

Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Borehole No.

BH06

Dates : 24/11/21 - 26/11/21

Job Number : Q0652

Ground Level : 263.08 m A.O.D.
Level to Ordnance Datum

Location :

Engineer : ARUP

Coordinates: 281804.05E
210415.34 N
Co-ordinates to National Grid



Plas Newydd
Swansea
Tel: 01554744880
email: enquiries@quantumgeotechnic.co.uk

Operator:
QGL

Logged By:
P Darby

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All measurements in
metres unless
otherwise stated



Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Dates : 29/11/21 - 30/11/21

Location :

Job Number : Q0652

Engineer : ARUP

Ground Level : 271.28 m A.O.D.
Level to Ordnance Datum

Coordinates: 281544.88 E
210721.08 N
Co-ordinates to National Grid

Orientation & Inclination:

Orientation: N/A

Inclination: N/A

Borehole No. BH07

0 m B.G.L.

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Run Details				Fracture Details				Samples		Insitu Tests		Strata				Discontinuities						Water	Install/ Backfill
Core Run	TCR %	SCR %	RQD %	Min	Avg	Max	FI	Depth	Type No. Blows	Depth	Test Results	Depth (Thick-ness)	Description	Legend	Red. Level A.O.D.	Depth (Thick-ness)	Dip	Direction	Fracture Set	Discontinuity Description			
4.20 - 5.70	47	26	0	20	50	50	13	4.40	C1	1.2	SPT (S) 6 (2-1-2-1-1-2)	(0.30)	MADE GROUND - Grey clayey GRAVEL. Gravel is fine to coarse angular mudstone.		270.98								
												0.30	Soft grey and light brown slightly gravelly CLAY. Gravel is fine to coarse sub-rounded to angular mudstone. (Description from SPT sample).										
												(1.70)											
												2.00	Clay and Sandstone Boulders (Drillers Description). Arisings are grey gravelly Clay. Gravel is fine to medium angular mudstone										
5.70 - 7.20	44	22	7				NI	5.90	C2	2.7	SPT (S) 45/97mm (3-22-6-39/22mm--)	(2.20)			267.08	4.20				Sub-horizontal to 10 degree discontinuity set (bedding) extremely close to closely spaced, rough planar, partly open to open, locally with brown silt coating and highly weathered to fine to medium angular gravel up to 20mm penetration.			
				20	59	110	6					(1.50)									1.50		
7.20 - 8.70	95	90	37	30	84	130	16	7.40	C3	4.2	SPT (S) 50/73mm (25/31mm-100/42mm----	5.70	Medium strong dark grey MUDSTONE with one discontinuity set (SOUTH WALES COAL MEASURES) Between 5.7 and 5.95mbgl highly to completely weathered to fine to coarse angular Gravel		265.58	5.70				Sub-horizontal to 10 degree discontinuity set (bedding) extremely close to closely spaced, smooth to rough planar, partly open, generally clean / fresh locally with yellowish brown clay surface coating..			
8.70 - 10.20	100	85	10	50	79	150	18	8.90	C4											Between 7.35 and 8.2mbgl sub-vertical to 80 degree discontinuity smooth planar, partly open, with yellowish brown clay surface coating.			
10.20 - 11.70	97	79	47	40	91	120	15						 between 10.2 and 10.6mbgl thinly to thickly laminated with strong light grey Sandstone laminae.			9.40				Between 8.8 and 8.95mbgl sub-vertical discontinuity smooth undulating to stepped, tight, clean / fresh. possibly drilling induced. Between 9.23 and 9.95mbgl sub-vertical to 80 degree discontinuity smooth planar, partly open, locally with orange surface staining and yellowish brown clay surface coating. At 9.4mbgl sub-horizontal discontinuity highly weathered to coarse angular gravel upto 50mm penetration. Between 9.75 and 10.1mbgl sub-vertical to 80 degree discontinuity smooth planr, tightto partly open, clean / fresh.			

Hole Progress / Water Obs				Casing		Groundwater				Flush				Remarks: BH set out by QGL in liaison with ARUP. Services checked, area CAT scanned and hand dug pit to 1.20mbgl undertaken. ODEX GL-4.2mbgl, Rotary coring 4.2-16.2mbgl, Rotary 'open hole' 16.2-35.0mbgl
Date / Time	H. Depth	C. Depth	Water	Depth	Diam.	Struck	Rose To	Behaviour	Sealed	Depth	Type	Returns	Colour	
				7.20	115.00									

Plas Newydd
Swansea
Tel: 01554744880
email: enquiries@quantumgeotechnic.co.uk

Operator:
QGL

Logged By:
P Darby

Logged Date:

Equipment Used:
Rig: Commachio 600.

