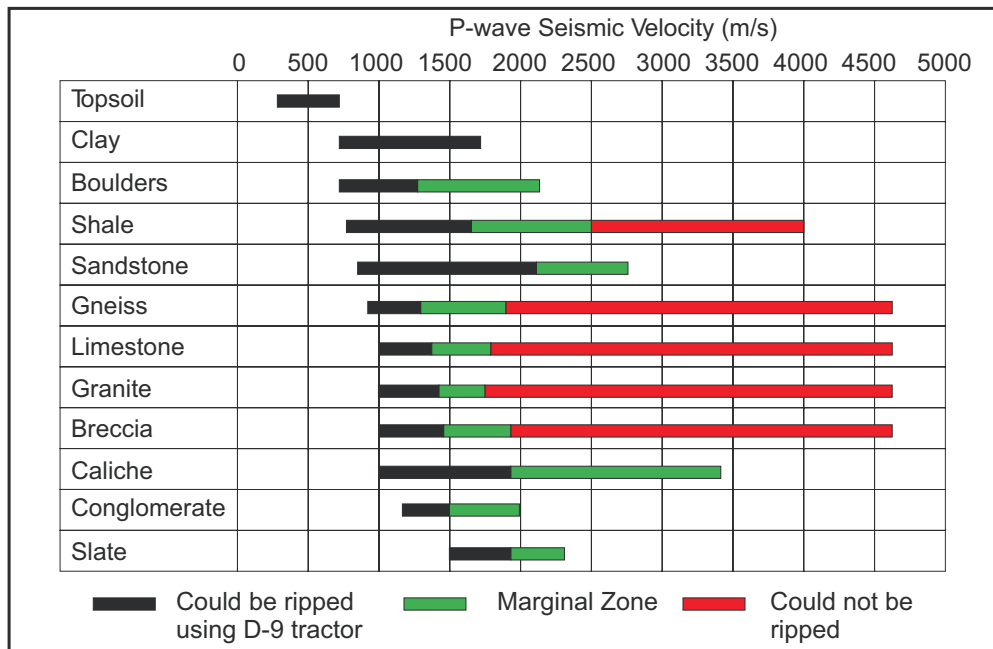


The data processing is carried out using PICKWIN & PLOTREFA (OYO ver2.2) software. The first stage involves accurate determination of the first-arrival times of the seismic signal (time from the hammer blow to each recording hydrophone) for every shot record, using PICKWIN. Time-distance graphs showing the first-arrival times were then generated for each seismic shot record and analysed using PLOTREFA software to determine the number of seismic velocity layers. Modelled depth profiles for the observed seismic velocity layers are produced by a tomographic inversion procedure that is revised iteratively to develop a best fit-model. The final output of a seismic refraction survey is a velocity model section of the subsurface based on an observed layer sequence with measured velocities that correspond to physical properties such as levels of compaction/ saturation in the case of sediments and strength/rippability in the case of bedrock.

Constraints

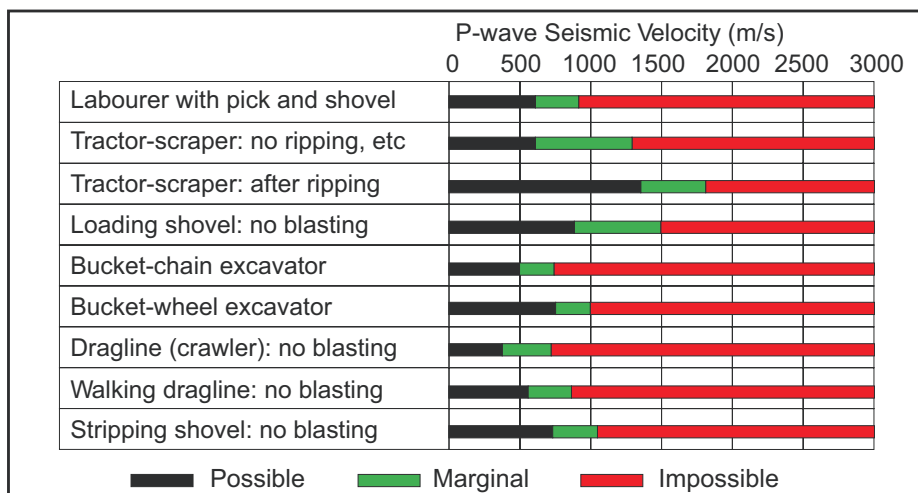
Layer velocity (density) must increase with depth; true in most instances. Layers must be of sufficient thickness to be detectable. Data collected directly over loose fill (landfills) or in the presence of excessive cultural noise may result in sub-standard results. In places where compact clay-rich tills and/or shallow water overly weak bedrock an S-wave survey may be used to profile rockhead where insufficient velocity contrast may prevent use of a P-wave survey.

Appendix - Seismic velocity tables



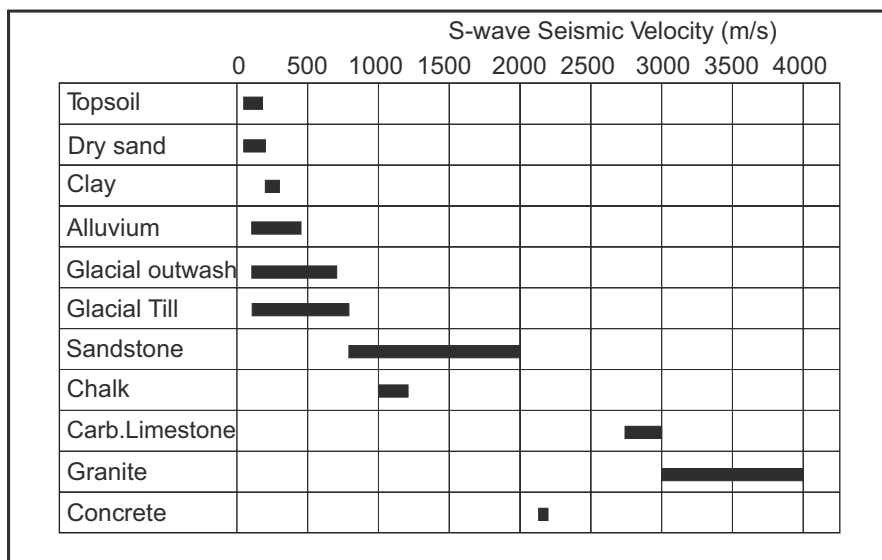
Rippability Chart

from *Geology and Construction*, 1995



Diggability Chart

from *Seismic velocities for determining diggability*, Atkinson 1971



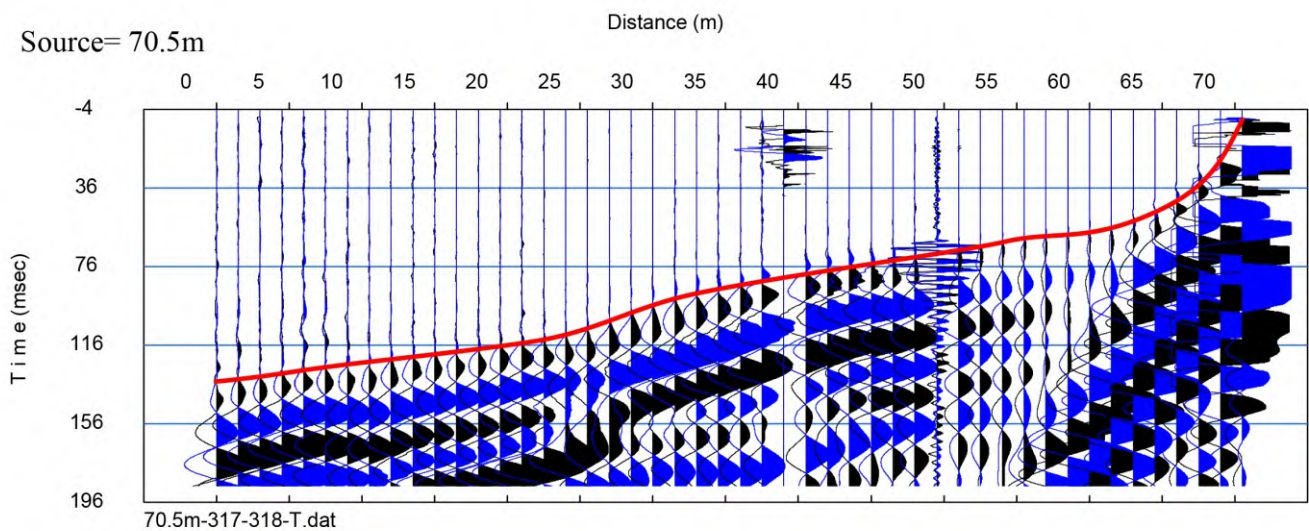
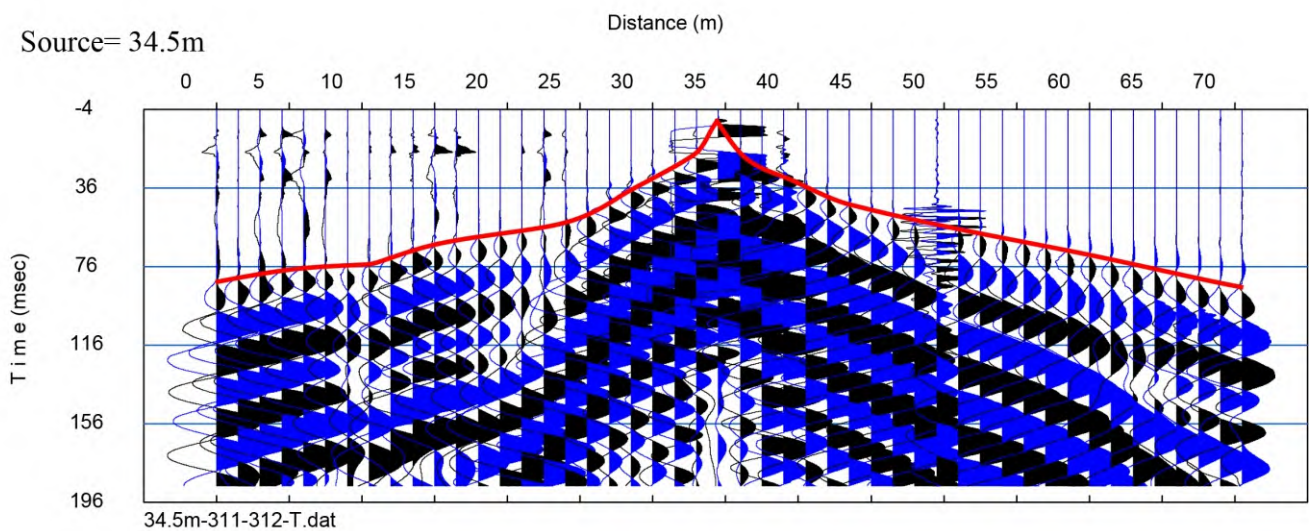
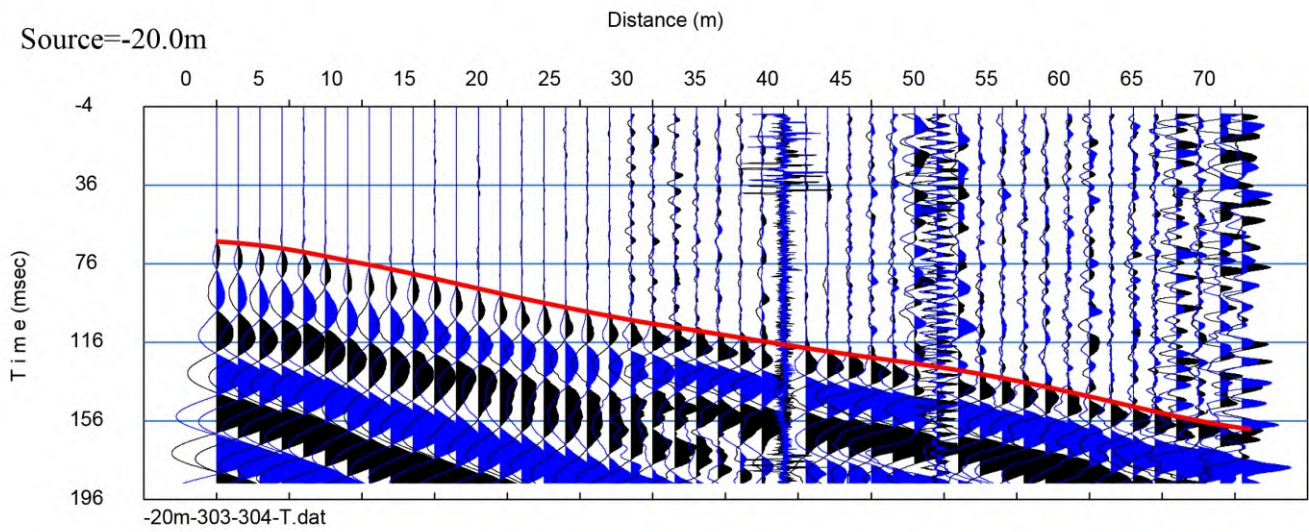
from a compilation of published sources

Rock / Soil Description	S-wave velocity (m/s) Top 30m
Hard rock	> 1,500
Rock	760 - 1,500
Very dense soil / soft rock	360 - 760
Stiff soil	180 - 360
Soft soil	<180

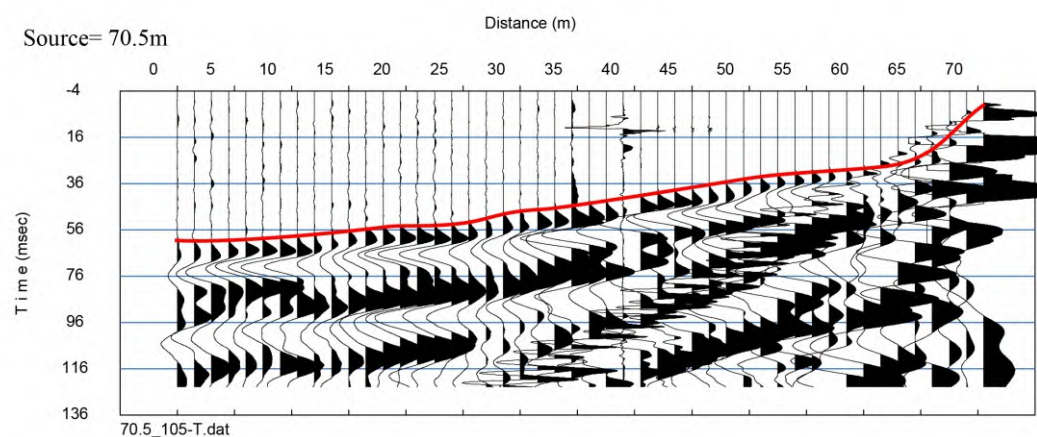
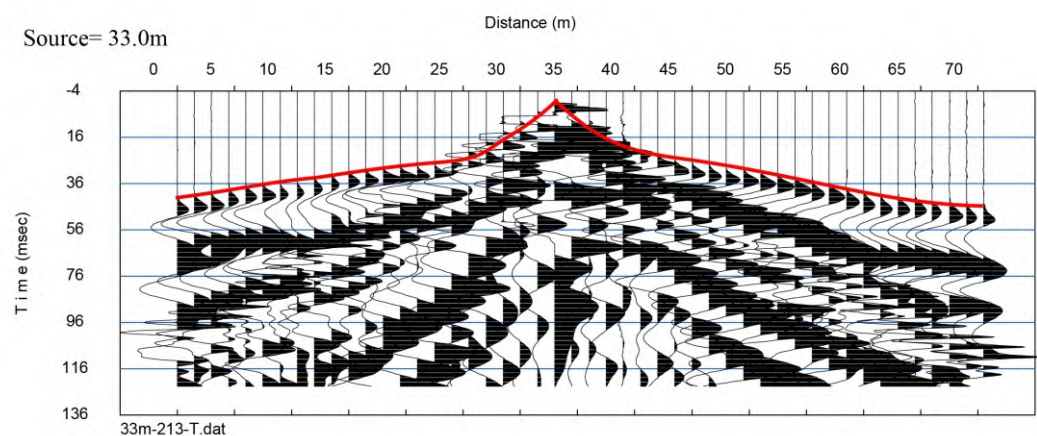
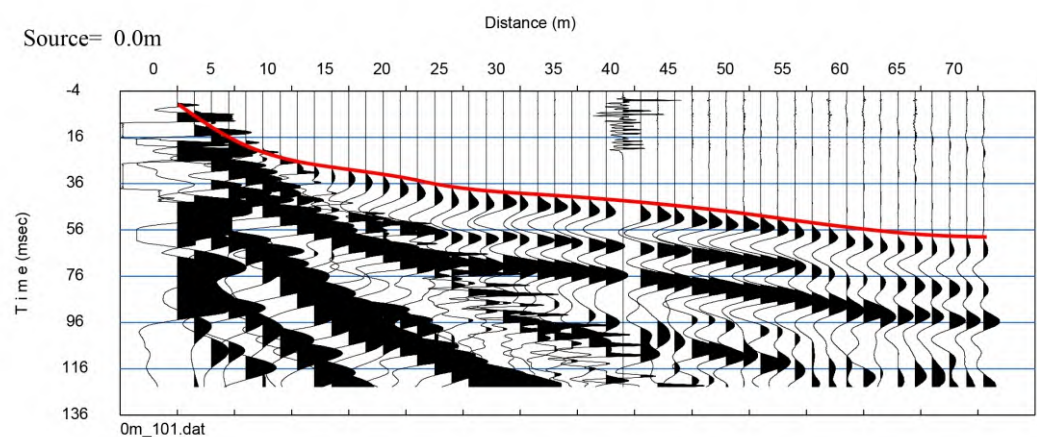
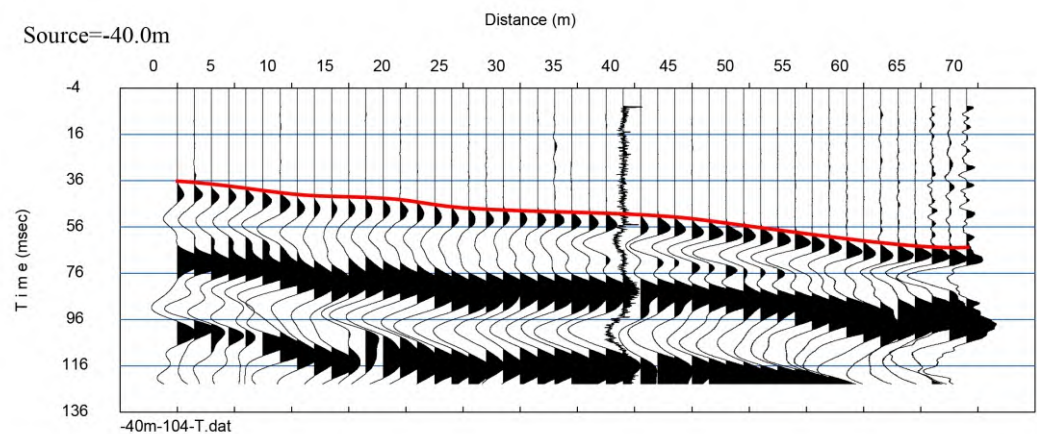
from *National Earthquake Hazard Reduction Prog.*