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All measurements in metres unless otherwise stated

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Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Dates : 29/11/21 - 30/11/21

Location :

Job Number : Q0652

Engineer : ARUP

Ground Level : 271.28 m A.O.D.
Level to Ordnance Datum

Coordinates: 281544.88 E
210721.08 N
Co-ordinates to National Grid

Orientation & Inclination:
Orientation: N/A
Inclination: N/A

Borehole No.
BH07

22m B.G.L.

22

23

24

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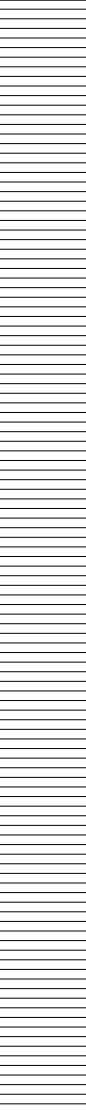
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Run Details				Fracture Details				Samples		Insitu Tests		Strata				Discontinuities							
Core Run	TCR %	SCR %	RQD %	Min	Avg	Max	FI	Depth	Type No. Blows	Depth	Test Results	Depth (Thick-ness)	Description	Legend	Red. Level A.O.D.	Depth (Thick-ness)	Dip	Direction	Fracture Set	Discontinuity Description	Water	Install/ Backfill	
												22.00	Coal (Drillers Description)		249.28								
												(1.50)											
												23.50	Mudstone with Sandstone bands (Drillers Description)		247.78								
												(11.50)											

Hole Progress / Water Obs

Casing

Groundwater

Flush

Date / Time	H. Depth	C. Depth	Water	Depth	Diam.	Struck	Rose To	Behaviour	Sealed	Depth	Type	Returns	Colour
						28.00	21.00	Fast groundwater inflow					

Remarks: BH set out by QGL in liaison with ARUP. Services checked, area CAT scanned and hand dug pit to 1.20mbgl undertaken. ODEX GL-4.2mbgl, Rotary coring 4.2-16.2mbgl, Rotary 'open hole' 16.2-35.0mbgl



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Rig: Commachio 600.

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All measurements in metres unless otherwise stated



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Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Borehole No.

BH07

Dates : 29/11/21 - 30/11/21

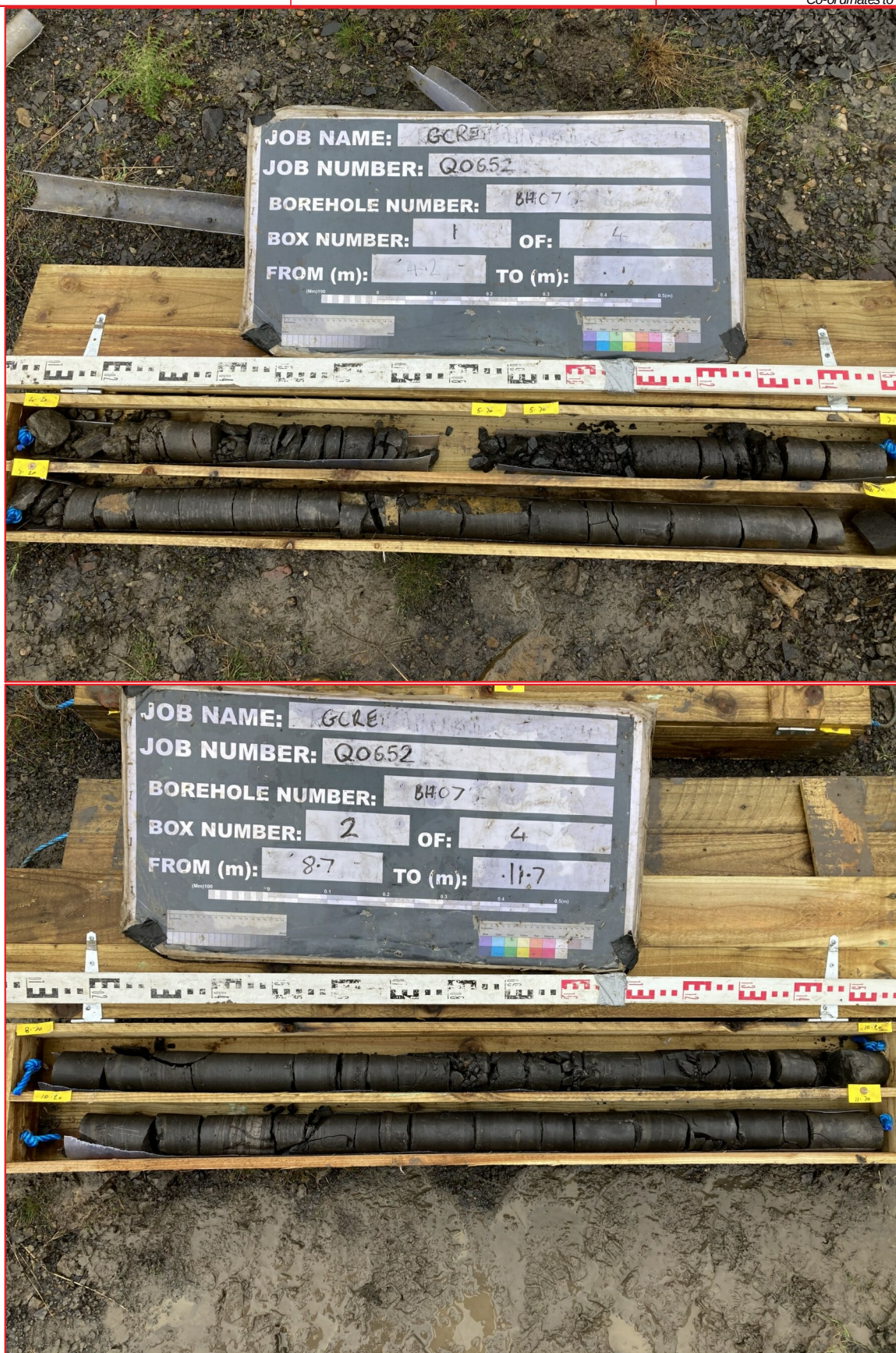
Job Number : Q0652

Ground Level : 271.28 m A.O.D.
Level to Ordnance Datum

Location :

Engineer : ARUP

Coordinates: 281544.88E
210721.08 N
Co-ordinates to National Grid



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Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Borehole No.