Shear Waves

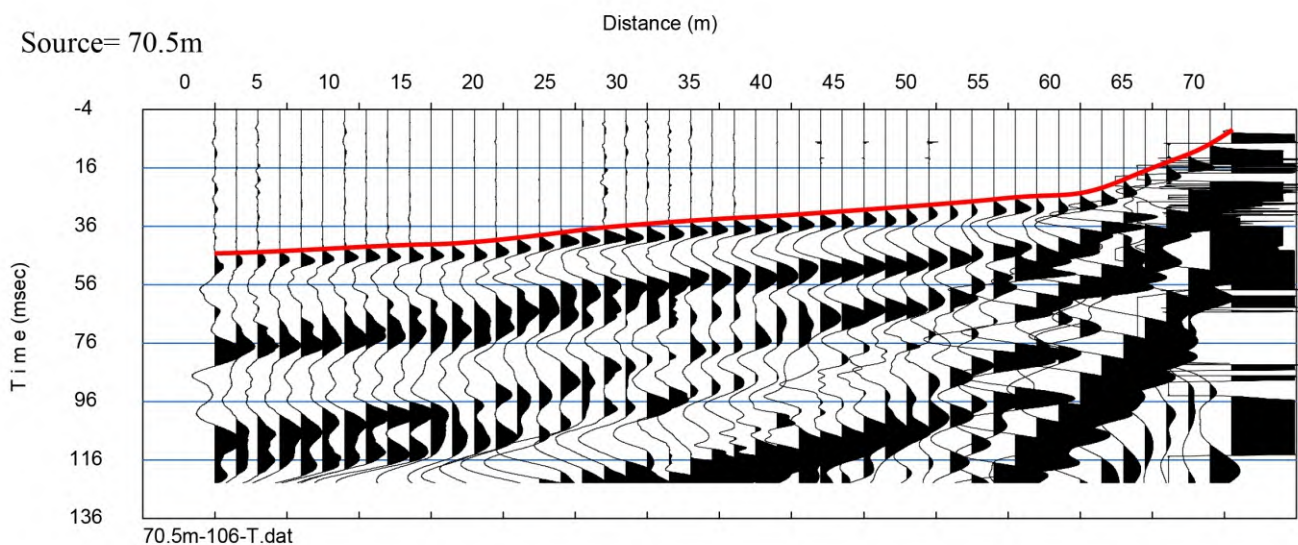
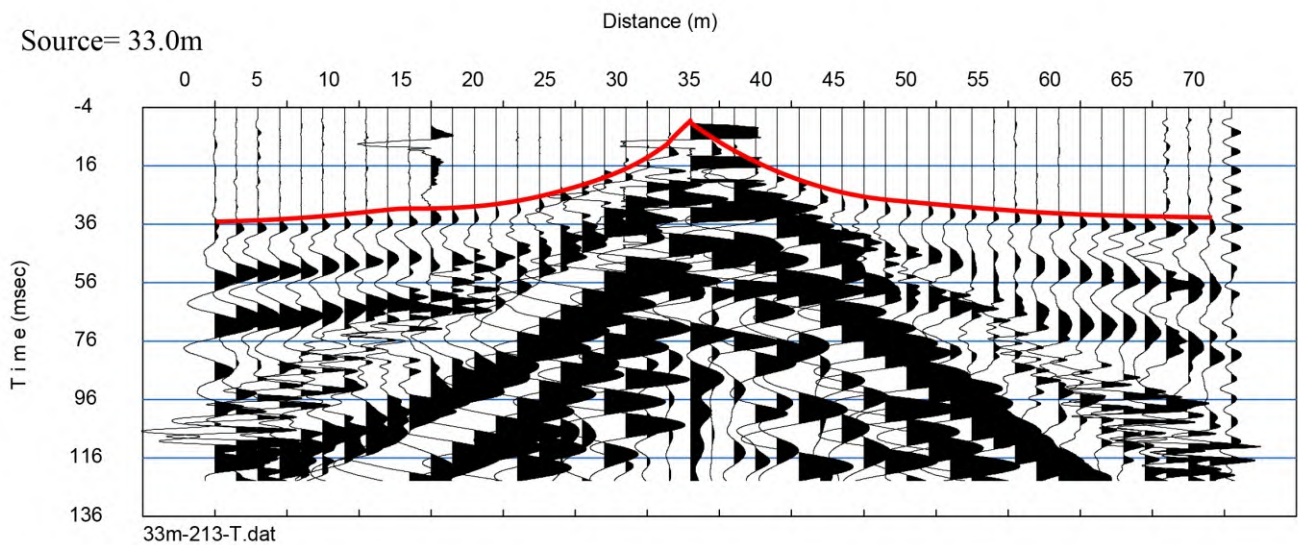
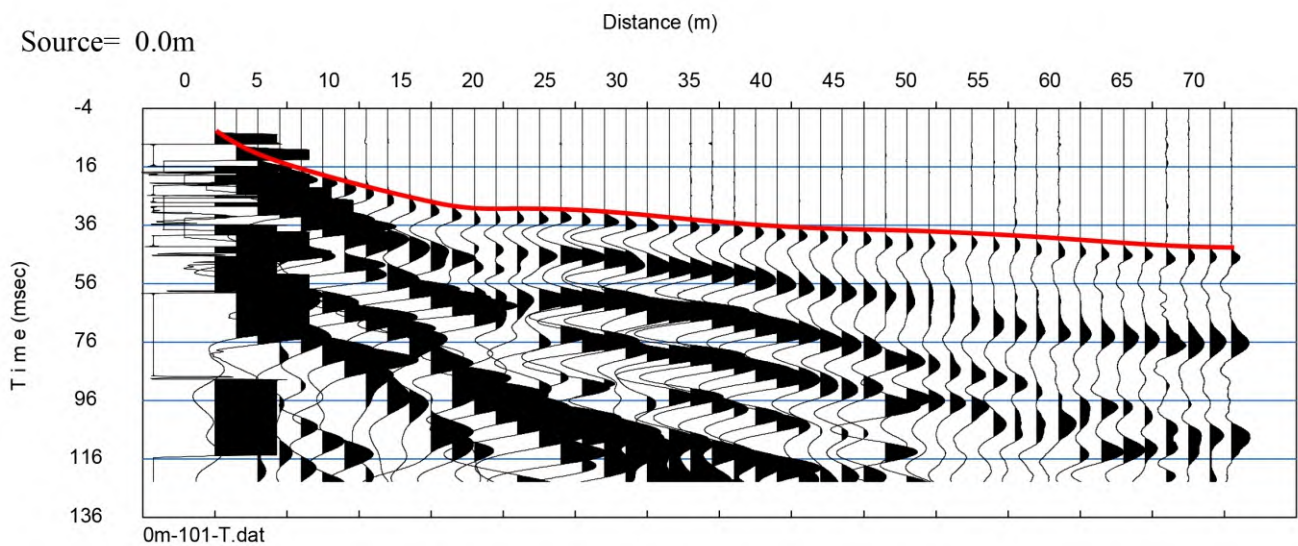
Shot Record Example - Line 1 - Shear Wave



Shot Record Example - Line 1 - P-Wave

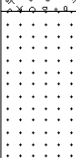


Shot Record Example - Line 10 - P-Wave



APPENDIX C

TRIAL PIT LOGS

 Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Foel Trawsnant Windfarm			Project No.: 12826		Trial Pit No.: TP01 Sheet 1 of 1	
Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 3.50m 4.30m			
Date Excavated: 02/07/2021			Level:						
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
			0.40			North end: Grass over, soft brown slightly gravelly slightly sandy silty CLAY with abundant rootlets. Gravel comprises fine to medium sub-angular sandstone. (Topsoil/subsoil) Encountered to between 0.3m and 0.4mbgl.			
			0.70			South end: Grass over, soft dark brown to black very slightly sandy peaty silty CLAY with abundant rootlets. Encountered to between 0.2m and 0.3mbgl. Grading into brown sandy clay. Firm to stiff orange brown sandy gravelly to very gravelly silty CLAY. Gravel comprises fine to coarse sub-angular to angular tabular and blocky sandstone. (Glacial Till)			
			1.50			(Medium dense) light brown very silty/clayey sandy GRAVEL with high cobble content. Gravel and cobbles comprises fine to coarse sub-angular to angular tabular and blocky sandstone. (Glacial Till/Highly Weathered Bedrock) Below 1.2mbgl is becoming silty/clayey.			
			3.00			(Medium dense) dark brown to brown silty/clayey sandy GRAVEL and COBBLES of sub-angular to angular tabular and blocky sandstone. (Highly Weathered Bedrock) Low boulder content with depth (up to 0.3 x 0.2 x 0.2m) ...Below 2.0mbgl - Possible closely fractured sandstone in-situ. Less silt/clay and sand content. Grading into sandstone. <u>Sandstone encountered from 2.6m on west side and 3.0m on east side.</u>			
			3.50			Medium strong to strong closely fractured grey mottled brown medium grained SANDSTONE. (Moderately Weathered Bedrock) Excavated as brown gravelly cobbles and boulders of blocky angular sandstone. <u>Apparent dip is sub-horizontal to 20° towards the north.</u>			
						End of Trialpit at 3.50 m			
Remarks: 1. Trial pit terminated at 3.5mbgl - Target depth reached, sandstone bedrock encountered.						Groundwater: Groundwater not encountered. Slightly damp to damp down to 2.6mbgl.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample	
						Stability: Minor spalling observed.			

 Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Foel Trawsnant Windfarm			Project No.: 12826		Trial Pit No.: TP02 Sheet 1 of 1	
Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 2.90m 4.30m			
Date Excavated: 02/07/2021			Level:						
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.50 0.80 - 1.20			0.30			Grass over, soft dark brown to black sandy peaty silty CLAY with abundant rootlets. (Topsoil/ subsoil) Grading to brown (acidic staining/leaching) sandy silty CLAY below 0.2m.			
						Firm to stiff orange brown gravelly silty CLAY/fine SAND with occasional rootlets. Gravel comprises fine to medium sub-angular sandstone. (Glacial Till)			
						(Medium dense) light brown very silty/clayey sandy GRAVEL of fine to coarse sub-angular to angular blocky sandstone. (Glacial Till/Highly Weathered Bedrock) Becoming fine to coarse with depth.			
						(Dense) light brown silty/clayey sandy GRAVEL of fine to coarse sub-angular to angular tabular and blocky sandstone with medium cobble content. (Highly Weathered to Moderately Weathered Bedrock) Excavation is slow. <u>Sandstone encountered from 1.6m on west side and 2.0m on east side.</u>			
						Medium strong to strong closely fractured grey mottled brown and rusty brown medium grained SANDSTONE with some silty sand between fractures. (Moderately Weathered Bedrock) Excavated as light brown gravelly cobbles and boulders of blocky, tabular and angular sandstone. Boulders up to 0.4m x 0.3 x 0.1m. <u>Apparent dip is sub-horizontal to 20° towards the north.</u>			
			2.00						
			2.90			End of Trialpit at 2.90 m			
Remarks: 1. Trial pit terminated at 2.9mbgl - Target depth reached and hard dig.			Groundwater: Groundwater not encountered. Slightly damp to damp down to base.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 3.20m 1.50m			
Date Excavated: 02/07/2021			Level:						
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
			0.30		 Grass over, soft dark brown to black peaty silty CLAY with abundant rootlets. (Topsoil/subsoil) Grading to an intermittent light brown (acidic staining/leaching) sandy silty CLAY below 0.2m.				
			0.70		 Soft to firm grey and orange brown sandy gravelly silty CLAY. Gravel comprises fine to coarse sub-angular sandstone. Damp to wet. (Glacial Till) Encountered to between 0.5m and 0.7mbgl.				
			0.90		 Firm to stiff orange brown sandy gravelly to very gravelly silty CLAY. Gravel comprises fine to coarse sub-angular sandstone. Tending to clayey sandy gravel. (Glacial Till)				
			1.90		 (Medium dense) light brown silty/clayey sandy to very sandy GRAVEL of fine to medium sub-angular to angular sandstone. (Glacial Till/Highly Weathered Bedrock) ...Below 1.5mbgl is medium dense to dense and fine to coarse.			1	
			2.20		 (Dense) light brown slightly silty sandy GRAVEL and COBBLES of fine to coarse angular tabular and blocky sandstone/Medium strong very closely to closely fractured SANDSTONE. (Highly Weathered to Moderately Weathered Bedrock)			2	
			3.20		 No clear structure. Medium strong to strong very closely to closely fractured grey fine to medium SANDSTONE with some silty sand between fractures. (Moderately Weathered Bedrock) Excavated at sandy gravel and cobbles of angular, blocky and tabular sandstone. <i>Locally apparent sub-vertical dip seen in tabular cobbles in south-west face only.</i> <i>No clear structure in north-east face.</i>			3	
						End of Trialpit at 3.20 m		4	
								5	
Remarks: 1. Trial pit terminated at 3.2mbgl - Target depth reached and hard dig.			Groundwater: Groundwater not encountered. Slightly damp to damp down to base.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: Some spalling observed.						

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions 5.40m			
Date Excavated: 02/07/2021			Level:			Depth : 3.20m 1.50m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.40			0.30		 Grass over, firm dark brown slightly sandy peaty silty CLAY with abundant rootlets. (Topsoil/ subsoil) Grading to an intermittent brown (acidic staining/leaching) silty CLAY below 0.2m.	1			
			0.60		 Firm to stiff orange brown sandy gravelly silty CLAY with low boulder content and occasional rootlets. Gravel and boulders comprise fine to coarse sub-angular sandstone (up to 0.4m x 0.2m x 0.3m). (Glacial Till) Extends to between 0.5m and 0.6mbgl. (Medium dense) light brown silty very sandy GRAVEL with low to medium cobble content. Gravel and cobbles comprise sub-angular to angular tabular and blocky sandstone. (Glacial Till/Highly Weathered Bedrock)				
1.80 - 2.00			1.40		 Medium strong to strong closely fractured grey medium grained SANDSTONE with some silty sandy between fractures. (Moderately Weathered Bedrock) Excavated as brown sandy gravelly cobbles and boulders of angular and tabular sandstone. <i>Apparent dip is sub-horizontal towards the north/north-east. West face is seen as cobbles and boulders, east face exhibits no clear structure.</i>	2			
			3.20		 End of Trialpit at 3.20 m				
						3			
						4			
						5			
Remarks: 1. Trial pit terminated at 3.2mbgl - Target depth reached, sandstone bedrock encountered.			Groundwater: Groundwater not encountered. Slightly damp to damp down to base.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: Some spalling of west side observed.						

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25			
Equipment: Komatsu 138			Coordinates:			Dimensions 4.50m					
Date Excavated: 02/07/2021			Level:			Depth : 2.80m 1.40m					
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description					
Depth (m)	Type	Results									
			0.25			Grass over, firm dark brown slightly sandy slightly peaty silty CLAY with abundant rootlets. (Topsoil/subsoil)					
						Extends to between 0.2m and 0.25mbgl.					
						Firm to stiff orange brown sandy gravelly silty CLAY with occasional rootlets. Gravel comprises fine to coarse sub-angular to sub-rounded sandstone. (Glacial Till)					
						0.60	(Medium dense) light brown silty/clayey very sandy GRAVEL of fine to coarse sub-rounded to angular sandstone with low cobble content. (Glacial Till)				
							1.20	(Medium dense) light brown slightly silty sandy GRAVEL and COBBLES of fine to coarse sub-angular to angular, blocky and tabular sandstone with low boulder content. (Highly Weathered Bedrock)			
								Locally loose/easy to excavate, due to fissile nature and spalling during excavation.			
2.60	Excavated as BOULDERS of angular blocky medium grained sandstone. (Highly Weathered Bedrock)										
	2.80	Possible medium strong medium spaced fractured sandstone in-situ. No clear structure.									
		End of Trialpit at 2.80 m									
Remarks: 1. Trial pit terminated at 2.8mbgl - Due to spalling.			Groundwater: Groundwater not encountered. Slightly damp to damp down to base.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample					
			Stability: Significant spalling of west side observed.								

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 2.90m 4.00m			
Date Excavated: 05/07/2021			Level:						
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
						Grass over, firm dark brown peaty silty CLAY with abundant rootlets. (Topsoil/subsoil)			
			0.25			Firm grey brown slightly gravelly very sandy silty CLAY with abundant rootlets. Gravel comprises fine to coarse sub-angular sandstone. (Glacial Till)			
			0.40			Firm to stiff orange brown sandy gravelly silty CLAY tending to sand with occasional rootlets. Gravel comprises fine to coarse sub-angular to sub-rounded sandstone. (Glacial Till)			
			0.70			(Medium dense) light brown silty sandy GRAVEL of fine to coarse sub-angular to angular, tabular sandstone with low cobble content. (Highly Weathered Sandstone)			
			1.40			(Medium dense to dense) light brown and brown slightly silty sandy very gravelly COBBLES of fine to coarse sub-angular to angular, blocky sandstone. (Highly Weathered Bedrock) Becoming dark brown with depth.			
			1.90			Medium strong to strong closely to medium spaced fractured brown, weathered to dark brown, medium grained SANDSTONE with rare silty sandy between fractures. (Moderately Weathered Bedrock) Excavated as brown gravelly cobbles and boulders of angular sandstone, up to 0.6m x 0.5m x 0.3m. <i>Apparent dip is sub-horizontal towards the north/north-east.</i>			
			2.90			End of Trialpit at 2.90 m			
Remarks: 1. Trial pit terminated at 2.9mbgl - Target depth reached and hard dig.			Groundwater: Groundwater not encountered. Slightly damp to damp down to base.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: Some spalling below 1.5mbgl observed.						

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 1.90m 4.50m			
Date Excavated: 05/07/2021			Level:			Depth : 1.90m 1.40m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.10 - 0.20			0.30			Grass over, soft dark brown sandy peaty silty CLAY with abundant rootlets. (Topsoil/subsoil)			
						Grading to brown (acidic staining/leaching) silty CLAY below 0.2m.			
						Firm to stiff orange brown sandy gravelly silty CLAY with occasional rootlets. Gravel comprises fine to coarse sub-rounded to angular sandstone. (Glacial Till)			
						(Medium dense) brown silty very sandy GRAVEL of fine to coarse sub-angular to angular sandstone with low cobble content. Locally weathered dark brown to black. (Highly Weathered Bedrock)			
						Medium strong to strong grey, weathered to brown, closely fractured fine to medium grained SANDSTONE.			
			1.00			Excavated as brown gravelly cobbles and boulders of angular sandstone.			
						...Below 1.3 is very hard dig.			
						1.0m - 1.3m: Locally looser to excavate and some gravelly sand between fractures.			
						Apparent dip is sub-horizontal towards the north/north-east in south face only.			
			1.90			End of Trialpit at 1.90 m			
Remarks: 1. Trial pit terminated at 1.9mbgl - Due to hard dig.			Groundwater: Groundwater not encountered. Slightly damp to damp down to base.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: Some spalling observed.						

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25						
Equipment: Komatsu 138			Coordinates:			Dimensions 4.20m								
Date Excavated: 05/07/2021			Level:			Depth : 2.90m 1.40m								
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description								
Depth (m)	Type	Results												
1.00			0.30			Grass over, soft dark brown to black slightly gravelly sandy peaty silty CLAY with abundant rootlets. Gravel comprises fine to medium subrounded quartz. (Topsoil/subsoil) Grading to brown (acidic staining/leaching) sandy silty CLAY below 0.2m. Firm to stiff orange brown sandy gravelly silty CLAY with occasional rootlets. Gravel comprises fine to coarse sub-rounded to sub-angular sandstone. (Glacial Till) (Medium dense) brown silty/clayey gravelly SAND tending to firm to stiff very sandy gravelly silty clay. Gravel comprises fine to coarse sub-rounded to angular sandstone. (Glacial Till) (Medium dense) brown slightly silty slightly clayey very sandy GRAVEL of fine to coarse sub-rounded to angular sandstone with low cobble content. (Glacial Till) (Medium dense) dark brown to black slightly silty very sandy GRAVEL of fine to coarse sub-angular to angular, blocky sandstone with medium cobble content. (Highly Weathered Bedrock) Abundant manganese staining. ...Below 2.2mbgl with increasing cobbles (high cobble content). Strong (to medium strong) closely fractured grey, weathered to dark brown, rusty brown and black, medium to coarse grained SANDSTONE. Excavated as gravelly blocky and tabular cobbles and boulders up to 0.4m x 0.3m x 0.1m. No clear structure or discernible bedding. Scratching at base, very hard dig. End of Trialpit at 2.90 m								
										0.50				
										1.70				
													2.60	
										2.90				
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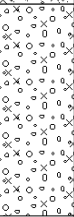
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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 2.40m 4.40m			
Date Excavated: 05/07/2021			Level:						
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.80 - 0.90			0.30			Grass over, soft dark brown to black peaty silty CLAY with abundant rootlets. (Topsoil/subsoil) Extends to between 0.2m and 0.3mbgl.			
			0.40			Firm to stiff orange brown sandy gravelly silty CLAY with occasional rootlets. Gravel comprises fine to coarse sub-rounded to angular sandstone. (Glacial Till) Stiff brown gravelly very sandy slightly silty CLAY with low cobble content. Gravel and cobbles comprise fine to coarse sub-rounded to angular sandstone. (Glacial Till)			
			0.75			(Medium dense) brown silty very sandy GRAVEL of fine to coarse sub-angular to angular sandstone with low to medium cobble content. (Glacial Till/Highly Weathered Bedrock) Tending to sand from 0.75m to 0.9m. ...Becoming high cobble content with depth.			
			1.40			(Medium dense to dense) brown slightly silty sandy GRAVEL and COBBLES of fine to coarse sub-angular to angular, blocky sandstone. (Highly Weathered Bedrock)			
			2.00			Strong closely fractured grey, weathered to brown, medium grained SANDSTONE. (Weathered Bedrock) Fractures predominantly sub-horizontal along bedding planes, estimated thinly to very thinly bedded.			
			2.40			Excavated as angular blocky gravelly cobbles.			
			2.40			...Below 2.2m is very hard to excavate. Scratching at base, very hard dig.			
						End of Trialpit at 2.40 m			

Remarks: 1. Trial pit terminated at 2.4mbgl - Target depth reached and hard dig.	Groundwater: Groundwater not encountered. Slightly damp down to base.	Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample
	Stability: Minor spalling observed.	

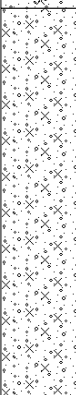


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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 2.40m 4.70m			
Date Excavated: 05/07/2021			Level:						
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
			0.30			Grass over, soft dark brown to black peaty silty CLAY with abundant rootlets. (Topsoil/subsoil) Extends to between 0.2m and 0.3mbgl.			
			0.40						
			1.70			Firm to stiff orange brown sandy gravelly silty CLAY with occasional rootlets. Gravel comprises fine to coarse sub-rounded to angular sandstone. (Glacial Till) (Medium dense) brown silty sandy GRAVEL of fine to coarse sub-angular to angular sandstone with low cobble content. (Glacial Till/Highly Weathered Bedrock) More silty/clayey between 0.4m and 0.7m, tending to stiff very gravelly clay.			
			1.90						
			2.40			(Medium dense to dense) brown slightly silty sandy GRAVEL and COBBLES of fine to coarse sub-angular to angular, blocky sandstone. (Highly Weathered Bedrock) Strong closely fractured grey, weathered to brown, medium grained SANDSTONE. (Weathered Bedrock) Fractures predominantly sub-horizontal along bedding planes, estimated thinly to very thinly bedded. Excavated as angular tabular and blocky gravelly cobbles.			
			2.40						
...Below 2.2m is very hard to excavate. Apparent sub-horizontal dip towards the north. Scratching at base, very hard dig.						End of Trialpit at 2.40 m			
Remarks: 1. Trial pit terminated at 2.4mbgl - Target depth reached and hard dig.						Groundwater: Groundwater not encountered. Slightly damp down to base.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample	
						Stability: Some spalling of sandstone observed, generally minor.			