BH07

Dates : 29/11/21 - 30/11/21

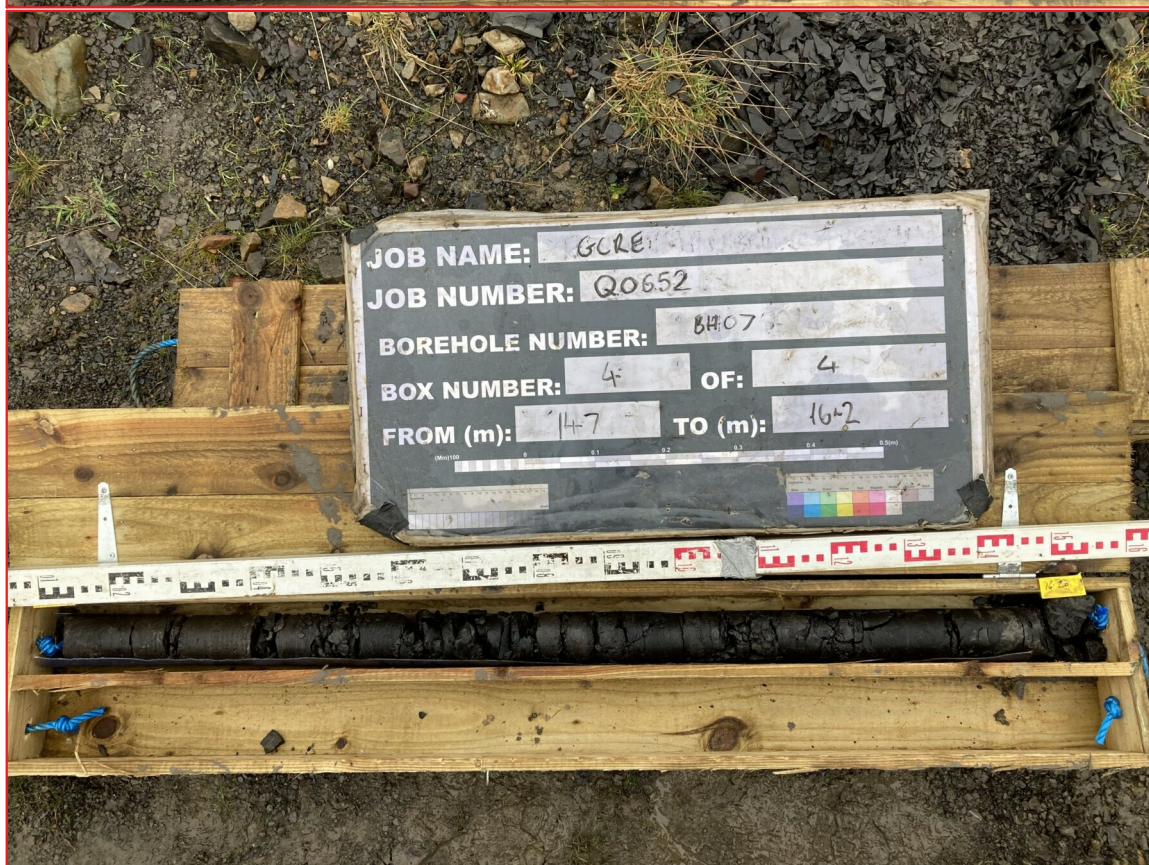
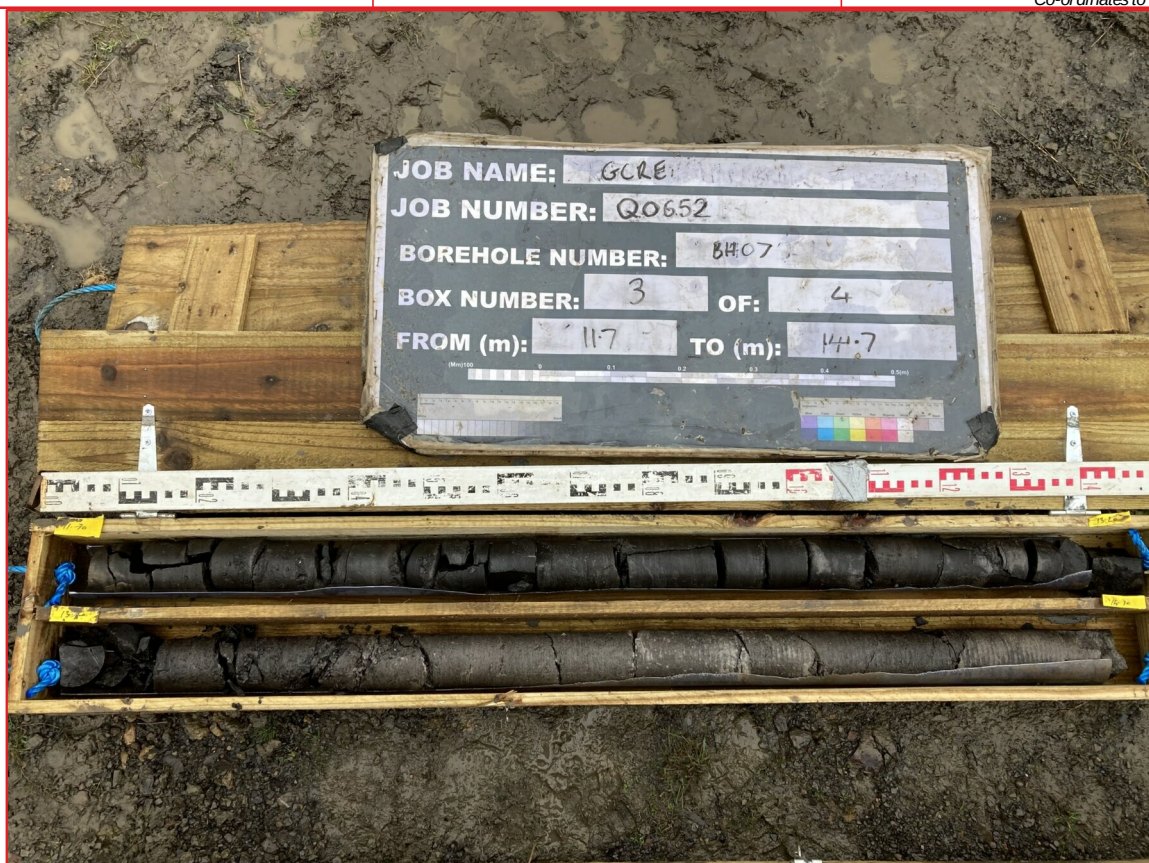
Job Number : Q0652