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions 4.50m			
Date Excavated: 05/07/2021			Level:			Depth : 3.30m 1.40m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
			0.30			Grass over, soft dark brown to black peaty silty CLAY with abundant rootlets. (Topsoil/subsoil)			
						Grading to brown (acidic staining/leaching) sandy silty CLAY below 0.1/0.2m.			
						Extends to between 0.2m and 0.3mbgl.			
						Firm to stiff orange brown, mottled brown and grey brown, sandy gravelly silty CLAY with occasional rootlets. Gravel comprises fine to coarse sub-rounded to angular sandstone. (Glacial Till)			
						Firm to stiff light brown sandy gravelly silty CLAY with low cobble content. Gravel and cobbles comprise sub-rounded to angular sandstone. (Glacial Till)			
			0.60			(Medium dense) light brown silty sandy GRAVEL of sub-rounded to angular and blocky sandstone with high cobble content. (Glacial Till/Highly Weathered Bedrock)			
						Medium strong to strong, locally weak, closely to very closely fractured grey weathered to rusty brown and dark brown to black, medium grained SANDSTONE with some slightly silty sand between fractures.			
			0.85			Excavated as slightly silty slightly sandy sub-angular to angular blocky gravel and cobbles. No clear structure or discernible bedding. Possible sub-horizontal dip towards the north.			
						End of Trialpit at 3.30 m			
			1.90			End of Trialpit at 3.30 m			
						End of Trialpit at 3.30 m			
			3.30			End of Trialpit at 3.30 m			
						End of Trialpit at 3.30 m			
Remarks: 1. Trial pit terminated at 3.3mbgl - Target depth reached, sandstone bedrock encountered.			Groundwater: Groundwater not encountered. Slightly damp down to base.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: Minor spalling observed.						

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Location: Maesteg		Client: Pennant Walters (FOELT) Ltd		Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138		Coordinates:		Dimensions 4.50m			
Date Excavated: 05/07/2021		Level:		Depth : 3.20m 1.40m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
Depth (m)	Type	Results					
0.50 - 0.80			0.30			Grass over, soft dark brown to brown peaty silty CLAY with abundant rootlets. (Topsoil/ subsoil) Grading to brown (acidic staining/leaching) sandy silty CLAY below 0.1/0.2m. Extends to between 0.2m and 0.3mbgl.	
			0.90			Firm to stiff orange brown, mottled brown and grey brown, sandy gravelly silty CLAY with occasional rootlets (down to 0.5mbgl only). Gravel comprises fine to coarse sub-rounded to angular sandstone. (Glacial Till)	
			2.50			(Medium dense) light brown silty sandy to very sandy GRAVEL of fine to coarse sub-angular to angular sandstone. (Glacial Till/Weathered Bedrock) ...Becoming dense between 1.8m with low cobble content.	
			3.20			(Dense) brown slightly silty slightly sandy GRAVEL and COBBLES of sub-angular to angular sandstone. (Weathered Bedrock) Possible very closely to closely fractured sandstone in-situ. No clear structure.	
						End of Trialpit at 3.20 m	
Remarks: 1. Trial pit terminated at 3.2mbgl - Target depth reached.			Groundwater: Groundwater not encountered. Slightly damp down to base.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample		
			Stability: Minor spalling observed.				

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 3.90m 4.80m			
Date Excavated: 06/07/2021			Level:						
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.60			0.20			Grass over, soft dark brown to black slightly sandy peaty silty CLAY with abundant rootlets. (Topsoil/subsoil)			
						Soft to firm, locally firm to stiff, mottled brown grey and orange brown gravelly silty CLAY/ SAND. Gravel comprises fine to coarse sub-rounded to angular sandstone. (Glacial Till) <i>Up gradient end of TP is firmer and present to 0.5m. Down gradient end is soft and damp to wet, present to 0.7mbgl.</i>			
			0.70			(Medium dense) brown silty/clayey sandy GRAVEL of fine to coarse sub-rounded to angular sandstone and occasional siltstone with medium cobble content and low boulder content. Cobbles are boulders are blocky sandstone up to 0.8m x 0.4m x 0.25m. (Glacial Till)			
			2.40			(Medium dense) brown silty sandy GRAVEL of fine to coarse sub-angular to angular sandstone with high cobble content. (Weathered Bedrock)			
			3.00			Medium strong medium spaced fractured grey, weathered to brown, fine to medium grained SANDSTONE with much sandy clay between fractures. (Weathered Bedrock) Fractures are open and irregular. Excavated as cobbles and boulders of angular blocky sandstone.			
		3.90			End of Trialpit at 3.90 m				
Remarks: 1. Trial pit terminated at 3.9mbgl - Target depth reached and hard dig.			Groundwater: Groundwater not encountered. Slightly damp down to base.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: Minor spalling observed.						

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 2.90m 4.70m			
Date Excavated: 06/07/2021			Level:						
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.50 - 0.70			0.30			Grass over, soft dark brown to black sandy peaty silty CLAY with abundant rootlets. (Topsoil/ subsoil) Extends to between 0.2m and 0.3mbgl.			
			0.50			Firm orange brown sandy gravelly silty CLAY with occasional rootlets. Gravel comprises fine to coarse sub-rounded to angular sandstone. (Glacial Till)			
						(Medium dense) light brown silty sandy GRAVEL of fine to coarse sub-angular to angular sandstone with low cobble content. (Highly Weathered Bedrock) <i>...Below 1.0m is high cobble content and slightly silty.</i> <i>Firm to stiff light brown slightly sandy very gravelly silty CLAY. Intermittent Layer.</i>			
			1.80			Weak to medium strong closely fractured grey, weathered to brown, dark brown and rusty brown, thinly bedded medium grained SANDSTONE with rare silty sand between fractures. (Weathered Bedrock) Fractures are generally sub-horizontal, along bedding planes, and open, planar and rough. <u>Excavated as gravelly cobbles of angular tabular sandstone, occasionally blocky.</u> <u>Apparent sub-horizontal dip towards the north.</u>			
			2.90			End of Trialpit at 2.90 m			
Remarks: 1. Trial pit terminated at 2.9mbgl - Target depth reached, sandstone bedrock encountered.			Groundwater: Groundwater not encountered. Slightly damp down to base.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: Some spalling of sandstone observed.						

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 2.80m 5.00m			
Date Excavated: 06/07/2021			Level:						

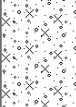
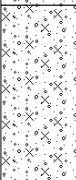
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
Depth (m)	Type	Results					
0.50 - 0.70			0.25			Grass over, soft dark brown to black sandy peaty silty CLAY with abundant rootlets. (Topsoil/ subsoil)	
			0.40			Grading to brown (acidic staining/leaching) sandy silty CLAY below 0.1/0.2m.	
			0.70			Extends to between 0.2m and 0.25mbgl. Soft to firm orange brown sandy gravelly silty CLAY with occasional rootlets. Gravel comprises fine to coarse sub-rounded to angular sandstone. (Glacial Till)	
			0.70			Stiff/(Medium dense) light brown clayey gravelly SAND/SILT. Gravel comprises fine to coarse sub-rounded to angular sandstone. (Glacial Till)	
			1.40			(Medium dense to dense) light brown slightly silty sandy to very sandy GRAVEL and COBBLES of sub-angular to angular, tabular and blocky sandstone. (Weathered Bedrock)	1
			1.40			Medium strong closely fractured grey weathered to brown, dark brown and rusty brown thinly bedded medium grained SANDSTONE with rare silty sand between fractures. (Weathered Bedrock)	
			1.40			Fractures are generally sub-horizontal along bedding planes, open, rough and planar.	
			1.40			Excavated as very slightly silty sandy gravelly cobbles/cobbles and boulders with depth.	2
			1.40			...Becoming strong and medium spaced fractured below approximately 2.6mbgl. Very hard to dig.	
			1.40			<u>Apparent sub-horizontal dip towards the north.</u>	
			1.40			<u>1.8m - 2.8m: Much black sand of completely weathered coal in south face.</u>	
			2.80			End of Trialpit at 2.80 m	3
							4
							5

Remarks: 1. Trial pit terminated at 2.8mbgl - Target depth reached and very hard dig.		Groundwater: Groundwater not encountered. Slightly damp down to base.	Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample	
		Stability: Significant spalling associated with cobble and boulder removal.		

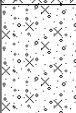
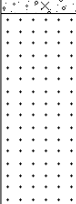
Intégral Géotechnique Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com			Project Name: Foel Trawsnant Windfarm			Project No.: 12826		Trial Pit No.: TP17 Sheet 1 of 1	
Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions 5.00m			
Date Excavated: 06/07/2021			Level:			Depth : 2.10m 1.40m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
1.00 - 1.40			0.25			Grass over, soft dark brown to black sandy peaty silty CLAY with abundant rootlets. (Topsoil/ subsoil)			
			0.40			Grading to brown (acidic staining/leaching) sandy silty CLAY below 0.1/0.2m. Extends to between 0.2m and 0.25mbgl. Firm orange brown slightly gravelly silty CLAY/SAND with occasional rootlets. Gravel comprises fine to coarse sub-rounded to angular sandstone. (Glacial Till)			
			0.70			Firm to stiff light brown sandy very gravelly CLAY tending to clayey sandy gravel. Gravel comprises fine to coarse sub-rounded to angular sandstone. (Glacial Till)			
			1.50			(Medium dense to dense) light brown slightly silty sandy to very sandy GRAVEL and COBBLES of sub-angular to angular, tabular and blocky sandstone. (Weathered Bedrock)			
			2.10			Medium strong closely fractured grey weathered to brown, dark brown and rusty brown thinly bedded medium grained SANDSTONE with rare to some silty sand between fractures. (Weathered Bedrock) Fractures are generally sub-horizontal along bedding planes, open, rough and planar. Excavated as very slightly silty sandy gravelly cobbles/cobbles and boulders with depth. <i>Apparent sub-horizontal dip towards the north.</i>			
			End of Trialpit at 2.10 m						
Remarks: 1. Trial pit terminated at 2.1mbgl - Target depth reached and hard dig.			Groundwater: Slightly damp down to base.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: Some spalling observed.						

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 1.70m			
Date Excavated: 07/07/2021			Level:						
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
			0.25		 Grass over, soft dark brown to black very peaty silty CLAY with abundant rootlets. (Topsoil/ subsoil) Extends to between 0.2m and 0.25mbgl.				
			0.50		 Soft to firm brown slightly gravelly sandy silty CLAY with occasional rootlets. Slightly organic. Gravel comprises fine to coarse sub-rounded to sub- angular sandstone. (Glacial Till)				
			0.75		 Firm to stiff, largely stiff, light brown mottled grey slightly gravelly sandy silty CLAY with low cobble content. Gravel and cobbles comprise fine to coarse sub-rounded to angular sandstone. (Glacial Till)				
			1.40		 (Medium dense) brown mottled grey and rusty brown silty sandy GRAVEL of fine to coarse angular to sub-angular tabular sandstone with high cobble content. (Highly Weathered Bedrock) ...Becoming (Dense) GRAVEL and COBBLES.				
			1.70		 Weak to medium strong closely fractured grey, weathered to rusty brown, very thinly bedded fine grained SANDSTONE. (Weathered Bedrock) Fractures are generally sub-horizontal, along bedding planes, rough, planar and tight/partially open.				
			1.70		 Excavated as gravelly cobbles of angular tabular sandstone. Scratching at base - Hard dig.	End of Trialpit at 1.70 m			
Remarks: 1. Trial pit terminated at 1.7mbgl - Hard dig.			Groundwater: Groundwater not encountered. Seepages from ground level/topsoil.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: Minor spalling observed.						

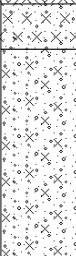
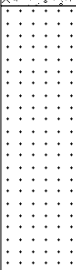
Intégral Géotechnique			Project Name: Foel Trawsnant Windfarm			Project No.: 12826		Trial Pit No.: TP19 Sheet 1 of 1	
Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions 4.20m			
Date Excavated: 07/07/2021			Level:			Depth : 2.00m 1.40m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.80 - 1.00			0.30			Grass over, soft dark brown to black peaty silty CLAY with abundant rootlets. (Topsoil/subsoil)			
						Grading to brown (acidic staining/leaching) sandy silty CLAY below 0.2m.			
						Soft to firm brown slightly gravelly sandy silty CLAY with occasional rootlets. Slightly organic. Gravel comprises fine to coarse sub-rounded to sub- angular sandstone. (Glacial Till)			
						Stiff mottled grey and brown sandy gravelly silty CLAY with low cobble content. Gravel and cobbles comprise fine to coarse sub-rounded to angular sandstone.			
						(Medium dense) light brown silty sandy GRAVEL of fine to coarse sub-angular to angular, tabular and blocky sandstone with high cobble content.			
1.20			0.70			...Becoming GRAVEL and COBBLES below approximately 1.0mbgl.			
						Weak to medium strong closely to very closely fractured grey, weathered to dark brown, black and rusty brown, very thinly bedded fine to medium grained SANDSTONE. (Weathered Bedrock) Fractures are generally sub-horizontal, along bedding planes, smooth, planar and tight/partially open. Frequent irregular sub-vertical fractures. Excavated as gravelly cobbles of angular tabular sandstone. ...Becoming medium strong and closely fractured with depth.			
2.00			2.00			End of Trialpit at 2.00 m			
Remarks: 1. Trial pit terminated at 2.0mbgl - Hard dig.			Groundwater: Stability:			Groundwater not encountered. Slight seepage from peat/Topsoil. Slightly damp down to base. Minor spalling observed.			
						Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 1.65m 4.20m			
Date Excavated: 07/07/2021			Level:						
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.80			0.30			Grass over soft dark brown to black peaty silty CLAY with abundant rootlets. (Topsoil/subsoil) Grading to brown (acidic staining/leaching) sandy silty CLAY below 0.2m. Soft to firm grey brown sandy gravelly silty CLAY. Gravel comprises fine to coarse sub-rounded to angular sandstone. (Glacial Till) (Medium dense) light brownish grey silty very sandy GRAVEL of fine to coarse sub-rounded to angular sandstone with low cobble content. (Glacial Till) <i>Firm to stiff light grey sandy gravelly silty CLAY. Intermittent Layer.</i> (Medium dense) brown and rusty brown very slightly silty slightly sandy GRAVEL of fine to coarse sub-angular to angular and tabular sandstone with high cobble content. (Highly Weathered Bedrock) Very weak to weak very closely fractured grey and brown, weathered to rusty brown, very thinly bedded fine grained SANDSTONE with localised interbedded siltstone bands. (Weathered Bedrock) Fractures are generally sub-horizontal along bedding planes, smooth and planar. Or sub-vertical and rough. With occasional sandy clay infill. Excavated as slightly sandy gravel with cobbles of platey and tabular sandstone. Occasional relict rootlet. Scratching at base. Very hard dig. [Strong less fractured sandstone] End of Trialpit at 1.65 m			
			0.50						
			0.90						
			1.50						
			1.65						
			1.65						
Remarks: 1. Trial pit terminated at 1.65mbgl - Hard dig.			Groundwater: Groundwater not encountered. Slight seepage from peat/Topsoil. Slightly damp down to base.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: Minor spalling observed.						

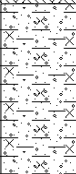
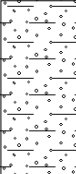
Intégral Géotechnique			Project Name: Foel Trawsnant Windfarm			Project No.: 12826		Trial Pit No.: TP21 Sheet 1 of 1	
Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions 4.00m			
Date Excavated: 07/07/2021			Level:			Depth : 1.65m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.40 - 0.60			0.30		[Pattern]	Grass over soft dark brown to black peaty silty CLAY with abundant rootlets. (Topsoil/subsoil) Grading to brown (acidic staining/leaching) sandy silty CLAY below 0.2m.			
					[Pattern]	Firm slightly clayey gravelly very sandy SILT with occasional rootlets. Tending to silty gravelly sand. Gravel comprises fine to coarse sub-rounded to angular sandstone. (Glacial Till)			
					[Pattern]	(Medium dense) light brown silty sandy GRAVEL of sub-angular to angular and tabular sandstone with medium cobble content and very occasional rootlets. (Weathered Bedrock) ...Becoming slightly silty sandy GRAVEL and COBBLES with depth.			
					[Pattern]	Weak closely fractured grey thinly bedded medium grained SANDSTONE with rare silty sand between fractures (Weathered Bedrock) Fractures are generally sub-horizontal along bedding planes, smooth, planar and tight/partially open. Or sub-vertical, rough and partially open. Excavated as gravel with cobbles of tabular and blocky sandstone. <u>Apparent sub-horizontal dip towards the north.</u>			
					[Pattern]	Scratching at base. Very hard dig. [Medium strong to strong less fractured sandstone] End of Trialpit at 1.65 m			
1.65			1.65						
Remarks:			Groundwater:			Key:			
1. Trial pit terminated at 1.65mbgl - Hard dig.			Stability:			D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 1.70m			
Date Excavated: 07/07/2021			Level:						
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
			0.30						
			0.60						
			1.00						
			1.70						
			1.70						
Remarks: 1. Trial pit terminated at 1.7mbgl - Hard dig.			Groundwater: Groundwater not encountered. Slightly damp down to base.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 2.50m 4.30m			
Date Excavated: 07/07/2021			Level:						

Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
Depth (m)	Type	Results					
			0.35			Grass over soft dark brown to black slightly sandy peaty silty CLAY with abundant rootlets. (Topsoil/subsoil) Grading to grey brown (acidic staining/leaching) silty CLAY below 0.2m.	
			0.50			Extends to between 0.3m and 0.35mbgl. Soft to firm orange brown, mottled dark grey, gravelly very sandy SILT with occasional rootlets. Gravel comprises fine to coarse sub-rounded to angular sandstone. (Glacial Till) (Medium dense) light brown silty very sandy GRAVEL of fine to coarse sub-angular to angular tabular sandstone with high cobble content. (Weathered Bedrock) Coarsening with depth.	1
			1.20			Medium strong closely fractured grey, weathered to brown thinly bedded medium grained SANDSTONE. (Weathered Bedrock) Fractures are generally sub-horizontal along bedding planes, smooth, planar and tight/ partially open. Or sub-vertical, rough and partially open. Excavated as slightly silty slightly sandy gravelly cobbles and occasional boulders of tabular and blocky angular sandstone.	2
			2.10			Medium strong to strong closely to medium spaced fractured grey thinly bedded medium grained SANDSTONE. (Weathered Bedrock)	
			2.30			Fractures are generally sub-horizontal along bedding planes, smooth, planar and tight/ partially open. Or sub-vertical, rough and partially open.	
			2.50			Excavated as gravelly cobbles and boulders of tabular and blocky angular sandstone. Excavator scratching on suspected strong sandstone (2.3m in south end and 2.5m in north end). ----- End of Trialpit at 2.50 m -----	3
							4
							5

Remarks: 1. Trial pit terminated at 2.3m/2.5mbgl - Hard dig. Shallower outcrop in south end of trial pit.		Groundwater: Groundwater not encountered. Slightly damp down to base.	Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample	
		Stability: Some spalling observed.		

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 3.40m 4.50m			
Date Excavated: 08/07/2021			Level:						
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.60			0.30			Grass over soft dark brown to black peaty silty CLAY with abundant rootlets. (Topsoil/subsoil)			
						Soft, locally very soft and firm, mottled orange brown, yellow brown and grey, slightly gravelly very sandy silty CLAY tending to SAND with occasional rootlets. Gravel comprises fine to coarse sub-rounded to sub-angular sandstone. Wet. (Glacial Till)			
			0.90			Very soft to soft mottled yellow brown and grey sandy gravelly silty CLAY. Gravel comprises fine to coarse sub-rounded to angular sandstone. Wet. (Glacial Till) ...Becoming mottled dark grey with depth.			
			1.30			Firm to stiff dark blue grey silty CLAY with abundant sandy to fine gravel sized angular to sub-angular mudstone lithorelicts. Wet. (Completely Weathered Bedrock)			
			1.50			(Medium dense) orange brown, becoming rusty brown, slightly clayey fine to medium angular to sub-angular GRAVEL of extremely weak mudstone. (Highly Weathered Bedrock) Frequent cobble sized fragments of mudstone gravel bordering on extremely weak mudstone recovered.			
			2.10			Extremely weak to very weak very closely to closely fractured mottled brown, red brown, black and orange MUDSTONE. (Weathered Bedrock) Fractures are tight and irregular with no clear uniformity. Excavated as slightly clayey gravel with high cobble content of blocky mudstone. ...Below 2.5m is very weak and mudstone is micaceous.			
			3.40			3.2m - 3.4m: Harder to dig, becoming very weak to weak.			
						End of Trialpit at 3.40 m			
Remarks: 1. Trial pit terminated at 3.4mbgl - Target depth reached and hard dig.			Groundwater: Groundwater not encountered.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: Minor spalling observed.						

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 4.00m 1.30m 4.70m			
Date Excavated: 08/07/2021			Level:						
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
						Reeds over, very soft dark brown silty clayey PEAT with abundant rootlets. (Topsoil/subsoil)			
			0.60						
			0.90			Very soft mottled light brown and grey sandy gravelly silty CLAY. Gravel comprises fine to coarse sub-rounded to sub-angular sandstone. Very wet. (Glacial Till)			
			1.10			Soft to firm grey sandy gravelly silty CLAY with low cobble content. Gravel and cobbles comprise fine to coarse sub-rounded to sub-angular sandstone. Wet. (Glacial Till)			
						(Medium dense) grey silty sandy GRAVEL of fine to coarse sub-rounded to angular sandstone with high cobble content. (Glacial Till/Highly Weathered Bedrock)			
						COAL thins out moving downslope to 2.0m - 2.2mbgl in down gradient end of TP.			
			2.20			(Very loose to loose) black gravelly sand of weathered COAL. Gravel is of sub-angular to angular coal fragments. (Weathered Bedrock)			
						Medium groundwater ingress from base of coal in up gradient end of TP.			
			2.60			Firm to stiff grey mottled dark brown and yellow brown silty CLAY with abundant fine to medium sub-angular to angular mudstone lithorelicts bordering on extremely weak mudstone gravel. (Weathered Bedrock)			
			3.20			Extremely weak to very weak very closely fractured mottled grey and yellow brown MUDSTONE/(Medium dense) silty clayey GRAVEL of fine to coarse sub-angular to angular mudstone. (Weathered Bedrock)			
						Excavated as slightly clayey gravel of mudstone bordering on lithorelicts. Probably extremely weak mudstone in-situ.			
			4.00			End of Trialpit at 4.00 m			
Remarks: 1. Trial pit terminated at 4.0mbgl - Target depth reached and groundwater ingress.			Groundwater: Medium groundwater ingress from coal layer in north (upslope) end of trial pit only.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: Minor spalling of coal only.						

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 2.70m 5.30m			
Date Excavated: 08/07/2021			Level:						

Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
Depth (m)	Type	Results					
			0.20			Grass over, very soft dark brown silty clayey PEAT with abundant rootlets. (Topsoil/subsoil)	
						Very soft to soft yellow brown slightly sandy silty CLAY. Wet. (Glacial Till)	
			0.90			Soft to firm grey mottled yellow brown slightly gravelly silty CLAY with low cobble content. Gravel and cobbles comprise fine to coarse sub-angular to angular mudstone with frequent coarse sand to fine gravel sized mudstone lithorelicts. (Weathered Bedrock)	1
			1.30			Extends to between 1.2m and 1.3mbgl.	
						Extremely weak, becoming very weak, very closely to closely fractured grey weathered to rusty brown MUDSTONE. (Weathered Bedrock)	
						Excavated as angular platy gravel of mudstone. 1.4m: Minor groundwater seepage.	
						Top of SANDSTONE/SILTSTONE is recorded at 1.4m in downslope end of TP (scratching at base), 1.7m in the centre of the TP, gently dipping towards the north/north-east and recorded at 2.2mbgl in the upslope end of the TP.	2
			2.20			Weak closely fractured grey thinly bedded SANDSTONE and SILTSTONE. (Weathered Bedrock)	
						Fractures are predominantly shallow/sub-horizontal, along bedding planes.	
			2.70			End of Trialpit at 2.70 m	3
							4
							5

Remarks: 1. Trial pit terminated at 1.5/2.7mbgl - Hard dig. Weak sandstone and siltstone encountered at 1.5mbgl in south (downslope) end and below 2.2m in north (upslope) end.		Groundwater: Slight groundwater seepage at approximately 1.4mbgl with wet soils.	Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample	
		Stability: Sides stable.		

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions 4.40m			
Date Excavated: 08/07/2021			Level:			Depth : 2.20m 1.30m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
1.60 - 1.80			0.20			Grass over, very soft dark brown silty clayey PEAT with abundant rootlets. (Topsoil/subsoil)			
			0.40			Soft to firm grey brown silty CLAY with rootlets. (Completely Weathered Bedrock)			
			0.90			Firm mottled grey and orange brown/yellow brown silty CLAY with frequent fine to coarse sub-angular to angular mudstone lithorelicts. (Weathered Bedrock)			
			1.30			Extremely weak, becoming very weak, very closely to closely fractured grey MUDSTONE. (Weathered Bedrock)			
			2.20			Excavated as slightly silty, slightly clayey angular platey and tabular gravel of mudstone.			
						Weak to medium strong closely to medium spaced fractured grey weathered to brown fine grained SANDSTONE. (Weathered Bedrock)			
					Top of SANDSTONE is recorded at 1.3m in the downslope end of the TP, dipping gently towards the north/north-east (up to 30°) and recorded at 2.0mbgl in the upslope end of the TP.				
						End of Trialpit at 2.20 m			
Remarks:						Groundwater: Groundwater not encountered.			
1. Trial pit terminated at 1.3/2.2mbgl - Hard dig. Weak sandstone encountered at 1.3mbgl in south (downslope) end and below 2.0m in centre of trial pit. Sandstone not encountered down to 2.2mbgl in north (upslope) end.						Stability: Minor spalling.			
						Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions 4.50m			
Date Excavated: 08/07/2021			Level:			Depth : 2.40m 1.40m			
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
			0.20			Grass over, soft dark brown sandy silty CLAY with abundant rootlets. (Topsoil/subsoil)			
						Firm orange brown very sandy gravelly silty CLAY tending to silty clayey gravelly sand with occasional rootlets. Gravel comprises fine to coarse sub-angular sandstone. (Glacial Till)			
			0.50			(Medium dense to dense) brown slightly silty sandy GRAVEL and COBBLES of fine to coarse sub-angular to angular, blocky sandstone. (Highly Weathered Bedrock)			
			1.60			Weak to medium strong closely to medium spaced fractured grey and brown medium grained SANDSTONE with rare silty sand between fractures. (Weathered Bedrock) Fractures are partially open, rough, irregular but frequently sub-horizontal. Excavated as gravelly cobbles with occasional blocky boulders up to 0.5m x 0.3m x 0.2m. <i>No clear structure or discernible bedding. Possible sub-horizontal dip towards the north.</i>			
						Medium strong medium spaced fractured grey and brown medium grained SANDSTONE with rare silty sand between fractures. (Weathered Bedrock)			
2.20					Fractures are partially open, rough, irregular but frequently sub-horizontal. Excavated as gravelly cobbles with occasional blocky boulders up to 0.5m x 0.3m x 0.2m. <u>Scratching at base - Hard dig.</u>				
2.40					End of Trialpit at 2.40 m				
2.40									
Remarks: 1. Trial pit terminated at 2.4mbgl - Target depth reached and hard dig.			Groundwater: Groundwater not encountered. Slightly damp down to base.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample			
			Stability: Some spalling observed.						

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 3.10m 4.00m			
Date Excavated: 08/07/2021			Level:						

Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
Depth (m)	Type	Results					
2.00			0.20			Grass over, soft dark brown sandy silty CLAY with abundant rootlets. (Topsoil/subsoil)	
			0.40			Firm orange brown sandy gravelly silty CLAY tending to silty clayey gravelly SAND with occasional rootlets. Gravel comprises fine to coarse sub-angular sandstone. (Glacial Till)	
			0.60			(Medium dense) brown silty very sandy GRAVEL of fine to coarse sub-rounded to sub-angular sandstone. (Glacial Till)	
			0.80			Stiff light brown mottled light grey gravelly silty CLAY with low cobble content. Gravel and cobbles comprise fine to medium sub-angular to angular mudstone lithorelicts/extremely weak mudstone. (Weathered Bedrock)	
						Black bright COAL. Recovered as (loose) gravelly to very gravelly sand. Gravel comprises fine to medium angular to sub-angular coal. (Weathered Bedrock)	1
			1.50			COAL dips gently towards the north (estimated 10°). Irregular thicknesses - thicker in north end and west face. In general top depth is 1.3mbgl in south sloping to 1.5m in north.	
			1.80			(Medium dense) light grey mottled brown slightly clayey GRAVEL of fine to medium, occasionally coarse angular to sub-angular mudstone. (Weathered Bedrock)	
						Extremely weak to very weak very closely fractured mottled grey and yellow brown and rusty brown MUDSTONE. (Weathered Bedrock)	2
						Excavated as gravel of fine to coarse angular mudstone.	
			2.50			Extremely weak to very weak very closely fractured grey mottled yellow brown and rusty brown MUDSTONE. (Weathered Bedrock)	
					Excavated as gravel of fine to coarse angular mudstone.	3	
		3.10			End of Trialpit at 3.10 m	4	
						5	

Remarks: 1. Trial pit terminated at 3.1mbgl - Target depth reached.		Groundwater: Groundwater not encountered.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample		
		Stability: Sides stable.				

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 2.70m 5.00m			
Date Excavated: 09/07/2021			Level:						
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description			
Depth (m)	Type	Results							
0.70 - 0.85			0.20			Grass over, dark brown slightly sandy silty CLAY with abundant rootlets. (Topsoil/subsoil)			
						Soft to firm yellow brown and light grey slightly sandy silty CLAY with occasional mudstone lithorelicts and occasional rootlets. (Glacial Till)			
			0.50			Firm to stiff mottled grey and brown silty CLAY with abundant fine to medium sub-angular to angular mudstone lithorelicts. (Completely to Highly Weathered Bedrock)			
			0.75			Stiff to very stiff grey brown mottled grey silty CLAY with abundant fine to coarse sub-angular to angular mudstone lithorelicts. (Completely to Highly Weathered Bedrock)			
			1.70			(Medium dense) yellow brown and grey slightly silty/clayey fine to coarse GRAVEL of extremely weak to very weak angular mudstone. (Weathered Bedrock)			
			2.10			Possible extremely to very weak very closely fractured mudstone in-situ. Very weak very closely fractured mottled yellow brown, brown and grey MUDSTONE. (Weathered Bedrock)			
			2.70			Excavated as fine to coarse gravel of mudstone. <i>Apparent sub-horizontal dip towards the north.</i>			
						End of Trialpit at 2.70 m			
Remarks: 1. Trial pit terminated at 2.7mbgl - Target depth reached, mudstone bedrock encountered.						Groundwater: Groundwater not encountered. Slightly damp down to base.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample	
						Stability: Minor spalling of mudstone observed.			

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Location: Maesteg			Client: Pennant Walters (FOELT) Ltd			Logged By: RAH		Scale 1:25	
Equipment: Komatsu 138			Coordinates:			Dimensions Depth : 2.90m 4.50m			
Date Excavated: 09/07/2021			Level:						

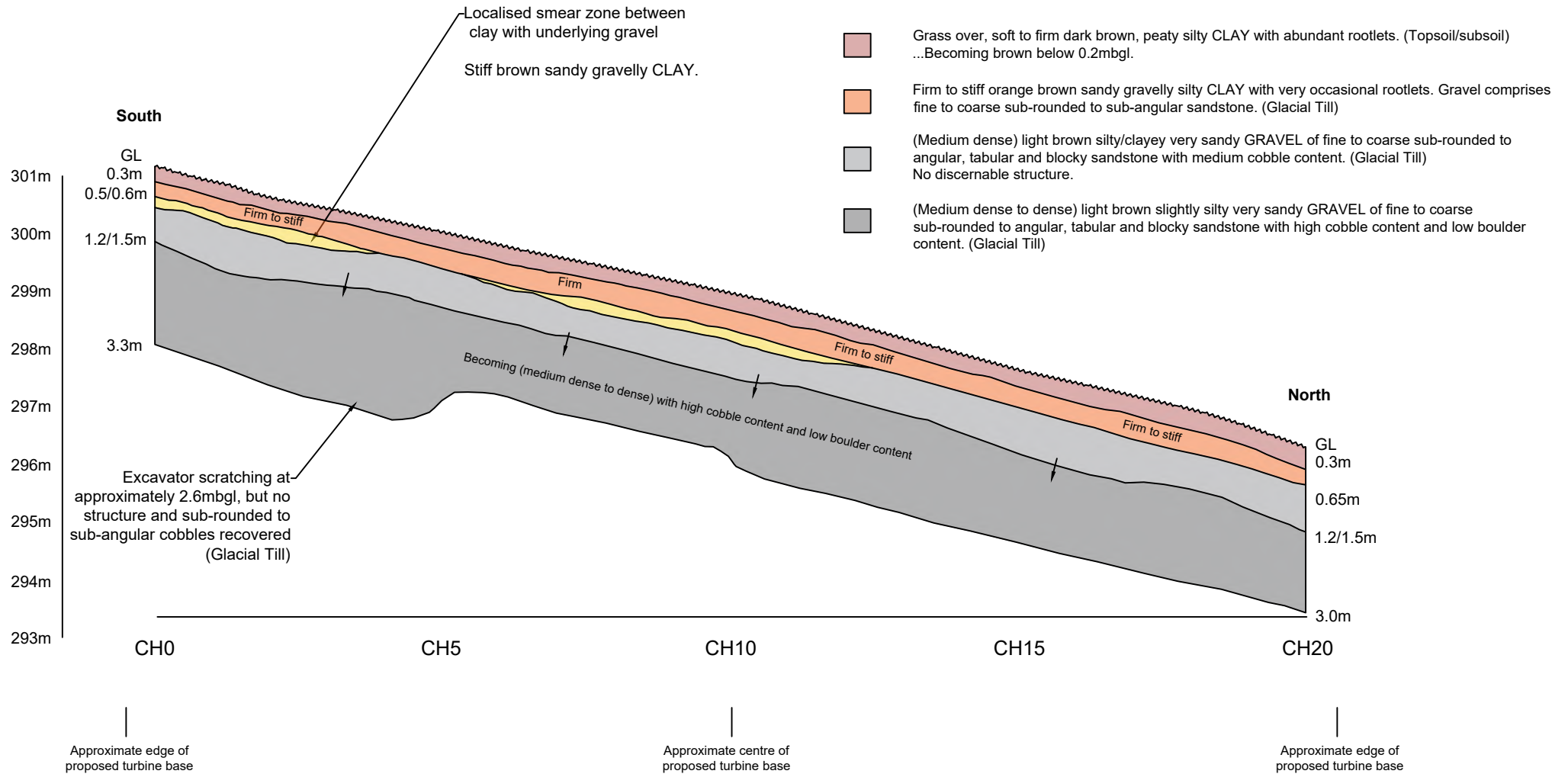
Samples & In-situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
Depth (m)	Type	Results					
1.80 - 2.00						Grass over, dark brown slightly sandy silty CLAY with abundant rootlets. (Topsoil/subsoil)	
			0.25			Soft to firm mottled grey and yellow brown slightly sandy silty CLAY with occasional rootlets. (Glacial Till)	
			0.40			Firm to stiff mottled grey and brown silty CLAY with abundant fine to medium sub-angular to angular mudstone lithorelicts. (Completely to Highly Weathered Bedrock)	
			0.60			Stiff to very stiff mottled yellow brown and grey silty CLAY with abundant fine to coarse sub-angular to angular mudstone lithorelicts. (Completely to Highly Weathered Bedrock)	
						HSV @ 0.7m = 70kPa	
				1.60			(Medium dense) yellow brown mottled brown and grey silty/clayey fine to coarse GRAVEL of extremely weak to very weak angular mudstone. (Weathered Bedrock) ...Becoming coarser with depth with low cobble content.
			2.10			Very weak very closely fractured mottled orange brown, brown and grey MUDSTONE. (Weathered Bedrock) Excavated as fine to coarse gravel of mudstone with low cobble content. <u>No clear structure or discernible bedding.</u>	
			2.80			Very weak to weak very closely to closely fractured mottled orange brown, brown and grey MUDSTONE. (Weathered Bedrock)	
			2.90			Excavated as fine to coarse gravelly cobbles. Excavation becoming difficult. End of Trialpit at 2.90 m	

Remarks: 1. Trial pit terminated at 2.9mbgl - Target depth reached, mudstone bedrock encountered.		Groundwater: Groundwater not encountered. Slightly damp down to base.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample W - Water sample		
		Stability: Sides stable.				

APPENDIX D

TRIAL TRENCH SECTIONS

Trial Trench 1 (Turbine 6)



Trench Section: TT1

Project: Foel Trawsnant Windfarm

Client: Pennant Walters (FOELT) Ltd

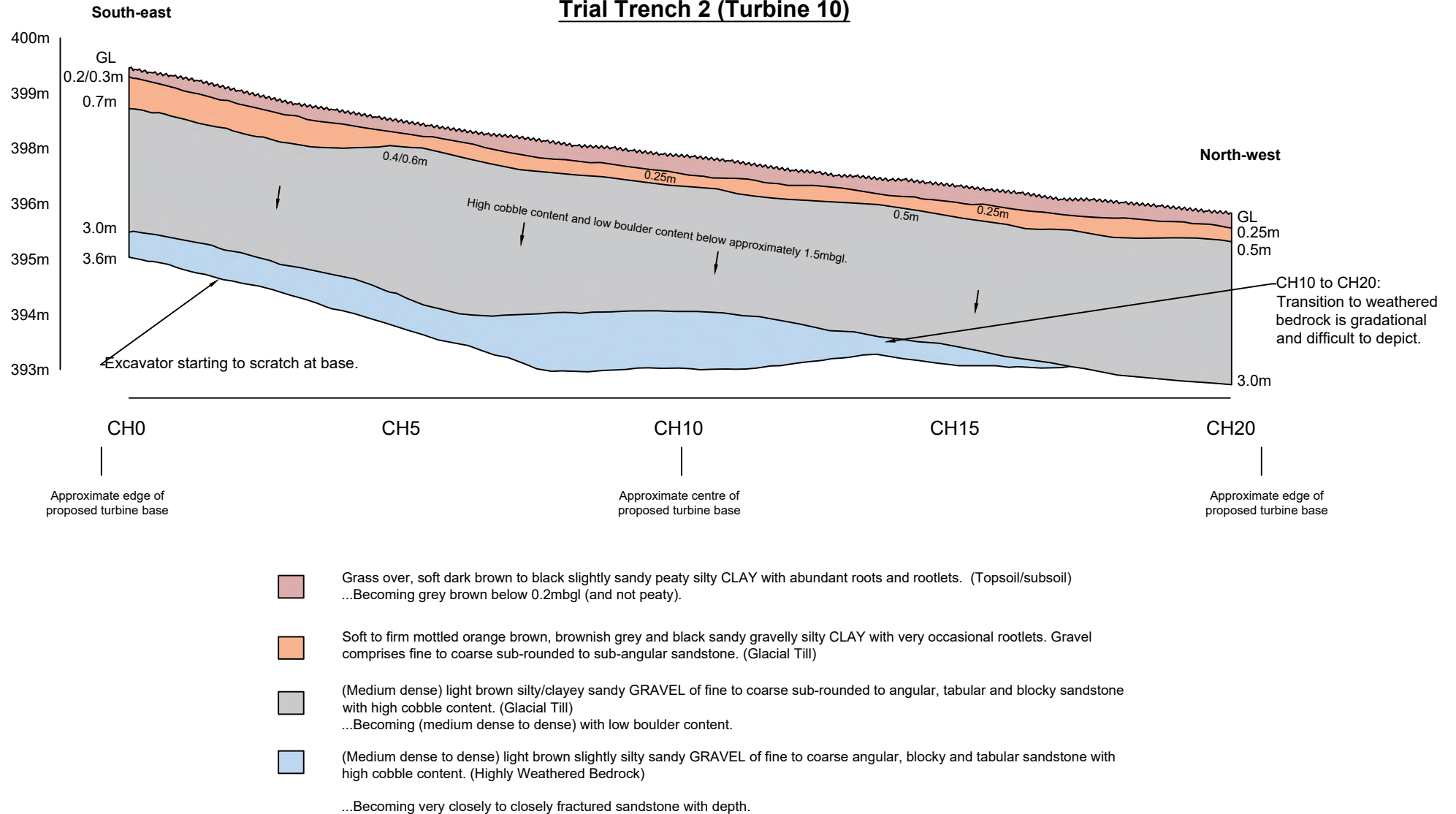
Job No.: 12826

Scale: 1:100 at A4

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Trial Trench 2 (Turbine 10)



Trench Section: TT2

Project: Foel Trawsnant Windfarm

Client: Pennant Walters (FOELT) Ltd

Job No.: 12826

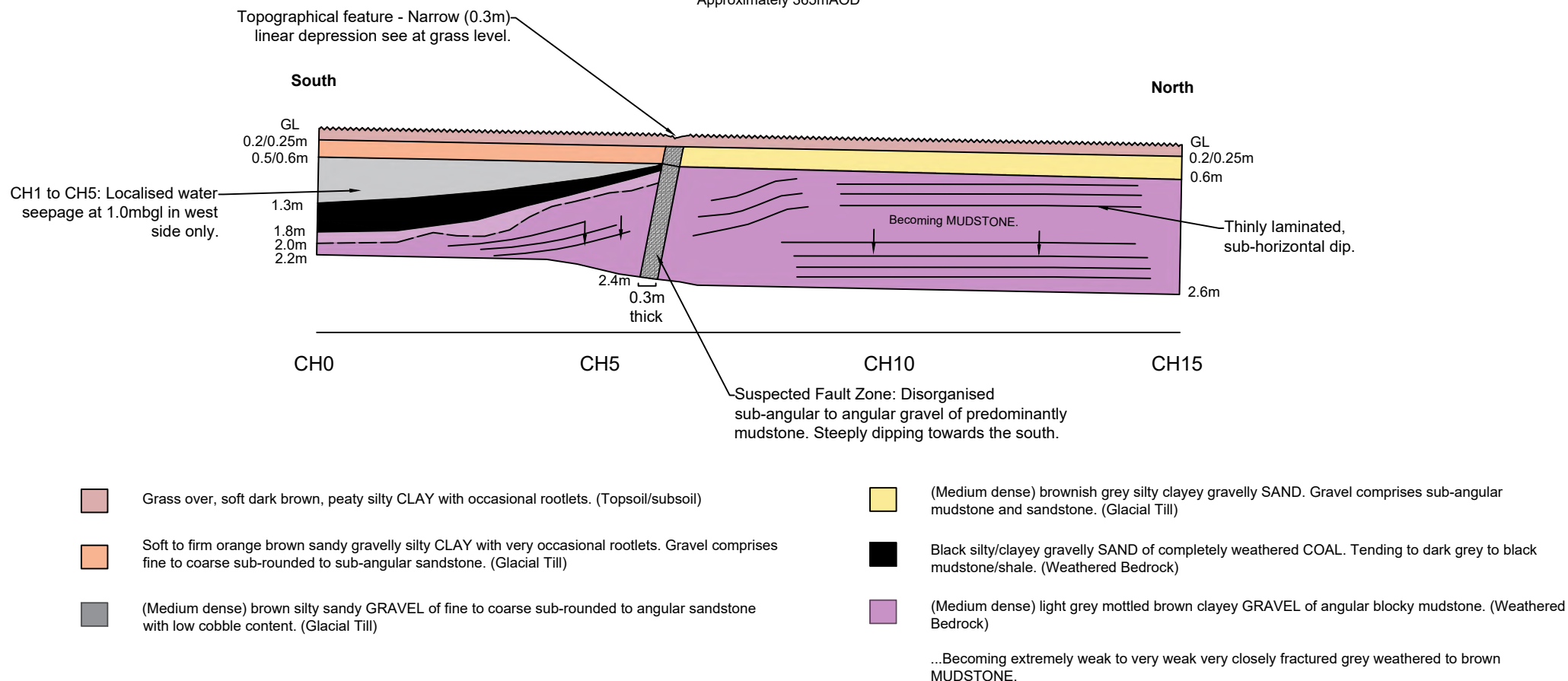
Scale: 1:100 at A4

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Trial Trench 3 (Jubilee Slide)