Ground Level : 271.28 m A.O.D.
Level to Ordnance Datum

Location :

Engineer : ARUP

Coordinates: 281544.88E
210721.08 N
Co-ordinates to NationalGrid



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Contract : Global Centre of Rail Excellence											Borehole No. BH08	
Client : Global Centre of Rail Excellence												
Dates : 7/12/21 - 8/12/21					Job Number : Q0652				Ground Level : 236.31 m A.O.D. Level to Ordnance Datum			
Location :					Engineer : ARUP				Coordinates: 282776.08 E 211918.35 N Co-ordinates to National Grid			

m B.G.L.	Run Details				Fractures		Samples		Strata				
	Core Run	TCR %	SCR %	RQD %	Min Avg Max	FI	Depth	Type No. Blows	Depth (Thick-ness)	Description	Legend	Red. Level A.O.D.	Water
0										Colliery Spoil (Drillers Description)			
1													
2													
3													
4													
5													
6									(12.00)				
7													
8													
9													
10													
11													
12									12.00	Clay (Drillers Description)		224.31	
13									(1.50)				
14									13.50	Clay with quartz cobbles (Drillers Description)		222.81	
15													
16													
17									(6.50)				
18													
19													
20									20.00	Black silty Clay (Drillers Description)		216.31	
21									(2.00)				
22									22.00	Mudstone with Sandstone bands (Drillers Description)		214.31	
23													
24													
25													
26													
27													
28													
29													
30													
31													
32									(20.00)				
33													
34													
35													
36													
37													
38													
39													
40													
41													
42									42.00	Terminated at 42.0mgl (Investigation SUPervisors Instruction)		194.31	
43													
44													

Hole Progress / Water Obs				Casing		Groundwater				Flush		
Date / Time	H. Depth	C. Depth	Water	Depth	Diam.	Struck	Rose To	Behaviour	Sealed	Depth	Type	Returns
08/12/2021 16:00	42.00	20.50	23.00	20.50	115.00	9.00	8.75	Seepage between 9.0 and 13.5mbgl	13.50	0.00 - 42.00	Mist	100

Plant: Commachio 600
Remarks: BH set out by QGL in liaison with ARUP. Services checked, area CAT scanned and hand dug pit to 1.20mbgl undertaken. ODEX GL-20.5mbgl, Rotary 'open hole' 20.5-42.0mbgl

	Plas Newydd Swansea Tel: 01554744880 email: enquiries@quantumgeotechnic.co.uk	Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	
		QGL	P Darby	1 Of 1	45		

Contract : Global Centre of Rail Excellence											Borehole No. BH09	
Client : Global Centre of Rail Excellence												
Dates : 9/12/21 - 9/12/21					Job Number : Q0652					Ground Level : 230.86 m A.O.D. Level to Ordnance Datum		
Location :					Engineer : ARUP					Coordinates: 283119.53 E 211903.09 N Co-ordinates to National Grid		

m B.G.L.	Run Details				Fractures		Samples		Strata				Water
	Core Run	TCR %	SCR %	RQD %	Min Avg Max	FI	Depth	Type No. Blows	Depth (Thickness)	Description	Legend	Red. Level A.O.D.	
0									(0.50)	Topsoil (Drillers Description)		230.36	
1									0.50	Clay and Boulders (Drillers Description) - Probable / Possible Made Ground			
2									(4.40)				
3													
4													
5									4.90	Colliery Spoil (Drillers Description)		225.96	
6									(0.80)	Mudstone and Siltstone (Drillers Description)		225.16	
7									5.70				
8													
9													
10													
11													
12													
13													
14									(15.70)				
15													
16													
17													
18													
19													
20													
21													
22									21.40	Coal and Mudstone (Drillers Description)		209.46	
23									(1.70)				
24									23.10	Siltstone (Drillers Description)		207.76	
25													
26													
27									(6.90)				
28													
29													
30									30.00	Terminated at 30.0mbgl (Scheduled Depth)		200.86	
31													
32													
33													
34													
35													
36													
37													
38													
39													

Hole Progress / Water Obs				Casing		Groundwater				Flush		
Date / Time	H. Depth	C. Depth	Water	Depth	Diam.	Struck	Rose To	Behaviour	Sealed	Depth	Type	Returns
				7.50	115.00	4.70		Fast groundwater inflow at 4.7mbgl		0.00 - 30.00	Mist	100