Approximately 365mAOD



Trench Section: TT3

Project: Foel Trawsnant Windfarm

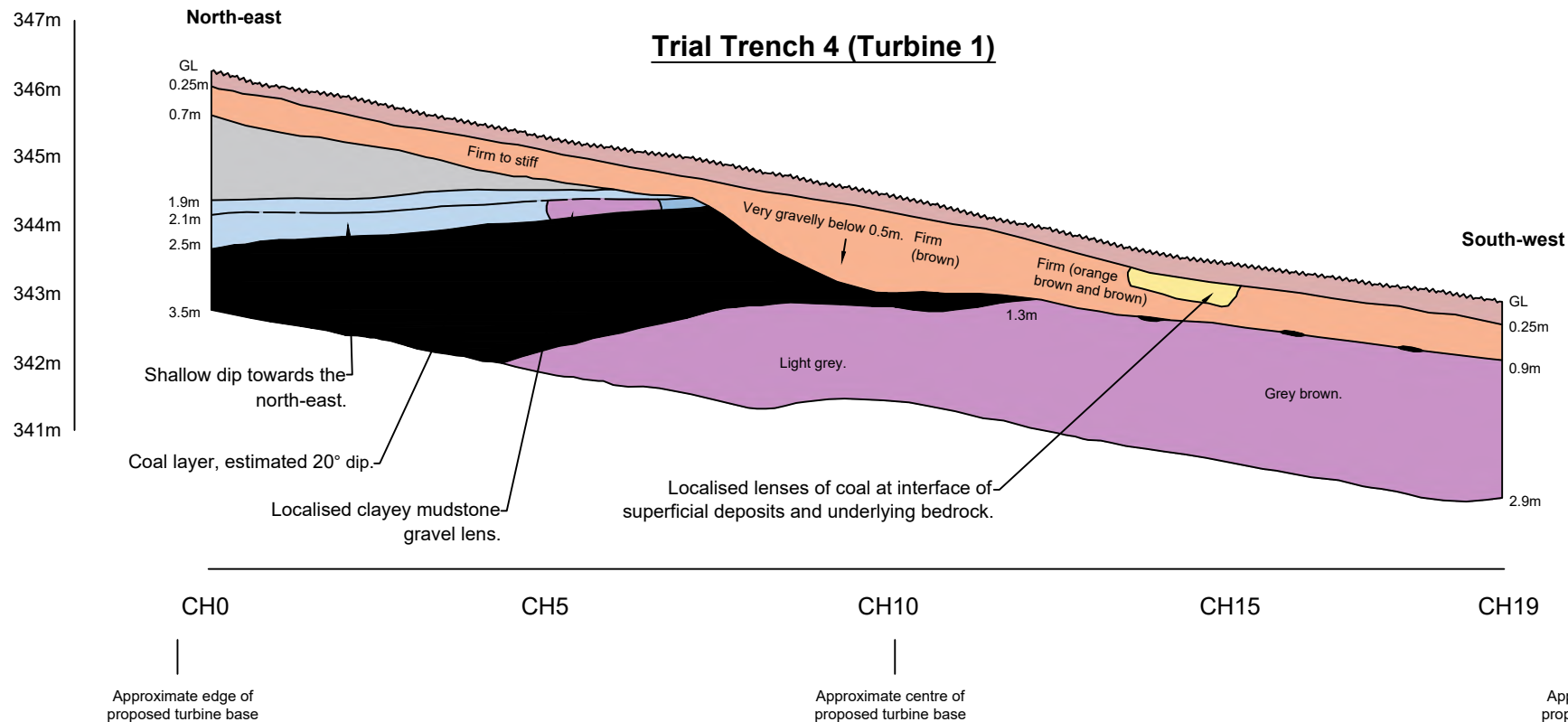
Job No.: 12826

Client: Pennant Walters (FOELT) Ltd

Scale: 1:100 at A4

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- | | |
|---|---|
| <p> Grass over, soft dark brown to black slightly sandy peaty silty CLAY with abundant rootlets. (Topsoil/subsoil)</p> <p> Firm to stiff mottled orange brown and grey sandy gravelly silty CLAY with low cobble content. Gravel and cobbles comprise fine to coarse sub-rounded to sub-angular sandstone. (Glacial Till)</p> <p> (Medium dense) orange brown silty gravelly SAND. Gravel comprises sub-angular to sub-rounded sandstone. (Glacial Till)</p> <p> (Medium dense) brown silty sandy GRAVEL of fine to coarse sub-rounded to angular sandstone with low cobble content. (Glacial Till/Weathered Bedrock)</p> | <p> (Medium dense) dark grey brown slightly silty sandy GRAVEL and COBBLES of blocky sandstone. ...Becoming Medium strong grey weathered to brown closely fractured SANDSTONE. (Weathered Bedrock)</p> <p> Black COAL. Recovered as very sandy fine to medium angular gravel of coal. (Weathered Bedrock)</p> <p> (Medium dense) light grey mottled grey brown clayey GRAVEL of fine to coarse angular blocky mudstone. (Weathered Bedrock)</p> <p>...Becoming extremely weak to very weak very closely fractured grey weathered to brown MUDSTONE.</p> |
|---|---|

Trench Section: TT4

Project: Foel Trawsnant Windfarm

Client: Pennant Walters (FOELT) Ltd

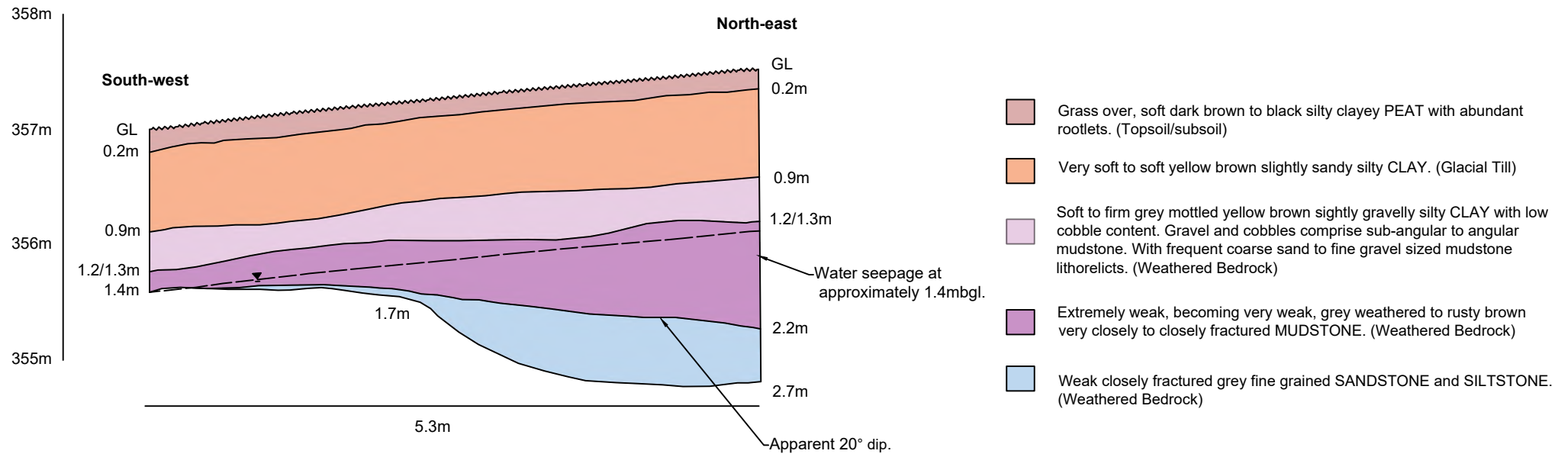
Job No.: 12826

Scale: 1:100 at A4

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TP26 (Turbine 2)



Trench Section: TP26

Project: Foel Trawsnant Windfarm

Client: Pennant Walters (FOELT) Ltd

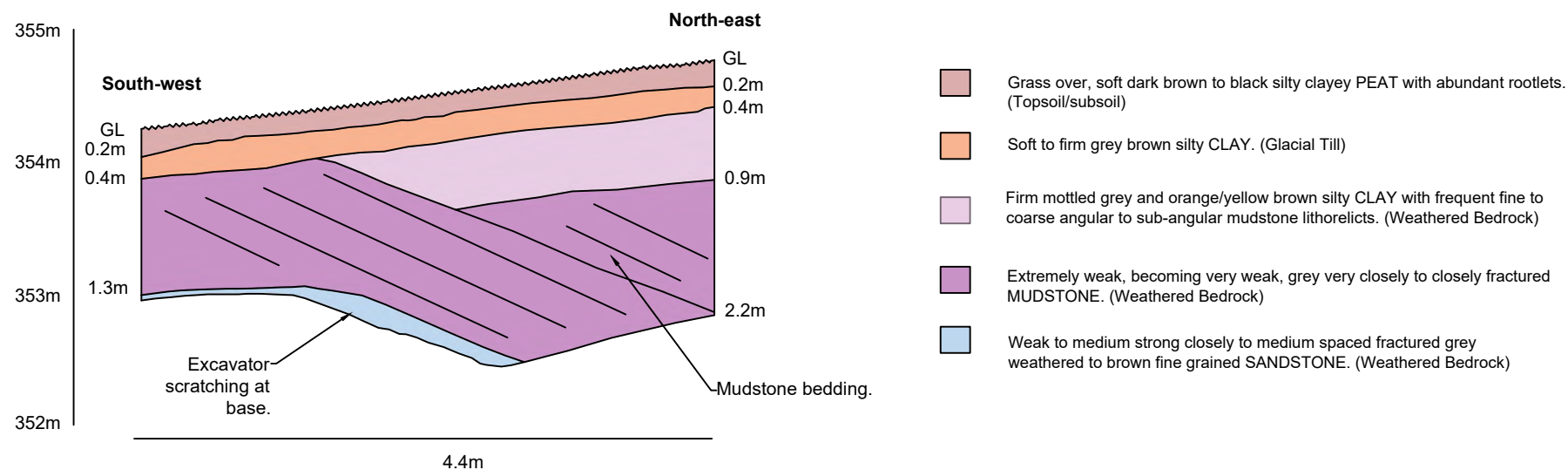
Job No.: 12826

Scale: 1:50 at A4

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TP27 (Turbine 2 Compound)



Trench Section: TP27

Project: Foel Trawsnant Windfarm

Job No.: 12826

Client: Pennant Walters (FOELT) Ltd

Scale: 1:50 at A4

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APPENDIX E

TRIAL PIT AND TRIAL TRENCH PHOTOGRAPHS



Trial Pit Photographs: TP01

12826: Foel Trawsnant Windfarm

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Trial Pit Photographs: TP03

12826: Foel Trawsnant Windfarm

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Trial Pit Photographs: TP03

12826: Foel Trawsnant Windfarm

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Trial Pit Photographs: TP04

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Trial Pit Photographs: TP05

12826: Foel Trawsant Windfarm

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Trial Pit Photographs: TP06

12826: Foel Trawsnant Windfarm

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Trial Pit Photographs: TP07

12826: Foel Trawsnant Windfarm

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Trial Pit Photographs: TP08

12826: Foel Trawsnant Windfarm

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Trial Pit Photographs: TP09

12826: Foel Trawsnant Windfarm

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Trial Pit Photographs: TP10

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Trial Pit Photographs: TP11

12826: Foel Trawsnant Windfarm

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Trial Pit Photographs: TP12

12826: Foel Trawsnant Windfarm

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Trial Pit Photographs: TP13

12826: Foel Trawsnant Windfarm

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Trial Pit Photographs: TP14

12826: Foel Trawsnant Windfarm

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Trial Pit Photographs: TP15

12826: Foel Trawsnant Windfarm

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Trial Pit Photographs: TP16

12826: Foel Trawsnant Windfarm

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Trial Pit Photographs: TP17

12826: Foel Trawsnant Windfarm

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Trial Pit Photographs: TP18

12826: Foel Trawsnant Windfarm

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Trial Pit Photographs: TP19

12826: Foel Trawsnant Windfarm

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Trial Pit Photographs: TP20

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Trial Pit Photographs: TP21

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Trial Pit Photographs: TP22

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Trial Pit Photographs: TP23

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Trial Pit Photographs: TP24

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Trial Pit Photographs: TP25

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Trial Pit Photographs: TP26

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Trial Pit Photographs: TP27

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Trial Pit Photographs: TP28

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Trial Pit Photographs: TP29

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Trial Pit Photographs: TP30

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Trial Pit Photographs: TP31

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Trial Pit Photographs: TT1

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Trial Pit Photographs: TT2

12826: Foel Trawsnant Windfarm

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Suspected fault zone



Trial Pit Photographs: TT3

12826: Foel Trawsnant Windfarm

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Trial Pit Photographs: TT4

12826: Foel Trawsnant Windfarm

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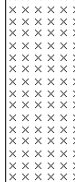
APPENDIX F

ROTARY BOREHOLE LOGS

		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm			Project No.: 12826		Borehole No.: BHT1 Sheet 1 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd			Coordinates: 283959.00mE 193522.00mN		Hole Type: RC	
Equipment: Klemm				Diameter of Casing: 115mm			Level:		Scale 1:25	
Diameter of Boring:				Depth of Casing: 4.50m			Dates 21/06/2021 - 21/06/2021		Logged By: RAH+APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
							0.20				Grass over, soft brown sandy silty CLAY with roots. (Topsoil)	
							0.80				Firm to stiff orange brown slightly silty slightly sandy slightly gravelly CLAY. Gravel comprises fine to coarse sub-angular to angular sandstone. (Glacial Till)	
							1.50				(Medium dense) grey mottled brown and orange brown slightly silty sandy GRAVEL of fine to coarse angular to sub-angular blocky sandstone. (Glacial Till/Highly Weathered Bedrock)	1
							1.63				Firm grey slightly sandy slightly gravelly silty CLAY. Gravel comprises fine to medium angular to sub-angular mudstone bordering on lithorelicts. (Highly Weathered Bedrock)	
							1.90				Black bright COAL. Recovered as slightly gravelly coarse sand. Gravel is fine sub-angular coal. (Highly Weathered Bedrock)	
							2.40				Stiff to hard grey mottled light brown and orange brown silty CLAY with frequent, becoming abundant, fine to medium angular to sub-angular mudstone lithorelicts. (Completely to Highly Weathered Bedrock)	2
											...Grading into mudstone towards base.	
											Extremely weak grey, mottled grey brown and rusty brown, fissile and friable MUDSTONE. Easily fragmented. (Highly Weathered Bedrock)	3
												4
							4.50				Extremely weak to very weak extremely closely to closely fractured dark grey and orange brown very thinly bedded to thinly laminated carbonaceous MUDSTONE with frequent coal traces (1mm - 2mm thick). (Weathered Bedrock)	
									Fracture set 1: Predominantly sub-horizontal, tight and open, planar, rough and irregular and stepped. (Bedding)	5		

Remarks: Dynamic sampled to 4.5mbgl, rotary cored to 21.0mbgl, rotary open hole drilled to 30mbgl. Water strikes recorded at approximately 6.0mbgl and 18.0mbgl.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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Intégral Géotechnique		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT1 Sheet 2 of 6				
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283959.00mE 193522.00mN		Hole Type: RC				
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25				
Diameter of Boring:				Depth of Casing: 4.50m				Dates 21/06/2021 - 21/06/2021		Logged By: RAH+APEX				
Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description			
		Depth (m)	TCR	SCR	RQD	FI								
	6.00 	4.50 - 6.00	97	20	8	>20	5.57				Fracture set 2: Vertical to sub-vertical, irregular, rough, stepped and tight. <i>Fmin = 1mm, Fmax = 210mm</i>			
							6.00				Bright very closely fractured black COAL with localised disseminated pyrite. Non-intact from 5.8m to 6.0mbgl.			
		6.00 - 7.50	100	11	0	>20				Extremely weak to very weak extremely closely to closely spaced fractured dark grey very thinly bedded to thinly laminated moderately to highly weathered fissile SILTSTONE/ MUDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal, tight, planar. (Bedding) Fracture set 2: 30° to 90° irregular, rough, stepped and tight. Non intact: 6.0m - 6.8m, 7.5m - 7.66m, 7.78m - 7.8m, 7.9m - 8.0m. Recovered as fine to medium angular gravel. Non intact: 8.75m - 9.0m - Recovered as fine to medium angular gravel with localised stiff grey clay and abundant mudstone lithorelicts. <i>Fmin = 1mm, Fmax = 70mm</i>	6			
		7.50 - 9.00	100	27	27	>20				<i>Fmin = 1mm, Fmax = 100mm</i>		7		
		9.00 - 10.50	100	51	27	>20	9.00			Extremely weak to very weak extremely closely to closely spaced fractured brownish grey medium bedded to thinly bedded moderately weathered SILTSTONE with frequent coal traces (1mm - 2mm thick). (Weathered Bedrock) Fracture set 1: Sub-horizontal to 10°, planar, tight, rough and smooth. (Bedding) Fracture set 2: Occasional sub-vertical to 70°, planar, rough and tight. Below 13.5m coal traces are occasional. <i>Fmin = 1mm, Fmax = 180mm</i>	9			
Remarks: Dynamic sampled to 4.5mbgl, rotary cored to 21.0mbgl, rotary open hole drilled to 30mbgl. Water strikes recorded at approximately 6.0mbgl and 18.0mbgl.												Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone) W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		



		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm			Project No.: 12826		Borehole No.: BHT1 Sheet 3 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd			Coordinates: 283959.00mE 193522.00mN		Hole Type: RC	
Equipment: Klemm				Diameter of Casing: 115mm			Level:		Scale 1:25	
Diameter of Boring:				Depth of Casing: 4.50m			Dates 21/06/2021 - 21/06/2021		Logged By: RAH+APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
		10.50 - 12.00	100	48	19	12						11
		12.00 - 13.50	100	27	7	>20						12
		13.50 - 15.00	100	72	29	>20						13
							15.00					14
												15

Remarks: Dynamic sampled to 4.5mbgl, rotary cored to 21.0mbgl, rotary open hole drilled to 30mbgl. Water strikes recorded at approximately 6.0mbgl and 18.0mbgl.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)			W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation				
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT1 Sheet 5 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283959.00mE 193522.00mN		Hole Type: RC	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25	
Diameter of Boring:				Depth of Casing: 4.50m				Dates 21/06/2021 - 21/06/2021		Logged By: RAH+APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
		19.50 - 21.00	100	21	0	>20					Fracture set 2: Sub-vertical to vertical highly irregular, rough and undulating. Non intact: 19.35m - 19.5m recovered as coarse angular gravel. 19.6m - 19.8m - Concentrated fracture zone. <i>Fmin = 1mm, Fmax = 80mm</i>	
							21.00				SANDSTONE. (Driller's Description)	21
							22.50				SANDSTONE/MUDSTONE. (Driller's Description)	23
												24
												25

Remarks: Dynamic sampled to 4.5mbgl, rotary cored to 21.0mbgl, rotary open hole drilled to 30mbgl. Water strikes recorded at approximately 6.0mbgl and 18.0mbgl.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT1-A Sheet 1 of 1	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283967.00mE 193526.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:200	
Diameter of Boring: 115mm				Depth of Casing: 1.50m				Dates 22/06/2021 - 22/06/2021		Logged By: APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description		
		Depth (m)	TCR	SCR	RQD	FI							
											BOULDER CLAY. (Driller's Description)	1	
													2
								2.40				WEATHERED MUDSTONE. (Driller's Description)	3
								3.00				MUDSTONE. (Driller's Description)	4
								3.80				COAL. (Driller's Description)	5
								4.30				MUDSTONE. (Driller's Description)	6
													7
													8
													9
								9.20				COAL. (Driller's Description)	10
								10.00				MUDSTONE with SANDSTONE bands. (Driller's Description)	11
													12
													13
													14
													15
													16
													17
													18
													19
													20
						20.50				COAL. (Driller's Description)	21		
						20.90				SANDSTONE with MUDSTONE bands. (Driller's Description)	22		
											23		
											24		
											25		
											26		
											27		
											28		
											29		
						30.00					End of Borehole at 30.00 m	30	
												31	
												32	
												33	
												34	
												35	
												36	
												37	
												38	
												39	
												40	

Remarks: Rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT1-B Sheet 1 of 1	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283963.00mE 193513.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:200	
Diameter of Boring: 115mm				Depth of Casing: 1.50m				Dates 22/06/2021 - 22/06/2021		Logged By: APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
											BOULDER CLAY. (Driller's Description)	1
												2
											MUDSTONE. (Driller's Description)	3
											COAL. (Driller's Description)	4
											MUDSTONE. (Driller's Description)	5
												6
												7
												8
												9
												10
												11
												12
												13
												14
												15
												16
												17
												18
												19
												20
												21
												22
												23
												24
											25	
											26	
											27	
											28	
											29	
											30	
											31	
											32	
											33	
											34	
											35	
											36	
											37	
											38	
											39	
											40	

Remarks: Rotary open hole drilled to 30mbgl. Water strike/wet at 17mbgl.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT1-C Sheet 1 of 1	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283950.00mE 193517.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:200	
Diameter of Boring: 115mm				Depth of Casing: 1.50m				Dates 22/06/2021 - 22/06/2021		Logged By: APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description		
		Depth (m)	TCR	SCR	RQD	FI							
							2.00				BOULDER CLAY. (Driller's Description)	1	
							2.50				COAL. (Driller's Description)	2	
											MUDSTONE. (Driller's Description)	3	
												4	
												5	
												6	
												7	
												8	
												9	
												10	
												11	
												12	
												13	
												14	
								14.00				COAL. (Driller's Description)	15
								14.50				MUDSTONE with SANDSTONE bands. (Driller's Description)	16
												17	
												18	
												19	
												20	
										21			
										22			
										23			
										24			
										25			
										26			
						27.00				SANDSTONE. (Driller's Description)	27		
											28		
											29		
											30		
											31		
											32		
						33.00				MUDSTONE. (Driller's Description)	33		
											34		
											35		
											36		
											37		
											38		
											39		
											40		