Plant: Commachio 600

Remarks: BH set out by QGL in liaison with ARUP. Services checked, area CAT scanned and hand dug pit to 1.20mbgl undertaken. ODEX GL-7.2mbgl, Rotary 'open hole' 7.2-30.0mbgl

	Plas Newydd Swansea Tel: 01554744880 email: enquiries@quantumgeotechnic.co.uk	Operator: QGL	Logged By: P Darby	Sheet No. 1 Of 1	m Per Page 40	All measurements in metres unless otherwise stated	
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Contract : Global Centre of Rail Excellence											Borehole No. BH10		
Client : Global Centre of Rail Excellence													
Dates : 13/12/21 - 13/12/21					Job Number : Q0652					Ground Level : 236.95 m A.O.D. Level to Ordnance Datum			
Location :					Engineer : ARUP					Coordinates: 283369.50 E 211901.56 N Co-ordinates to National Grid			

m B.G.L.	Run Details				Fractures		Samples		Strata					Water
	Core Run	TCR %	SCR %	RQD %	Min Avg Max	FI	Depth	Type No. Blows	Depth (Thick-ness)	Description	Legend	Red. Level A.O.D.		
0									(0.70)	Topsoil (Drillers Description)		236.25		
1									0.70	Mudstone (Drillers Description)				
2														
3														
4														
5														
6														
7														
8														
9														
10														
11									(19.30)					
12														
13														
14														
15														
16														
17														
18														
19														
20									20.00	Mudstone with Sandstone Bands		216.95		
21									(4.00)					
22														
23														
24									24.00	Coal (Drillers Description)		212.95		
25									(1.20)					
26									25.20	Sandstone (Drillers Description)		211.75		
27														
28									(4.80)					
29														
30									30.00	Terminated at 30.0mbgl (Scheduled Depth)		206.95		
31														
32														
33														
34														
35														
36														
37														
38														
39														

Hole Progress / Water Obs				Casing		Groundwater				Flush		
Date / Time	H. Depth	C. Depth	Water	Depth	Diam.	Struck	Rose To	Behaviour	Sealed	Depth	Type	Returns
13/12/2021 14:30	30.00	9.25	9.25	7.50	115.00	7.75	4.20					

Plant: Commachio 600

Remarks: BH set out by QGL in liaison with ARUP. Services checked, area CAT scanned and hand dug pit to 1.20mbgl undertaken. ODEX GL-7.2mbgl, Rotary 'open hole' 7.2-30.0mbgl

	Plas Newydd Swansea Tel: 01554744880 email: enquiries@quantumgeotechnic.co.uk	Operator:	Logged By:	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	
		QGL	P Darby	1 Of 1	40		

Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Dates: 16/12/21 - 17/12/21

Location: Around washery area

Job Number : Q0652

Engineer : ARUP

Ground Level : 258.79 m A.O.D.
Level to Ordnance Datum

Coordinates: 283659.50 E
211793.72 N
Co-ordinates to National Grid

Orientation & Inclination:

Orientation: N/A

Inclination: N/A

Borehole No. BH11

0m B.G.L. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Run Details				Fracture Details				Samples		Insitu Tests		Strata				Discontinuities						Water
	Core Run	TCR %	SCR %	RQD %	Min	Avg	Max	FI	Depth	Type No. Blows	Depth	Test Results	Depth (Thick-ness)	Description	Legend	Red. Level A.O.D.	Depth (Thick-ness)	Dip	Direction	Fracture Set	Discontinuity Description		
											1.2	SPT (C) 50/35mm (25/15mm-50/35mm--)		Grass over brown grey Sandstone boulders with clay bands (Drillers Description)									
											2.7	SPT (C) 50/140mm (11-16/50mm-31-19/65mm--)	(5.40)										
											4.2	SPT (C) 50/60mm (10-15/45mm-50/60mm--)											
	5.20 - 7.20										5.7	SPT (C) 50/65mm (25/20mm-50/65mm--)	5.40 (0.30) 5.70	Grey weathered MUDSTONE (Drillers Description) Weak to strong dark grey MUDSTONE with one discontinuity set (SOUTH WALES COAL MEASURES)		253.39 253.09	5.70			1	Bedding fracture set, undulating smooth, matt, clay, fresh, horizontal, partly open.		
	7.20 - 8.70	75	75	0	3	5	14	26															
													(4.95)										
	8.70 - 10.20	100	100	0	2	4	13	23															
	10.20 - 11.70							10															
		100	97	27				NI					10.65 (0.55) 11.20	Weak black COAL (SOUTH WALES COAL MEASURES) Strong grey SILTSTONE (SOUTH WALES COAL MEASURES)		248.14 247.59	11.20			2			
	11.70 - 13.20				4	12	15	14															
		100	100	20																			
	13.20 - 14.70							0 NI															
		100	87	23	3	17	20	7					(5.00)										
14.70 - 16.20							NI																
	100	67	0	2	6	18	15																
Hole Progress / Water Obs				Casing		Groundwater				Flush				Remarks: BH set out by QGL in liaison with ARUP. Services checked, area CAT scanned and hand dug pit to 1.20mbgl undertaken. ODEX GL-5.7mbgl, Rotary coring 5.7-16.2mbgl, Rotary 'open hole' 16.2-30.0mbgl									
Date / Time		H. Depth	C. Depth	Water	Depth	Diam.	Struck	Rose To	Behaviour	Sealed	Depth	Type	Returns									Colour	
16/12/2021 16:30 17/12/2021 07:30		8.70 8.70	5.70 5.70		5.70	115.00	14.70	11.90	Medium ground water strike at 14.70mbgl		0.00 - 30.00	Air Mist	100	Grey brown									