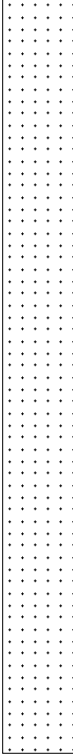
Remarks: Rotary open hole drilled to 30mbgl. Water strike/wet at 21mbgl.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT1-D Sheet 1 of 1	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283954.00mE 193530.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:200	
Diameter of Boring: 115mm				Depth of Casing: 1.50m				Dates 22/06/2021 - 22/06/2021		Logged By: APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
											BOULDER CLAY. (Driller's Description)	1
											COAL. (Driller's Description)	2
											MUDSTONE. (Driller's Description)	3
												4
												5
												6
												7
											COAL. (Driller's Description)	7
											MUDSTONE with SANDSTONE bands. (Driller's Description)	8
												9
												10
												11
												12
												13
												14
												15
												16
												17
												18
											COAL. (Driller's Description)	19
											SANDSTONE with MUDSTONE bands. (Driller's Description)	20
												21
												22
												23
												24
												25
												26
												27
												28
												29
	30											
	31											
	32											
	33											
	34											
	35											
	36											
	37											
	38											
	39											
	40											

Remarks: Rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Integral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT2 Sheet 1 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283850.00mE 193725.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25	
Diameter of Boring: 115mm				Depth of Casing: 3.00m				Dates 05/07/2021 - 06/07/2021		Logged By: APEX+RAH	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
							2.50				BOULDER CLAY. (Driller's Description)	1
											SANDSTONE. (Driller's Description)	3
												4
												5

Remarks: Rotary open hole drilled to 9.0mbgl, rotary cored to 15.0mbgl, rotary hole hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT2 Sheet 3 of 6	
		Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283850.00mE 193725.00mN	
Equipment: Klemm		Diameter of Casing: 115mm				Level:		Scale 1:25			
Diameter of Boring: 115mm		Depth of Casing: 3.00m				Dates 05/07/2021 - 06/07/2021		Logged By: APEX+RAH			

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
											<i>Fmin = 15mm, Fmax = 370mm</i>	
											<i>Fmin = 10mm, Fmax = 270mm</i>	
		10.50 - 12.00	100	83	43	12						
		12.00 - 13.50	100	73	53	14					<i>Fmin = 10mm, Fmax = 300mm</i>	
											13.0m - 13.4m: Heavy ironstone mineralisation. Generally non-intact recovered as fine to coarse sub-angular to angular gravel and cobbles.	
		13.50 - 15.00	100	93	40	>20					Medium strong to strong closely to medium spaced fractured grey locally brown slightly weathered fine to medium grained SANDSTONE. (Weathered Bedrock) Fractures are sub-horizontal, planar, open, rough and stepped. Locally tight. (Bedding) <i>Fmin = 5mm, Fmax = 270mm</i>	
							15.00					

Remarks: Rotary open hole drilled to 9.0mbgl, rotary cored to 15.0mbgl, rotary hole hole drilled to 30mbgl. Water strike not recorded.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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Intégral Géotechnique Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT2 Sheet 4 of 6				
		Location: Maesteg				Client: Pennant Walters (FOELT) Ltd		Coordinates: 283850.00mE 193725.00mN		Hole Type: RO		
		Equipment: Klemm				Diameter of Casing: 115mm		Level:		Scale 1:25		
		Diameter of Boring: 115mm				Depth of Casing: 3.00m		Dates 05/07/2021 - 06/07/2021		Logged By: APEX+RAH		
		Well	Water Strikes	Rotary Coring				Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description
				Depth (m)	TCR	SCR	RQD	FI				
												16
												17
												18
												19
												20
Remarks: Rotary open hole drilled to 9.0mbgl, rotary cored to 15.0mbgl, rotary hole hole drilled to 30mbgl. Water strike not recorded.												
Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone) W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation												

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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT2-A Sheet 1 of 1	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283851.00mE 193734.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:200	
Diameter of Boring: 115mm				Depth of Casing: 3.00m				Dates 06/07/2021 - 06/07/2021		Logged By: APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
							2.70				PEAT over BOULDER CLAY. (Driller's Description)	1
											SANDSTONE with MUDSTONE bands. (Driller's Description)	2
												3
												4
												5
												6
												7
												8
												9
												10
												11
												12
												13
												14
												15
												16
												17
												18
												19
												20
												21
												22
												23
												24
												25
												26
												27
												28
												29
									30.00			End of Borehole at 30.00 m
											31	
											32	
											33	
											34	
											35	
											36	
											37	
											38	
											39	
											40	

Remarks: Rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT2-B Sheet 1 of 1	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283853.00mE 193715.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:200	
Diameter of Boring: 115mm				Depth of Casing: 3.00m				Dates 06/07/2021 - 06/07/2021		Logged By: APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
							2.70				PEAT over BOULDER CLAY. (Driller's Description)	1
											2	
											3	
											4	
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Remarks: Rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT2-C Sheet 1 of 1	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283843.00mE 193717.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:200	
Diameter of Boring: 115mm				Depth of Casing: 3.00m				Dates 06/07/2021 - 06/07/2021		Logged By: APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description										
		Depth (m)	TCR	SCR	RQD	FI															
							2.70				PEAT over BOULDER CLAY. (Driller's Description)	1									
																				2	
																					3
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											40										

Remarks: Rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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Intégral Géotechnique Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT202 Sheet 2 of 6					
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283835.00mE 193698.00mN		Hole Type: RC			
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25			
Diameter of Boring:				Depth of Casing: 1.50m				Dates 23/06/2021 - 23/06/2021		Logged By: RAH+APEX			
Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description		
		Depth (m)	TCR	SCR	RQD	FI							
		4.70 - 6.20	100	47	27	18	6.20				Bedrock) Fracture set 1: Sub-horizontal to 20° rough, tight and open and planar. (Bedding) Fracture set 2: Sub-vertical to 45°, rough, undulating, open. Locally stepped. Frequent iron staining along planes. Non intact: 4.7m - 4.9m. Recovered as fine to coarse angular gravel. 6.0m - 6.2m. Recovered as coarse gravel and cobbles of angular sandstone. <u>Fmin = 10mm, Fmax = 120mm</u>	6	
		6.20 - 7.70	100	64	40	19					Very weak to medium strong very closely to medium spaced fractured grey mottled rusty brown thinly to medium bedded fine to medium grained SANDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal to 20° rough, tight and open and planar. (Bedding) Fracture set 2: Sub-vertical to 45°, rough, undulating, open. Locally stepped. Frequent iron staining along planes. Non intact: 6.2m - 6.3m. Recovered as cobbles. Non intact: 8.05m - 8.3m. Recovered as fine to coarse blocky sandstone with frequent iron and manganese staining. <u>Fmin = 1mm, Fmax = 280mm</u>	7	
		7.70 - 9.20	100	45	38	12	8.50				<u>Fmin = 10mm, Fmax = 570mm</u>	8	
		9.20 - 10.70	100	64	50	11	9.20				Medium strong to strong closely to medium spaced fractured grey thinly to medium bedded slightly weathered fine to medium grained SANDSTONE with occasional thin coal traces (<1mm thick). (Weathered Bedrock) Fractures are sub-horizontal to 10° rough, undulating and open. Often along coal traces. (Bedding)	9	
											Medium strong to strong closely to medium spaced fractured grey thinly to medium bedded slightly weathered fine to medium grained SANDSTONE with occasional thin coal traces (<1mm thick). (Weathered Bedrock) Fractures are generally sub-horizontal to 10° rough, undulating and open. Often along coal traces. (Bedding) Non intact: 9.73m - 9.80m, 9.96m - 10.03m, 10.16m - 10.30m. Recovered as fine to coarse angular gravel. Non intact: 11.0m - 11.17m - Concentrated (extremely closely	10	
Remarks: Dynamic sampled to 1.7mbgl, rotary cored to 15.2mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.										Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone) W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation			

		Integral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT202 Sheet 3 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283835.00mE 193698.00mN		Hole Type: RC	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25	
Diameter of Boring:				Depth of Casing: 1.50m				Dates 23/06/2021 - 23/06/2021		Logged By: RAH+APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
		10.70 - 12.20	100	81	71	10	12.20				spaced) fracture zone. Recovered as fine to coarse angular gravel. 11.80m - Localised coal traces up to 2mm thick. <i>Fmin = 60mm, Fmax = 400mm</i> <i>Fmin = 10mm/20mm, Fmax = 330mm</i>	11
		12.20 - 13.70	95	63	48	14					Medium strong to strong very closely to medium spaced fractured grey thinly to medium bedded slightly weathered fine to medium grained SANDSTONE with occasional thin coal traces (<1mm thick) and localised sub-rounded gravel sized clasts of mixed lithologies. (Weathered Bedrock) Fractures are generally sub-horizontal to 10° rough, undulating and open. Often along coal traces. (Bedding) Non intact: 13.0m - 13.1m - Concentrated (extremely closely spaced) fracture zone. Recovered as fine to coarse angular gravel. 13.23m - 13.27m. Recovered as fine to medium angular gravel. 14.8m - 15.1m. Recovered as lighter grey medium to coarse sub-angular to angular cobbles. <i>Fmin = 10mm, Fmax = 250mm</i>	13
		13.70 - 15.20	96	55	49	6					<i>Stiff to hard grey brown CLAY band.</i> <i>Fmin = 30mm, Fmax = 400mm</i>	14

Remarks: Dynamic sampled to 1.7mbgl, rotary cored to 15.2mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm			Project No.: 12826		Borehole No.: BHT202 Sheet 4 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd			Coordinates: 283835.00mE 193698.00mN		Hole Type: RC	
Equipment: Klemm				Diameter of Casing: 115mm			Level:		Scale 1:25	
Diameter of Boring:				Depth of Casing: 1.50m			Dates 23/06/2021 - 23/06/2021		Logged By: RAH+APEX	

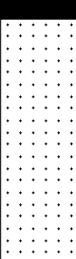
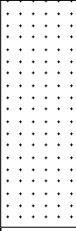
Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
							15.20				NO RETURNS. (Driller's Description)	
							18.00				Very Soft Drill. Possible Coal. No recovery. (Driller's Description)	
							18.80				Normal drill. No recovery. (Driller's Description) [Sandstone]	

Remarks: Dynamic sampled to 1.7mbgl, rotary cored to 15.2mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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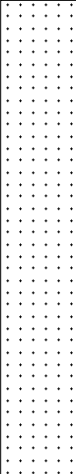
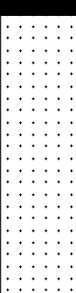
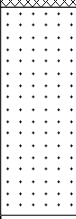
		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT202 Sheet 6 of 6											
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283835.00mE 193698.00mN		Hole Type: RC											
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25											
Diameter of Boring:				Depth of Casing: 1.50m				Dates 23/06/2021 - 23/06/2021		Logged By: RAH+APEX											
Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description										
		Depth (m)	TCR	SCR	RQD	FI															
							27.00					26									
							28.20				Soft drill. No recovery. (Driller's Description)	27									
												28									
											Normal drill. No recovery. (Driller's Description)										
											[Sandstone]										
												29									
							30.00					30									
End of Borehole at 30.00 m																					
Remarks: Dynamic sampled to 1.7mbgl, rotary cored to 15.2mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.										Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)											
W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation																					

		Integral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT202-D Sheet 1 of 1	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283830.00mE 193689.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:200	
Diameter of Boring: 115mm				Depth of Casing: 1.50m				Dates 23/06/2021 - 24/06/2021		Logged By: APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description			
		Depth (m)	TCR	SCR	RQD	FI								
							1.70				BOULDER CLAY. (Driller's Description)	1		
												SANDSTONE. (Driller's Description)	2	
													3	
													4	
													5	
													6	
													7	
													8	
													9	
													10	
													11	
													12	
													13	
													COAL. (Driller's Description)	14
													SANDSTONE. (Driller's Description)	15
													16	
													17	
													18	
													19	
													20	
													21	
												VOID. (Driller's Description)	22	
													Normal drill. No recovery. (Driller's Description)	23
													BACKFILLED WORKINGS. Broken ground with voids. (Driller's Description)	24
												Normal drill. No recovery. (Driller's Description)	25	
													26	
													27	
													28	
													29	
													30	
							30.00			End of Borehole at 30.00 m		30		
											31			
											32			
											33			
											34			
											35			
											36			
											37			
											38			
											39			
	40													

Remarks: Rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Integral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT202-E Sheet 1 of 1	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283825.00mE 193698.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:200	
Diameter of Boring: 115mm				Depth of Casing: 1.50m				Dates 23/06/2021 - 23/06/2021		Logged By: APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description											
		Depth (m)	TCR	SCR	RQD	FI																
							1.70				BOULDER CLAY. (Driller's Description)	1										
											SANDSTONE. (Driller's Description)	2										
												3										
												4										
												5										
												6										
												7										
												8										
												9										
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												14										
												15										
												16										
												17										
												18										
												19										
												20										
												21										
												22										
																	14.50				COAL with MUDSTONE. (Driller's Description)	15
																	15.80				SANDSTONE with MUDSTONE bands. (Driller's Description)	16
												17										
												18										
												19										
												20										
												21										
												22										
												23										
												24										
												25										
												26										
												27										
												28										
												29										
							23.30				VOID.	23										
							24.00				BACKFILLED WORKINGS. (Driller's Description)	24										
							24.50				Normal Drill. No recovery. (Driller's Description)	25										
												26										
												27										
												28										
												29										
							30.00				End of Borehole at 30.00 m	30										
												31										
												32										
												33										
												34										
												35										
												36										
												37										
												38										
												39										
												40										

Remarks: Rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT5 Sheet 1 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283092.00mE 194327.00mN		Hole Type: RC	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25	
Diameter of Boring:				Depth of Casing: 3.00m				Dates 02/07/2021 - 05/07/2021		Logged By: RAH+APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description		
		Depth (m)	TCR	SCR	RQD	FI							
							0.15				Grass over, soft brown/dark brown slightly silty slightly sandy peaty CLAY with frequent roots. (Topsoil)		
											Stiff orange brown mottled brown and grey slightly silty slightly sandy to sandy gravelly CLAY. Gravel comprises fine to coarse sub-rounded to sub-angular sandstone. (Glacial Till)	1	
							1.10				(Medium dense) orange brown and grey slightly silty sandy GRAVEL of fine to coarse sub-angular to sub-angular blocky sandstone. (Highly Weathered Bedrock)		
													2
							3.00						3
		3.00 - 4.50	100	61	18	>20				Weak to medium strong (and strong) extremely closely to closely spaced fractured brown and grey thinly to very thinly bedded moderately weathered medium to coarse grained SANDSTONE. (Weathered Bedrock) Fractures are generally sub-horizontal to 45°, frequently along bedding planes, open, rough, planar and undulating. Occasionally sub-vertical. Frequent iron staining along fracture surfaces. Fractures are more concentrated down to 3.9mbgl. Non intact: 3.0m - 3.15m and 3.8m - 3.9m. Recovered as fine to coarse angular to sub-angular gravel. <u>Fmin = 5mm, Fmax = 140mm</u>	4		
							4.50			Very weak to medium strong extremely closely to closely spaced fractured brown and grey thinly to very thinly bedded moderately weathered medium to coarse grained SANDSTONE. (Weathered Bedrock) Fractures are generally sub-horizontal to 45°, frequently along bedding planes, open, rough, planar and undulating.	5		

Remarks: Dynamic sampled to 3.0mbgl, rotary cored to 15.0mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm			Project No.: 12826		Borehole No.: BHT5 Sheet 2 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd			Coordinates: 283092.00mE 194327.00mN		Hole Type: RC	
Equipment: Klemm				Diameter of Casing: 115mm			Level:		Scale 1:25	
Diameter of Boring:				Depth of Casing: 3.00m			Dates 02/07/2021 - 05/07/2021		Logged By: RAH+APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
		4.50 - 6.00	100	22	0	>20	6.00				Occasionally sub-vertical. Frequent iron staining along fracture surfaces. Fractures are locally broken to gravel/gravel infilled. 4.7m - 4.9m - Very concentrated fracture zone. Locally recovered as non intact. Non intact: 5.7m - 5.9m. Recovered as clayey sandy fine to coarse angular gravel. <u>Fmin = 2mm, Fmax = 90mm</u>	6
		6.00 - 7.50	100	39	15	>20					Very weak to medium strong extremely closely to closely spaced fractured brown and grey thinly to very thinly bedded moderately weathered medium to coarse grained SANDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal to 10-20°, smooth, tight and planar. (Bedding) Fracture set 2: Sub-vertical to 70°, smooth, tight, stepped and rough and open. Locally gravel infilled. Concentrated fracture zones between 6.2m - 6.5m and 7.2m - 7.35m. Intersecting fracture sets. <u>Fmin = 2mm, Fmax = 130mm</u>	
		7.50 - 9.00	100	53	29	>20	7.50				Very weak to strong extremely closely to closely spaced fractured grey thinly bedded fine to medium grained SANDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal to 10-20°, smooth, tight and planar. (Bedding) Fracture set 2: Sub-vertical to 70°, smooth, tight, stepped and rough and open. Locally gravel infilled. Localised iron and manganese staining along fracture surfaces. 7.6m - 7.83m - Concentrated fracture zone. Locally non-intact. Non intact: 8.1m - 8.17m. Recovered as fine to medium sub-angular to angular gravel. 11.56m - 11.67m and 12.83m - 12.9m. Recovered as coarse angular gravel. <u>Fmin = 2mm, Fmax = 200mm</u>	8
		9.00 - 10.50	100	56	26	>20					<u>Fmin = 2mm, Fmax = 240mm</u>	
												10

Remarks: Dynamic sampled to 3.0mbgl, rotary cored to 15.0mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.			Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)			W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation				
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT5 Sheet 3 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283092.00mE 194327.00mN		Hole Type: RC	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25	
Diameter of Boring:				Depth of Casing: 3.00m				Dates 02/07/2021 - 05/07/2021		Logged By: RAH+APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
		10.50 - 12.00	100	60	45	>20	12.00				10.0m - 10.4m: Localised fine gravel sized sub-rounded ironstone nodules. 10.0m - 11.5m: Locally frequent 1-3mm thick coal traces. Coal is often weathered to coarse sand. Fmin = 5mm, Fmax = 160mm 10.8m: Localised lenticular pyrite mineralisation. Seen as 80mm x 5m lens.	11
		12.00 - 13.50	100	75	31	20					Very weak to medium strong very closely to closely spaced fractured grey thinly bedded fine to medium grained SANDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal to 10-20°, smooth, tight and planar. (Bedding) Fracture set 2: Sub-vertical to 70°, smooth, tight, stepped and rough and open. Locally gravel infilled. Localised iron and manganese staining along fracture surfaces. Fmin = 5mm, Fmax = 140mm	12
		13.50 - 15.00	100	49	10	>20					Very weak to strong extremely closely to closely spaced fractured grey thinly bedded fine to medium grained SANDSTONE with localised coal traces (1mm - 3mm thick). (Weathered Bedrock) Fracture set 1: Predominantly sub-horizontal to 10-20°, smooth, tight and planar. (Bedding) Fracture set 2: Very occasional sub-vertical to 70°, smooth, tight, stepped and rough and open. Locally gravel infilled. Localised iron and manganese staining along fracture surfaces. Non intact: 14.3m - 14.45m. Recovered as fine to coarse angular gravel. ...Below 14.5m: Occasional sub-vertical quartz veins (2mm - 3mm thick). Fmin = 10mm, Fmax = 150mm	13
						15.00						15

Remarks: Dynamic sampled to 3.0mbgl, rotary cored to 15.0mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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Intégral Géotechnique		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT6 Sheet 1 of 6							
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 282858.00mE 194597.00mN		Hole Type: RC							
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25							
Diameter of Boring:				Depth of Casing: 3.00m				Dates 02/07/2021 - 02/07/2021		Logged By: RAH+APEX							
Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description						
		Depth (m)	TCR	SCR	RQD	FI											
											Grass over, soft dark brown to black slightly sandy peaty silty CLAY with abundant roots. (Topsoil)						
											0.20						Firm orange brown slightly gravelly sandy silty CLAY. Gravel comprises fine to coarse sub-rounded to angular sandstone. (Glacial Till)
											0.65						(Medium dense) brown silty sandy GRAVEL with occasional cobbles. Gravel comprises fine to coarse sub-angular to angular sandstone. (Glacial Till)
											2.60						(Medium dense) brown slightly silty very sandy GRAVEL of fine to coarse sub-angular to angular sandstone. (Highly Weathered Bedrock)
											3.00						...Becoming SAND and GRAVEL.
											3.70						Broken SANDSTONE: Recovered as, orange brown and brown slightly silty very sandy GRAVEL of fine to coarse angular sandstone. (Highly Weathered to Moderately Weathered Bedrock) <i>Fmin = 3mm, Fmax = 70mm</i> <i>[2 x 0.8m core runs]</i>
											3.70						Weak to medium strong extremely closely to closely spaced fractured light grey thinly bedded fine to medium grained SANDSTONE. (Weathered Bedrock)
											4.60						Fracture set 1: Sub-horizontal to 15°, rough, planar and partially open. (Bedding) Fracture set 2: Sub-vertical to 70°, rough, undulating, planar, open. Localised iron staining along fractures. Non intact: 3.8m - 4.0m and 4.3m - 4.4m. Recovered as fine to coarse sub-angular to angular gravel.
											4.60						Weak to medium strong, locally strong, extremely closely to closely spaced fractured light grey thinly bedded medium grained SANDSTONE. (Weathered Bedrock)
											4.60						Fracture set 1: Sub-horizontal to 15°, rough, planar and partially open with localised iron staining. (Bedding)
Remarks: Dynamic sampled to 3.0mbgl, rotary cored to 15.1mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.																	
Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone) W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation																	
AGS																	

		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT6 Sheet 2 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 282858.00mE 194597.00mN		Hole Type: RC	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale: 1:25	
Diameter of Boring:				Depth of Casing: 3.00m				Dates: 02/07/2021 - 02/07/2021		Logged By: RAH+APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
		4.60 - 6.10	100	51	7	>20	6.10				Fracture set 2: Less frequent, sub-vertical to 70°, rough, undulating, planar, open. More common down to 5.0mbgl. <i>Fmin = 3mm, Fmax = 110mm</i>	6
		6.10 - 7.60	100	53	21	>20					Weak to medium strong very closely spaced fractured to closely spaced fractured light grey thinly bedded medium grained SANDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal to 15°, rough, planar and partially open with localised iron staining. (Bedding) Fracture set 2: Less frequent, sub-vertical, rough, undulating, planar, open. Non intact: 6.75m - 6.8m. Recovered as fine to medium angular gravel. <i>Fmin = 5mm, Fmax = 160mm</i>	
		7.60 - 9.10	100	47	17	>20	9.10				Weak to medium strong extremely closely to closely spaced fractured light grey thinly bedded medium grained SANDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal to 15°, rough, planar and partially open with localised iron staining. (Bedding) Fracture set 2: Less frequent, sub-vertical, rough, undulating, planar, open. Non intact: 7.6m - 7.8m. Recovered as coarse angular gravel with cobbles. 7.95m - 8.05m - Gravel infilled fractures with localised black manganese staining. <i>Fmin = 5mm, Fmax = 180mm</i>	8
		9.10 - 10.60	100	65	51	>20					Weak to medium strong very closely spaced fractured to closely spaced fractured light grey thinly bedded medium grained SANDSTONE with localised coal traces (1 to 2mm thick). (Weathered Bedrock) Fracture set 1: Sub-horizontal to 15°, rough, planar and partially open with localised iron staining. (Bedding) Fracture set 2 (very limited): Sub-vertical, rough, undulating, planar, open. <i>Fmin = 2mm, Fmax = 210mm</i>	
												10

Remarks:
 Dynamic sampled to 3.0mbgl, rotary cored to 15.1mbgl, rotary open hole drilled to 30mbgl.
 Water strike not recorded.