Plas Newydd
Swansea
Tel: 01554744880
email: enquiries@quantumgeotechnic.co.uk

Operator:
G Blades

Logged By:
S Picton

Logged Date:

Equipment Used:
Rig: Commachio MC600.

Sheet No.
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All measurements in metres unless otherwise stated

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Contract : Global Centre of Rail Excellence																		Borehole No. BH11					
Client : Global Centre of Rail Excellence																							
Dates : 16/12/21 - 17/12/21								Job Number : Q0652				Ground Level : 258.79 m A.O.D. Level to Ordnance Datum			Coordinates: 283659.50 E 211793.72 N Co-ordinates to National Grid			Orientation & Inclination: Orientation: N/A Inclination: N/A					
Location : Around washery area								Engineer : ARUP															
m B.G.L.	Run Details				Fracture Details				Samples		Insitu Tests		Strata					Discontinuities					Water
	Core Run	TCR %	SCR %	RQD %	Min	Avg	Max	FI	Depth	Type No. Blows	Depth	Test Results	Depth (Thick-ness)	Description	Legend	Red. Level A.O.D.	Depth (Thick-ness)	Dip	Direction	Fracture Set	Discontinuity Description		
16	16.2							NI 3					16.20	Grey MUDSTONE with Sandstone bands (Drillers Description)	x x x x	242.59							
17																							
18																							
19																							
20																							
21																							
22																							
23													(13.80)										
24																							
25																							
26																							
27																							
28																							
29																							
30													30.00	Terminated at 30.00mbgl (Scheduled Depth)		228.79							
31																							
Hole Progress / Water Obs				Casing		Groundwater				Flush				Remarks: BH set out by QGL in liaison with ARUP. Services checked, area CAT scanned and hand dug pit to 1.20mbgl undertaken. ODEX GL-5.7mbgl, Rotary coring 5.7-16.2mbgl, Rotary 'open hole' 16.2-30.0mbgl									
Date / Time	H. Depth	C. Depth	Water	Depth	Diam.	Struck	Rose To	Behaviour	Sealed	Depth	Type	Returns	Colour										
Quantum Geotech Plas Newydd Swansea Tel: 01554744880 email: enquiries@quantumgeotechnic.co.uk						Operator: G Blades		Logged By: S Picton		Logged Date:		Equipment Used: Rig: Commachio MC600.				Sheet No. 2 Of 2		m Per Page 16		All measurements in metres unless otherwise stated		AGS	

Contract : Global Centre of Rail Excellence		Borehole No.
Client : Global Centre of Rail Excellence		BH11
Dates : 16/12/21 - 17/12/21	Job Number : Q0652	Ground Level : 258.79 m A.O.D. Level to Ordnance Datum
Location : Around washery area	Engineer : ARUP	Coordinates: 283659.50E 211793.72 N Co-ordinates to National Grid



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		G Blades	S Picton	1 Of 2	2		

Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Borehole No.