Key:
 D - Small disturbed sample
 B - Bulk disturbed sample
 ES - Environmental soil sample
 SPT - Standard Penetration Test (split spoon)
 CPT - Standard Penetration Test (solid cone)

W - Water sample
 U - Undisturbed sample
 TCR - Total Core Recovery
 SCR - Solid Core Recovery
 RQD - Rock Quality Designation



		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT6 Sheet 3 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 282858.00mE 194597.00mN		Hole Type: RC	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25	
Diameter of Boring:				Depth of Casing: 3.00m				Dates 02/07/2021 - 02/07/2021		Logged By: RAH+APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description		
		Depth (m)	TCR	SCR	RQD	FI							
							10.60				Extremely closely spaced fractured zone: Recovered as, coarse gravel and cobbles of sandstone. Iron and manganese staining along fractures.		
		10.60 - 12.10	100	80	75	16			Medium strong to very strong closely to medium spaced fractured light grey thinly to very thinly bedded slightly weathered fine to medium grained SANDSTONE with localised coal traces (1mm - 2mm thick). (Weathered Bedrock)		11		
									Fractures are sub-horizontal, open, rough and planar. (Bedding)				
									Non intact: 12.47m - 12.55m. Recovered as fine to coarse angular gravel with frequent traces of coal.				
		12.10 - 13.60	100	88	71	12				12.68m - 12.82m - Abundant rusty brown iron staining. <i>Fmin = 5mm, Fmax = 310mm</i>		12	
										<i>Fmin = 40mm, Fmax = 300mm</i>			
		13.60 - 15.10	100	3	0	>20	13.60				Medium strong to strong extremely closely to closely spaced fractured light grey, locally orange brown, thinly bedded medium grained SANDSTONE. Frequent iron staining. (Weathered Bedrock)		14
										Fracture set 1: Sub-horizontal, rough, planar and open with localised iron staining. (Bedding)			
										Fracture set 2: Vertical to sub-vertical, rough, undulating, planar, open. Iron stained and with evidence of water movement (scallop edge). <i>Fmin = 5mm, Fmax = 0.040mm</i>			
										Vertical fracture extends (largely continuously) through core from 14.0m - 15.1m. Evidence of water movement - scalloped weathering along fracture surfaces.		15	

Remarks: Dynamic sampled to 3.0mbgl, rotary cored to 15.1mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT6 Sheet 4 of 6		
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 282858.00mE 194597.00mN		Hole Type: RC		
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25		
Diameter of Boring:				Depth of Casing: 3.00m				Dates 02/07/2021 - 02/07/2021		Logged By: RAH+APEX		
Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
							15.10				SANDSTONE. (Driller's Description	
												16
												17
												18
												19
												20

Remarks:
 Dynamic sampled to 3.0mbgl, rotary cored to 15.1mbgl, rotary open hole drilled to 30mbgl.
 Water strike not recorded.

Key:
 D - Small disturbed sample
 B - Bulk disturbed sample
 ES - Environmental soil sample
 SPT - Standard Penetration Test (split spoon)
 CPT - Standard Penetration Test (solid cone)

W - Water sample
 U - Undisturbed sample
 TCR - Total Core Recovery
 SCR - Solid Core Recovery
 RQD - Rock Quality Designation





		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT8 Sheet 2 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 284016.00mE 194027.00mN		Hole Type: RC	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25	
Diameter of Boring:				Depth of Casing: 1.50m				Dates 24/06/2021 - 24/06/2021		Logged By: RAH+APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
		4.50 - 6.00	100	9	9	>20	6.00				Fracture set 2: Highly irregular. Sub-vertical to 70°, rough, open, undulating and frequently broken to gravel along fractures. Non intact: 4.73m - 4.79m and 4.8m - 4.95m. Recovered as fine to coarse angular gravel. <i>Fmin = 2mm, Fmax = 130mm</i>	6
		6.00 - 7.50	100	35	25	>20					Very weak to medium strong extremely closely to closely spaced fractured brown and grey very thinly to thinly bedded moderately weathered fine to medium grained SANDSTONE. (Weathered Bedrock) Occasional coal traces below 6.5m (1mm - 2mm thick). Fracture set 1: Sub-horizontal to 10°, rough, open and planar. Frequently broken to gravel. (Bedding) Fracture set 2: Highly irregular. Sub-vertical to 70°, rough, open, undulating and frequently broken to gravel along fractures. Non intact: 6.43m - 6.48m, 6.55m - 6.6m, 6.76m - 6.79m and 7.2m - 7.27m. Recovered as fine to medium angular gravel. <i>Fmin = 2mm, Fmax = 160mm</i>	
		7.50 - 9.00	100	63	50	>20	7.50			Very weak to medium strong extremely closely to medium spaced fractured brown and grey thinly to medium bedded moderately weathered fine to medium grained SANDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal to 10°, rough, open and planar. (Bedding) Frequently broken to gravel. Fracture set 2: Highly irregular. Sub-vertical to 70°, rough, open, undulating and frequently broken to gravel along fractures. Non intact: 7.78m - 7.88m and 8.3m - 8.33m. Recovered as fine to coarse gravel. <i>Fmin = 2mm, Fmax = 200mm</i>	8	
		9.00 - 10.50	73	1	22	6	9.00			Medium strong to strong closely spaced fractured grey and brown medium bedded slightly weathered medium to coarse grained SANDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal, smooth and planar. (Bedding) Non intact: 9.4m - 9.7m. Recovered as coarse angular gravel of brown sandstone.		9
								9.70			Bright black COAL. Recovered as extremely weak fine to medium platy gravel. (Weathered Bedrock)	
						10.00						

Remarks: Dynamic sampled to 1.5mbgl, rotary cored to 15.0mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT8 Sheet 4 of 6					
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 284016.00mE 194027.00mN		Hole Type: RC					
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25					
Diameter of Boring:				Depth of Casing: 1.50m				Dates 24/06/2021 - 24/06/2021		Logged By: RAH+APEX					
Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description				
		Depth (m)	TCR	SCR	RQD	FI									
											MUDSTONE. (Driller's Description)				
									19.50						16
															17
												18			
												19			
												20			
							20.00								
Remarks: Dynamic sampled to 1.5mbgl, rotary cored to 15.0mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.								Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation			

		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT8 Sheet 5 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 284016.00mE 194027.00mN		Hole Type: RC	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25	
Diameter of Boring:				Depth of Casing: 1.50m				Dates 24/06/2021 - 24/06/2021		Logged By: RAH+APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
							21.00				VOID. (Driller's Description)	
											Very Soft Drill. No recovery. (Driller's Description)	21
												22
							23.00				Normal drill. No recovery. (Driller's Description)	23
											[Sandstone/Mudstone]	24
												25

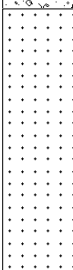
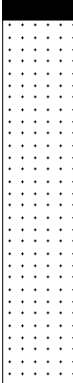
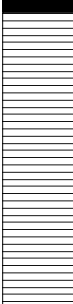
Remarks: Dynamic sampled to 1.5mbgl, rotary cored to 15.0mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Integral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT8-A Sheet 1 of 1	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 284023.00mE 194033.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:200	
Diameter of Boring: 115mm				Depth of Casing: 1.50m				Dates 25/06/2021 - 25/06/2021		Logged By: APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description											
		Depth (m)	TCR	SCR	RQD	FI																
											BOULDER CLAY. (Driller's Description)	1										
											SANDSTONE. (Driller's Description)	2										
												3										
												4										
												5										
												6										
												7										
												8										
												9										
												10										
											11.00		COAL. (Driller's Description)	11								
											11.60		MUDSTONE with SANDSTONE bands. (Driller's Description)	12								
												13										
												14										
												15										
												16										
												17										
												18										
												19										
												20										
											21.00		VOID. (Driller's Description)	21								
											22.50		BROKEN GROUND - BACKFILLED WORKINGS. (Driller's Description)	23								
											23.50		Normal drill. No recovery. (Driller's Description)	24								
												25										
												26										
												27										
												28										
												29										
											30.00		End of Borehole at 30.00 m									
												31										
	32																					
	33																					
	34																					
	35																					
	36																					
	37																					
	38																					
	39																					
	40																					

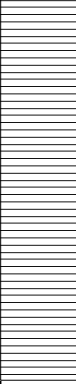
Remarks: Rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Integral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT8-B Sheet 1 of 1	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 284025.00mE 194023.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:200	
Diameter of Boring: 115mm				Depth of Casing: 1.50m				Dates 25/06/2021 - 25/06/2021		Logged By: APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description		
		Depth (m)	TCR	SCR	RQD	FI							
							1.00				BOULDER CLAY. (Driller's Description)	1	
												SANDSTONE. (Driller's Description)	2
												3	
												4	
												5	
												6	
												7	
												8	
							8.40					COAL with MUDSTONE. (Driller's Description)	9
							9.60						SANDSTONE. (Driller's Description)
											11		
											12		
											13		
											14		
											15		
											16		
											17		
											18		
											19		
							19.50					COAL. (Driller's Description)	20
							20.00						MUDSTONE. (Driller's Description)
							21.40						COAL. (Driller's Description)
							22.20						MUDSTONE with SANDSTONE bands. (Driller's Description)
											24		
											25		
											26		
											27		
											28		
											29		
											30		
30.00	End of Borehole at 30.00 m										30		
	31												
	32												
	33												
	34												
	35												
	36												
	37												
	38												
	39												
	40												

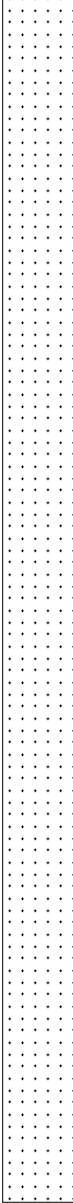
Remarks: Rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT8-C Sheet 1 of 1	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 284019.00mE 194017.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:200	
Diameter of Boring: 115mm				Depth of Casing: 1.50m				Dates 25/06/2021 - 25/06/2021		Logged By: APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
							1.20				BOULDER CLAY. (Driller's Description)	1
										SANDSTONE - Broken. (Driller's Description)	2	
							3					
							4					
							5					
							6					
							6.50				COAL with MUDSTONE. (Driller's Description)	7
							7.50				MUDSTONE. (Driller's Description)	8
							9					
							10					
							11					
							12					
							13					
							14					
							15					
							16					
							16.70				COAL. (Driller's Description)	17
							17.70				MUDSTONE. (Driller's Description)	18
							19.00				COAL. (Driller's Description)	19
							19.40				MUDSTONE with SANDSTONE bands. (Driller's Description)	20
21												
22												
23												
24												
25												
26												
27												
28												
29												
30.00	End of Borehole at 30.00 m										30	
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												

Remarks: Rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT8-D Sheet 1 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 284016.00mE 194017.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25	
Diameter of Boring: 115mm				Depth of Casing: 1.50m				Dates 28/06/2021 - 28/06/2021		Logged By: APEX+RAH	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
							1.00				BOULDER CLAY. (Driller's Description)	
										SANDSTONE/MUDSTONE. (Driller's Description)	1	
											2	
											3	
											4	
											5	

Remarks:
 Rotary open hole drilled to 9.0mbgl, rotary cored to 15.0mbgl, rotary hole hole drilled to 30mbgl.
 Water strike not recorded.

Key:
 D - Small disturbed sample
 B - Bulk disturbed sample
 ES - Environmental soil sample
 SPT - Standard Penetration Test (split spoon)
 CPT - Standard Penetration Test (solid cone)

W - Water sample
 U - Undisturbed sample
 TCR - Total Core Recovery
 SCR - Solid Core Recovery
 RQD - Rock Quality Designation







		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT8-D Sheet 4 of 6		
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 284016.00mE 194017.00mN		Hole Type: RO		
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25		
Diameter of Boring: 115mm				Depth of Casing: 1.50m				Dates 28/06/2021 - 28/06/2021		Logged By: APEX+RAH		
Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
							19.00				BROKEN GROUND AND VOIDS. No returns. (Driller's Description)	16
											Normal drill. No recovery. (Driller's Description)	19
												20

Remarks:
 Rotary open hole drilled to 9.0mbgl, rotary cored to 15.0mbgl, rotary hole hole drilled to 30mbgl.
 Water strike not recorded.

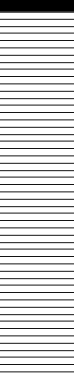
Key:
 D - Small disturbed sample
 B - Bulk disturbed sample
 ES - Environmental soil sample
 SPT - Standard Penetration Test (split spoon)
 CPT - Standard Penetration Test (solid cone)

W - Water sample
 U - Undisturbed sample
 TCR - Total Core Recovery
 SCR - Solid Core Recovery
 RQD - Rock Quality Designation



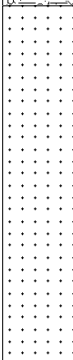
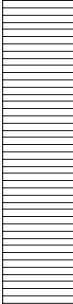
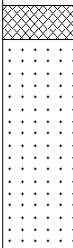
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		Integral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT8-E Sheet 1 of 1	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 284006.00mE 194027.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:200	
Diameter of Boring: 115mm				Depth of Casing: 1.50m				Dates 25/06/2021 - 25/06/2021		Logged By: APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description			
		Depth (m)	TCR	SCR	RQD	FI								
							1.20				BOULDER CLAY. (Driller's Description)	1		
											SANDSTONE. (Driller's Description)	2		
												3		
												4		
												5		
												6		
												7		
												8		
												9		
											10.50		COAL. (Driller's Description)	10
							11.00						MUDSTONE with SANDSTONE bands. (Driller's Description)	11
													12	
												13		
												14		
												15		
												16		
												17		
												18		
												19		
							20.90						COAL. (Driller's Description)	20
							21.60				MUDSTONE. (Driller's Description)		21	
							22.60					COAL. (Driller's Description)	22	
							23.00					SANDSTONE with MUDSTONE bands. (Driller's Description)	23	
											24			
											25			
											26			
											27			
											28			
											29			
							30.00							30
	31													
	32													
	33													
	34													
	35													
	36													
	37													
	38													
	39													
	40													

Remarks: Rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Integral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT8-F Sheet 1 of 1	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 284011.00mE 194035.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:200	
Diameter of Boring: 115mm				Depth of Casing: 1.50m				Dates 25/06/2021 - 25/06/2021		Logged By: APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description										
		Depth (m)	TCR	SCR	RQD	FI															
							1.50				BOULDER CLAY. (Driller's Description)	1									
											SANDSTONE. (Driller's Description)	2									
												3									
												4									
												5									
												6									
												7									
												8									
												9									
												10									
											11.10		COAL. (Driller's Description)	11							
							11.60				MUDSTONE with SANDSTONE bands. (Driller's Description)		12								
																					13
																					14
																					15
																					16
																					17
																					18
																					19
																					20
							20.00					SANDSTONE. (Driller's Description)	21								
							22.50						22								
							23.50					VOID. (Driller's Description)	23								
							24.40					Soft drill. No recovery. (Driller's Description)	24								
																			Normal drill. No recovery. (Driller's Description)	25	
																				26	
																				27	
																				28	
																				29	
																				30	
30.00	End of Borehole at 30.00 m										30										
	31																				
	32																				
	33																				
	34																				
	35																				
	36																				
	37																				
	38																				
	39																				
	40																				

Remarks: Rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm			Project No.: 12826		Borehole No.: BHT9 Sheet 1 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd			Coordinates: 283737.00mE 194202.00mN		Hole Type: RC	
Equipment: Klemm				Diameter of Casing: 115mm			Level:		Scale 1:25	
Diameter of Boring:				Depth of Casing: 3.00m			Dates 01/07/2021 - 01/06/2021		Logged By: RAH+APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
							0.30				Grass over, soft brown and black peaty silty CLAY with frequent roots. (Topsoil)	
							0.40				Soft to firm orange brown sandy silty CLAY. (Glacial Till)	
											(Medium dense) brown and orange brown slightly clayey slightly silty SAND and GRAVEL. Gravel comprises fine to coarse angular to sub-angular sandstone. (Glacial Till)	
							1.50					
											(Medium dense) to dense light brown to brown slightly silty sandy GRAVEL of fine to coarse angular to sub-angular and blocky sandstone. (Highly Weathered Bedrock)	
						2.30						
		2.30 - 3.80	100	24	0	>20					Extremely weak to weak extremely closely to closely spaced fractured grey brown, locally orange brown, moderately weathered fine grained SANDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal, open, planar, rough and iron stained. (Bedding) Fracture set 2: Vertical to sub-vertical, irregular, planar and rough. Non intact: 3.25m - 3.35m and 3.4m - 3.45m. Recovered as fine to medium angular gravel. 2.3m - 2.9m: Fractures are closely spaced. Fmin = 2mm, Fmax = 90mm	3
						3.80						
		3.80 - 5.30	100	29	17	>20					Very weak to medium strong extremely closely to very closely spaced fractured grey, locally orange brown, very thinly bedded slightly to moderately weathered medium grained SANDSTONE. With occasional thin coal traces (1mm - 2mm thick). (Weathered Bedrock) Fracture set 1: Sub-horizontal to 10/20°, planar, stepped, rough, open and locally gravel infilled/broken down to gravel. (Bedding) Fracture set 2: Sub-vertical to vertical, rough, undulating and open. Frequent iron staining between 4.75m and 5.0mbgl. Fmin = 5mm, Fmax = 260mm	4
												5

Remarks: Dynamic sampled to 2.3mbgl, rotary cored to 15.3mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT9 Sheet 2 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283737.00mE 194202.00mN		Hole Type: RC	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25	
Diameter of Boring:				Depth of Casing: 3.00m				Dates 01/07/2021 - 01/06/2021		Logged By: RAH+APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
							5.30					
		5.30 - 6.80	100	31	0	>20					Very weak to medium strong extremely closely to closely spaced fractured grey and brown very thinly bedded slightly to moderately weathered fine becoming coarse grained SANDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal to 10/20°, planar, stepped, rough, open and locally gravel infilled/broken down to gravel. (Bedding) Fracture set 2: Sub-vertical to 70° rough, partially open stepped fractures with iron staining. Non intact: 6.6m - 6.8m. Recovered ass coarse gravel and small cobbles of angular blocky sandstone. <i>Fmin = 5mm, Fmax = 100mm</i>	6
							6.80					
		6.80 - 8.30	100	60	45	18					Weak to medium strong extremely closely to very closely spaced fractured grey, locally orange brown, thinly bedded moderately weathered fine to medium grained SANDSTONE. Weathered Bedrock) Fracture set 1: Sub-horizontal, planar, rough, open, with ironstone remineralisation. (Bedding) Fracture set 2: Sub-vertical to 45/60°, irregular, open, rough and stepped with heavy ironstone remineralisation and localised fine to coarse gravel infill. <i>Fmin = 3mm, Fmax = 230mm</i> <i>7.18m - 7.48m - Non-intact: Recovered as fine to coarse gravel with small cobbles of blocky and angular sandstone with localised lenticular ironstone remineralisation and small 4mm - 10mm pebble beds.</i> <i>8.0m - 8.3m: Heavily ironstone remineralised with frequent pebble beds.</i>	7
							8.30					
		8.30 - 9.80	100	8	8	>20				Weak to medium strong extremely closely spaced fractured orange brown and grey thinly bedded moderately weathered fine to medium grained SANDSTONE. (Weathered Bedrock) Heavy ironstone remineralisation (re-cemented). Possible evidence of mylonites along fracture surfaces. Fractures are chaotic and variably angled. Rough, planar, stepped open and with frequent ironstone remineralisation. Localised vuggy cavities approximately 10mm - 15mm in diameter. <i>Fmin = 2mm, Fmax = 120mm</i>	9	
							9.80					
											Weak to medium strong extremely closely to closely spaced fractured orange brown and grey thinly bedded moderately weathered fine to medium grained SANDSTONE. (Weathered	10

Remarks:
 Dynamic sampled to 2.3mbgl, rotary cored to 15.3mbgl, rotary open hole drilled to 30mbgl.
 Water strike not recorded.

Key:
 D - Small disturbed sample
 B - Bulk disturbed sample
 ES - Environmental soil sample
 SPT - Standard Penetration Test (split spoon)
 CPT - Standard Penetration Test (solid cone)

W - Water sample
 U - Undisturbed sample
 TCR - Total Core Recovery
 SCR - Solid Core Recovery
 RQD - Rock Quality Designation



Intégral Géotechnique		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT9 Sheet 3 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283737.00mE 194202.00mN		Hole Type: RC	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25	
Diameter of Boring:				Depth of Casing: 3.00m				Dates 01/07/2021 - 01/06/2021		Logged By: RAH+APEX	
Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description
		Depth (m)	TCR	SCR	RQD	FI					
		9.80 - 11.30	100	11	11	>20	11.30				Bedrock) Heavy ironstone remineralisation (re-cemented). Possible evidence of mylonites along fracture surfaces. Fractures are chaotic and variably angled. Rough, planar, stepped open and with frequent ironstone remineralisation. Localised vuggy cavities approximately 10mm - 15mm in diameter. Non intact: 9.8m - 10.0m and 11.1m - 11.3m. Recovered as fine to coarse angular, blocky gravel of sandstone. <u>Fmin = 2mm, Fmax = 160mm</u>
		11.30 - 12.30	100	11	8	>20					Extremely weak to medium strong extremely closely to closely fractured grey moderately weathered fine to medium grained SANDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal, tight and irregular. (Bedding) Fracture set 2: 45° to 75°, irregular, tight and open and intersecting with evidence of secondary ironstone remineralisation. Non intact: 11.3m - 11.35m and 12.15m - 12.3m. Recovered as coarse sub-rounded to angular and blocky gravel of sandstone with small cobbles. <u>Fmin = 2mm, Fmax = 160mm</u>
		12.30 - 13.80	97	38	30	N/A	12.30				Non-intact SANDSTONE: Recovered as orange brown slightly clayey fine to coarse gravel and cobbles of angular fine grained sandstone.
						4	12.70				Medium strong to strong closely spaced fractured to medium spaced fractured grey thinly bedded to medium bedded slightly weathered fine to medium grained SANDSTONE. (Weathered Bedrock) Fractures are generally sub-horizontal to 30°, curved, rough and open. <u>Fmin = 240mm, Fmax = 450mm</u>
		13.80 - 15.30	100	17	17	>20	13.80				Medium strong to strong extremely closely to closely spaced fractured grey thinly bedded to medium bedded slightly weathered fine to medium grained SANDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal, tight, rough and stepped. Fracture set 2: Vertical to sub-vertical, rough, stepped and open. 14.35m - 14.55: Concentrated irregular fracture zone. 14.5m - 14.9m: Sub-vertical fracture extending through centre of core. <u>Fmin = 1mm, Fmax = 160mm</u>
Remarks: Dynamic sampled to 2.3mbgl, rotary cored to 15.3mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.											
Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)						W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
											

		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT9-A Sheet 1 of 1	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283744.00mE 194208.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:200	
Diameter of Boring: 115mm				Depth of Casing: 3.00m				Dates 30/06/2021 - 30/06/2021		Logged By: APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
							2.60				BOULDER CLAY. (Driller's Description)	1
												2
											SANDSTONE with MUDSTONE bands. (Driller's Description)	3
												4
												5
												6
												7
												8
												9
												10
												11
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											37	
											38	
											39	
											40	

Remarks: Rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT9-B Sheet 1 of 1	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283743.00mE 194194.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:200	
Diameter of Boring: 115mm				Depth of Casing: 1.50m				Dates 30/06/2021 - 01/07/2021		Logged By: APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
							1.80				BOULDER CLAY. (Driller's Description)	1
												SANDSTONE with MUDSTONE bands. (Driller's Description)
												3
												4
												5
												6
												7
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												9
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												11
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												22
												23
												24
												25
												26
												27
												28
												29
							30.00				End of Borehole at 30.00 m	30
												31
												32
												33
												34
												35
												36
												37
												38
												39
												40

Remarks: Rotary open hole drilled to 30mbgl. Water strike not recorded.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT9-C Sheet 1 of 1	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283729.00mE 194195.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:200	
Diameter of Boring: 115mm				Depth of Casing: 1.50m				Dates 30/06/2021 - 30/06/2021		Logged By: APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
							2.20				BOULDER CLAY. (Driller's Description)	1
											SANDSTONE with MUDSTONE bands. (Driller's Description)	2
												3
												4
												5
												6
												7
												8
												9
												10
												11
												12
												13
												14
												15
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											36	
											37	
											38	
											39	
											40	

Remarks: Rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT9-D Sheet 1 of 1	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283770.00mE 194209.00mN		Hole Type: RO	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:200	
Diameter of Boring: 115mm				Depth of Casing: 1.50m				Dates 30/06/2012 - 30/06/2021		Logged By: APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description												
		Depth (m)	TCR	SCR	RQD	FI																	
							1.50				BOULDER CLAY. (Driller's Description)	1											
												SANDSTONE. (Driller's Description)	2										
													3										
																						4	
																						5	
																						6	
																						7	
																						8	
																						9	
																						10	
																						11	
																						12	
																						13	
																		13.80				COAL. (Driller's Description)	14
																	14.10			SANDSTONE with MUDSTONE bands. (Driller's Description)		15	
																						16	
																						17	
																						18	
																						19	
																						20	
																						21	
																						22	
																						23	
																						24	
																						25	
																						26	
																						27	
																						28	
																						29	
																		30.00				30	
										End of Borehole at 30.00 m													
											31												
											32												
											33												
											34												
											35												
											36												
											37												
											38												
											39												
											40												

Remarks: Rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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Intégral Géotechnique Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT10 Sheet 1 of 6							
Location: Maesteg		Client: Pennant Walters (FOELT) Ltd				Coordinates: 283709.00mE 194446.00mN		Hole Type: RC							
Equipment: Klemm		Diameter of Casing: 115mm				Level:		Scale 1:25							
Diameter of Boring:		Depth of Casing: 4.50m				Dates 29/06/2021 - 30/06/2021		Logged By: RAH+APEX							
Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description				
		Depth (m)	TCR	SCR	RQD	FI									
							0.20				Grass over, soft dark brown to black sandy peaty silty CLAY with frequent roots. (Topsoil)				
							0.60				(Medium dense) brown and orange brown clayey/silty very sandy GRAVEL of fine to coarse sub-rounded to angular sandstone with occasional cobbles. (Glacial Till) With localised bands of very stiff sandy to very sandy clay.		1		
	3.00						3.00				(Medium dense) orange brown, brown and dark brown silty/clayey SAND and GRAVEL with occasional cobbles. Gravel and cobbles comprise fine to coarse sub-rounded to sub-angular sandstone. (Glacial Till) <i>Water strike around 3.0mbgl. (Seen as water in liner)</i>		3		
							4.20				(Dense) mottled brown and black sandy GRAVEL of fine to coarse sub-angular sandstone. With frequent black manganese staining and orange brown iron staining. (Highly Weathered to Moderately Weathered Bedrock)		4		
							4.50				Weak to medium strong extremely closely spaced to very closely spaced fractured brown and grey fine grained SANDSTONE. (Weathered Bedrock) Fractures are generally irregular, rough, open, stepped and undulating.		5		
Remarks: Dynamic sampled to 4.5mbgl, rotary cored to 21.0mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.										Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone) W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					



Intégral Géotechnique Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT10 Sheet 2 of 6						
Location: Maesteg		Client: Pennant Walters (FOELT) Ltd				Coordinates: 283709.00mE 194446.00mN		Hole Type: RC						
Equipment: Klemm		Diameter of Casing: 115mm				Level:		Scale 1:25						
Diameter of Boring:		Depth of Casing: 4.50m				Dates 29/06/2021 - 30/06/2021		Logged By: RAH+APEX						
Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description			
		Depth (m)	TCR	SCR	RQD	FI								
		4.50 - 6.00	73	3	0	>20	6.30				No discernable bedding. Non intact: 5.4m - 6.0m and 6.0m - 6.3m. Recovered as brown clayey sandy fine to medium sub-rounded to angular gravel. <i>Fmin = 1mm, Fmax = 15mm</i>	6		
											<i>Fmin = 2mm, Fmax = 150mm</i>			
		6.00 - 7.50	100	67	33	>20	6.60				Soft to firm, becoming stiff, dark grey, becoming grey brown, silty CLAY with frequent fine to medium sub-angular to angular mudstone lithorelicts. (Weathered Bedrock) ...Grading into extremely weak mudstone. Extremely weak closely fractured grey mottled brown friable MUDSTONE. (Weathered Bedrock)	7		
						6.75				Weak to medium strong extremely closely to very closely spaced fractured brown and grey thinly bedded fine grained SANDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal to 10/20°, rough, tight and planar. (Bedding) Fracture set 2: 45° to 60°, open, rough, stepped and generally irregular. Localised iron staining along fracture surfaces.				
						7.50				Weak to medium strong extremely closely to closely spaced fractured brown and grey thinly bedded fine grained SANDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal to 10/20°, rough, tight and planar. (Bedding) Fracture set 2: 45° to sub-vertical, open, rough, stepped with frequent fine gravel along fracture planes. 8.0m - 8.5m: Localised up to fine gravel sized fragments of coal. Non intact: 7.5m - 7.6m. Recovered as brown clayey sandy fine to medium sub-rounded to angular gravel. 8.25m - 8.4m. Extremely closely fractured zone, recovered as fine to coarse angular gravel. <i>Fmin = 1mm, Fmax = 100mm</i>				
						9.00								
		7.50 - 9.00	100	27	7	>20								
		9.00 - 10.50	100	31	0	>20					Extremely weak to very weak extremely closely to closely spaced fractured dark grey MUDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal, tight, planar and rough. (Bedding) Fracture set 2: 45° to sub-vertical, tight and open, rough, stepped and undulating. Frequent iron staining along fractures. Non intact: 10.3 - 10.5m. Recovered as fine to coarse angular to sub-angular gravel. <i>Fmin = 1mm, Fmax = 50mm</i>	9		
Remarks: Dynamic sampled to 4.5mbgl, rotary cored to 21.0mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.												Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone) W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		

		Integral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm			Project No.: 12826		Borehole No.: BHT10 Sheet 3 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd			Coordinates: 283709.00mE 194446.00mN		Hole Type: RC	
Equipment: Klemm				Diameter of Casing: 115mm			Level:		Scale 1:25	
Diameter of Boring:				Depth of Casing: 4.50m			Dates 29/06/2021 - 30/06/2021		Logged By: RAH+APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
							10.50					
		10.50 - 12.00	100	29	15	>20					Extremely weak to very weak closely spaced fractured dark grey MUDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal, tight, planar and rough. (Bedding) Fracture set 2: 45° to sub-vertical, tight and open, rough, stepped and undulating. Occasional gravel infill along fracture planes. Frequent iron staining along fractures. Non intact: 10.55m - 10.7m and 10.9m - 11.1m. Recovered as fine to coarse angular to sub-angular gravel with some clay matrix. <u>10.5m - 10.55m: Subordinate SANDSTONE bed.</u> <u>Fmin = 1mm, Fmax = 130mm</u> <u>10.7m - 10.9m: Subordinate SANDSTONE bed.</u>	11
		12.00 - 13.50	100	0	0	>20					Non-intact SANDSTONE: Weak light grey extremely closely to very closely spaced fractured light grey to grey fine to medium grained SANDSTONE. Recovered as sub-angular blocky gravel with cobbles. (Weathered Bedrock) Discontinuities are chaotic at variable angles, open, rough, stepped and undulating. 12.65m - 12.9m is intact sandstone core. <u>Fmin = 1mm, Fmax = 60mm</u>	12
		13.50 - 15.00	100	0	0	>20					<u>Fmin = 1mm, Fmax = 50mm</u>	13
							15.00					14
												15

Remarks: Dynamic sampled to 4.5mbgl, rotary cored to 21.0mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT10 Sheet 4 of 6		
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283709.00mE 194446.00mN		Hole Type: RC		
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25		
Diameter of Boring:				Depth of Casing: 4.50m				Dates 29/06/2021 - 30/06/2021		Logged By: RAH+APEX		
Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
											SANDSTONE with MUDSTONE bands. (Driller's Description)	
												16
												17
												18
												19
												20

Remarks:
 Dynamic sampled to 4.5mbgl, rotary cored to 21.0mbgl, rotary open hole drilled to 30mbgl.
 Water strike not recorded.

Key:
 D - Small disturbed sample
 B - Bulk disturbed sample
 ES - Environmental soil sample
 SPT - Standard Penetration Test (split spoon)
 CPT - Standard Penetration Test (solid cone)

W - Water sample
 U - Undisturbed sample
 TCR - Total Core Recovery
 SCR - Solid Core Recovery
 RQD - Rock Quality Designation





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Location: Maesteg				Client: Pennant Walters (FOELT) Ltd			Coordinates: 283503.00mE 194707.00mN		Hole Type: RC	
Equipment: Klemm				Diameter of Casing: 115mm			Level:		Scale 1:25	
Diameter of Boring:				Depth of Casing: 1.50m			Dates 28/06/2021 - 29/06/2021		Logged By: RAH+APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
							0.15				Grass over, dark brown to black slightly sandy peaty silty CLAY with frequent roots. (Topsoil)	
							0.50				Firm orange brown gravelly very sandy silty CLAY. Gravel comprises fine to coarse sub-angular sandstone. (Glacial Till)	
											(Medium dense) brown slightly silty to silty SAND and GRAVEL with occasional cobbles. Gravel and cobble comprises fine to coarse sub-rounded to angular sandstone. (Glacial Till)	
											[Poor recovery - 0.8m of 1.5m]	1
		1.50 - 3.00	50	0	0	N/A	1.50				Non-intact SANDSTONE: Recovered as dark brown slightly sandy fine to coarse sub-angular to angular GRAVEL of sandstone. (Highly Weathered Bedrock)	2
							3.00				Weak to medium strong extremely closely to closely spaced fractured grey, weathered to orange brown, moderately weathered fine grained SANDSTONE with occasional coal traces (1mm - 2mm thick). (Weathered Bedrock)	
		3.00 - 4.50	100	32	15	>20					Fracture set 1: Sub-horizontal to 10/20°, rough, planar, tight and open. Locally gravel infilled. (Bedding) Fracture set 2: Sub-vertical to 45°, irregular, tight and open, undulating and locally gravel infilled. Non intact: 3.0m - 3.1m, 3.5m - 3.57m and 3.7m - 3.75m. Recovered as fine to coarse gravel of angular sandstone. <i>Fmin = 1mm, Fmax = 120mm</i> <i>3.2m - 3.4m: Lenticular lens of coal, fractured along coal.</i>	3
							4.50				Medium strong to strong very closely to closely spaced fractured grey slightly weathered medium to coarse grained SANDSTONE. (Weathered Bedrock)	
											Fracture set 1: Sub-horizontal to 10/20°, rough, planar and open. Frequent iron and manganese staining. (Bedding) Fracture set 2: Less frequent, irregular, sub-vertical and	4
												5

Remarks: Dynamic sampled to 1.5mbgl, rotary cored to 15.0mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.		Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)		W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation		
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		Intégral House, 7 Beddau Way Castlegate Business Park Caerphilly CF83 2AX Tel. 029 20807991 Fax. 029 20862176 mail@integralgeotec.com		Project Name: Foel Trawsnant Windfarm				Project No.: 12826		Borehole No.: BHT11 Sheet 2 of 6	
Location: Maesteg				Client: Pennant Walters (FOELT) Ltd				Coordinates: 283503.00mE 194707.00mN		Hole Type: RC	
Equipment: Klemm				Diameter of Casing: 115mm				Level:		Scale 1:25	
Diameter of Boring:				Depth of Casing: 1.50m				Dates 28/06/2021 - 29/06/2021		Logged By: RAH+APEX	

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description	
		Depth (m)	TCR	SCR	RQD	FI						
		4.50 - 6.00	100	53	39	13	6.00				frequently iron stained. Non intact: 4.5m - 4.58m. Recovered as medium to coarse angular gravel. <i>Fmin = 10mm, Fmax = 260mm</i>	6
		6.00 - 7.50	100	35	7	>20					Very weak to medium strong extremely closely fractured to closely spaced fractured grey and orange brown moderately weathered fine to medium grained SANDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal to 10/20°, rough, planar and open. Frequent iron and manganese staining. (Bedding) Fracture set 2: Less frequent, irregular, sub-vertical and frequently iron stained. Non intact: 8.8m - 9.0m. Recovered as coarse angular gravel and cobbles. <i>Fmin = 10mm, Fmax = 110mm</i>	
		7.50 - 9.00	100	63	43	>20	9.00				<i>Fmin = 25mm, Fmax = 190mm</i>	8
		9.00 - 10.50	100	35	19	16					Very weak to medium strong extremely closely to closely spaced fractured orange brown and grey thinly bedded moderately weathered fine to medium grained SANDSTONE. (Weathered Bedrock) Fracture set 1: Sub-horizontal to 10/20°, rough, planar and open. Frequent iron and manganese staining. (Bedding) Fracture set 2: Less frequent, irregular, sub-vertical and frequently iron stained. Non intact: 9.3m - 9.65m. Recovered as black to dark brown fine to coarse angular to sub-angular and blocky sandstone and coal. 9.8m - 9.98m. Recovered as orange brown fine to coarse sub-angular gravel and cobbles of sandstone.	
												10

Remarks: Dynamic sampled to 1.5mbgl, rotary cored to 15.0mbgl, rotary open hole drilled to 30mbgl. Water strike not recorded.				Key: D - Small disturbed sample B - Bulk disturbed sample ES - Environmental soil sample SPT - Standard Penetration Test (split spoon) CPT - Standard Penetration Test (solid cone)				W - Water sample U - Undisturbed sample TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation					
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Location:

Maesteg

Client: Pennant Walters (FOELT) Ltd

Coordinates:
283503.00mE
194707.00mN

Hole Type:
RC

Equipment: Klemm

Diameter of Casing: 115mm

Level:

Scale
1:25

Diameter of Boring:

Depth of Casing: 1.50m

Dates
28/06/2021 - 29/06/2021

Logged By:
RAH+APEX

Well	Water Strikes	Rotary Coring					Depth (m)	Level (m AOD)	N Value	Legend	Stratum Description
		Depth (m)	TCR	SCR	RQD	FI					
							10.50				<i>Fmin = 2mm, Fmax = 0.160mm</i>
		10.50 - 12.00	100	47	34	18	12.00				Very weak to medium strong extremely closely to closely spaced fractured grey thinly bedded to medium spaced bedded medium to coarse grained SANDSTONE. With locally abundant coal traces (1mm - 2mm thick) and occasional coarse gravel sized lenses. (Weathered Bedrock) Fracture set 1: Sub-horizontal to 20°, rough, planar and open. (Bedding) Fracture set 2: Less frequent, sub-vertical to 45°, rough, planar and open. 11.0m - 11.4m: Long 70° fracture extends through core. <i>Fmin = 5mm, Fmax = 180mm</i>
		12.00 - 13.50	100	83	71	11	12.42				Weak closely spaced fractured grey very thinly bedded fine grained SANDSTONE with relict thinly laminated cross bedding. Fractures are sub-horizontal to 10/20°,open, rough and planar. (Bedding) <i>Fmin = 30mm, Fmax = 350mm</i>
		13.50 - 15.00	100	82	58	13					<i>Fmin = 30mm, Fmax = 350mm</i>
							15.00				

Remarks:

Dynamic sampled to 1.5mbgl, rotary cored to 15.0mbgl, rotary open hole drilled to 30mbgl.
Water strike not recorded.

Key:

D - Small disturbed sample
B - Bulk disturbed sample
ES - Environmental soil sample
SPT - Standard Penetration Test (split spoon)
CPT - Standard Penetration Test (solid cone)

W - Water sample
U - Undisturbed sample
TCR - Total Core Recovery
SCR - Solid Core Recovery
RQD - Rock Quality Designation





APPENDIX G

ROTARY CORE PHOTOGRAPHS



Rotary Core Photographs: BHT1

12826: Foel Trawsnant Windfarm

Intégral
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Castlegate Business Park
Caerphilly
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Tel: 029 2080 7991



Rotary Core Photographs: BHT1

12826: Foel Trawsnant Windfarm

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Rotary Core Photographs: BHT1

12826: Foel Trawsnant Windfarm

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Rotary Core Photographs: BHT1

12826: Foel Trawsnant Windfarm

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Rotary Core Photographs: BHT202

12826: Foel Trawsnant Windfarm

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Rotary Core Photographs: BHT2

12826: Foel Trawsnant Windfarm

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Rotary Core Photographs: BHT2

12826: Foel Trawsnant Windfarm

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Rotary Core Photographs: BHT2

12826: Foel Trawsnant Windfarm

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Rotary Core Photographs: BHT5

12826: Foel Trawsnant Windfarm



Rotary Core Photographs: BHT5

12826: Foel Trawsnant Windfarm

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Rotary Core Photographs: BHT5

12826: Foel Trawsnant Windfarm

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Rotary Core Photographs: BHT6

12826: Foel Trawsnant Windfarm

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Rotary Core Photographs: BHT6

12826: Foel Trawsnant Windfarm

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Rotary Core Photographs: BHT6

12826: Foel Trawsnant Windfarm

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Rotary Core Photographs: BHT8

12826: Foel Trawsnant Windfarm

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Rotary Core Photographs: BHT8

12826: Foel Trawsnant Windfarm

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