BH11

Dates: 16/12/21 - 17/12/21

Job Number : Q0652

Ground Level : 258.79 m A.O.D.
Level to Ordnance Datum

Location : Around washery area

Engineer : ARUP

Coordinates: 283659.50E
211793.72 N
Co-ordinates to National Grid



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email: enquiries@quantumgeotechnic.co.uk

Operator:
G Blades

Logged By:
S Picton

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All measurements in
metres unless
otherwise stated



Contract : Global Centre of Rail Excellence																			Borehole No. BH12							
Client : Global Centre of Rail Excellence										Job Number : Q0652				Ground Level : 258.21 m A.O.D. Level to Ordnance Datum			Coordinates: 283925.43 E 211066.30 N Co-ordinates to National Grid			Orientation & Inclination: Orientation: N/A Inclination: N/A						
Dates: 14/12/21 - 15/12/21					Location :					Engineer : ARUP																
11 m B.G.L.	Run Details				Fracture Details				Samples		Insitu Tests		Strata						Discontinuities						Water	
	Core Run	TCR %	SCR %	RQD %	Min	Avg	Max	FI	Depth	Type No. Blows	Depth	Test Results	Depth (Thick-ness)	Description	Legend	Red. Level A.O.D.	Depth (Thick-ness)	Dip	Direction	Fracture Set	Discontinuity Description					
11	11.20 - 12.70	97	87	55	30	115	230	12	11.70 - 11.85	C6					XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX					Below 11.2mbgl discontinuities locally highly weathered to medium angular gravel upto 100mm penetration.						
12		93	73	37	40	100	160	13																		
12.7																										
13													12.70	Mudstone with Sandstone bands (Drillers Description)		245.51										
14													(2.30)													
15													15.00	Coal (Drillers Description)		243.21										
16													(1.25)													
17													16.25	Mudstone with Sandstone bands (Drillers Description)		241.96										
18																										
19																										
20																										
21																										
Hole Progress / Water Obs					Casing		Groundwater				Flush				Remarks: BH set out by QGL in liaison with ARUP. Services checked, area CAT scanned and hand dug pit to 1.20mbgl undertaken. No Groundwater Strike Observed. ODEX GL-2.7mbgl, Rotary coring 2.7-12.7mbgl, Rotary 'open hole' 12.7-30.0mbgl											
Date / Time		H. Depth	C. Depth	Water	Depth	Diam.	Struck	Rose To	Behaviour	Sealed	Depth	Type	Returns	Colour												
Quantum Geotech Plas Newydd Swansea Tel: 01554744880 email: enquiries@quantumgeotechnic.co.uk										Operator: QGL		Logged By: P Darby		Logged Date:		Equipment Used: Rig: Commachio 600.				Sheet No. 2 Of 3		m Per Page 11		All measurements in metres unless otherwise stated		AGS

Contract : Global Centre of Rail Excellence																				Borehole No. BH12							
Client : Global Centre of Rail Excellence										Job Number : Q0652					Ground Level : 258.21 m A.O.D. Level to Ordnance Datum			Coordinates: 283925.43 E 211066.30 N Co-ordinates to National Grid				Orientation & Inclination: Orientation: N/A Inclination: N/A					
Dates: 14/12/21 - 15/12/21					Location :					Engineer : ARUP																	
22m B.G.L.	Run Details				Fracture Details				Samples		Insitu Tests		Strata							Discontinuities							Water
	Core Run	TCR %	SCR %	RQD %	Min	Avg	Max	FI	Depth	Type No. Blows	Depth	Test Results	Depth (Thick-ness)	Description	Legend	Red. Level A.O.D.	Depth (Thick-ness)	Dip	Direction	Fracture Set	Discontinuity Description						
22																											
23													(13.75)														
24																											
25																											
26																											
27																											
28																											
29																											
30													30.00	Terminated at 30.0mbgl (Scheduled Depth)		228.21											
31																											
32																											
Hole Progress / Water Obs					Casing		Groundwater					Flush				Remarks: BH set out by QGL in liaison with ARUP. Services checked, area CAT scanned and hand dug pit to 1.20mbgl undertaken. No Groundwater Strike Observed. ODEX GL-2.7mbgl, Rotary coring 2.7-12.7mbgl, Rotary 'open hole' 12.7-30.0mbgl											
Date / Time		H. Depth	C. Depth	Water	Depth	Diam.	Struck	Rose To	Behaviour	Sealed	Depth	Type	Returns	Colour													
Operator: QGL										Logged By: P Darby		Logged Date:		Equipment Used: Rig: Commachio 600.							Sheet No. 3 Of 3		m Per Page 11	All measurements in metres unless otherwise stated		AGS	

Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Borehole No.

BH12

Dates : 14/12/21 - 15/12/21

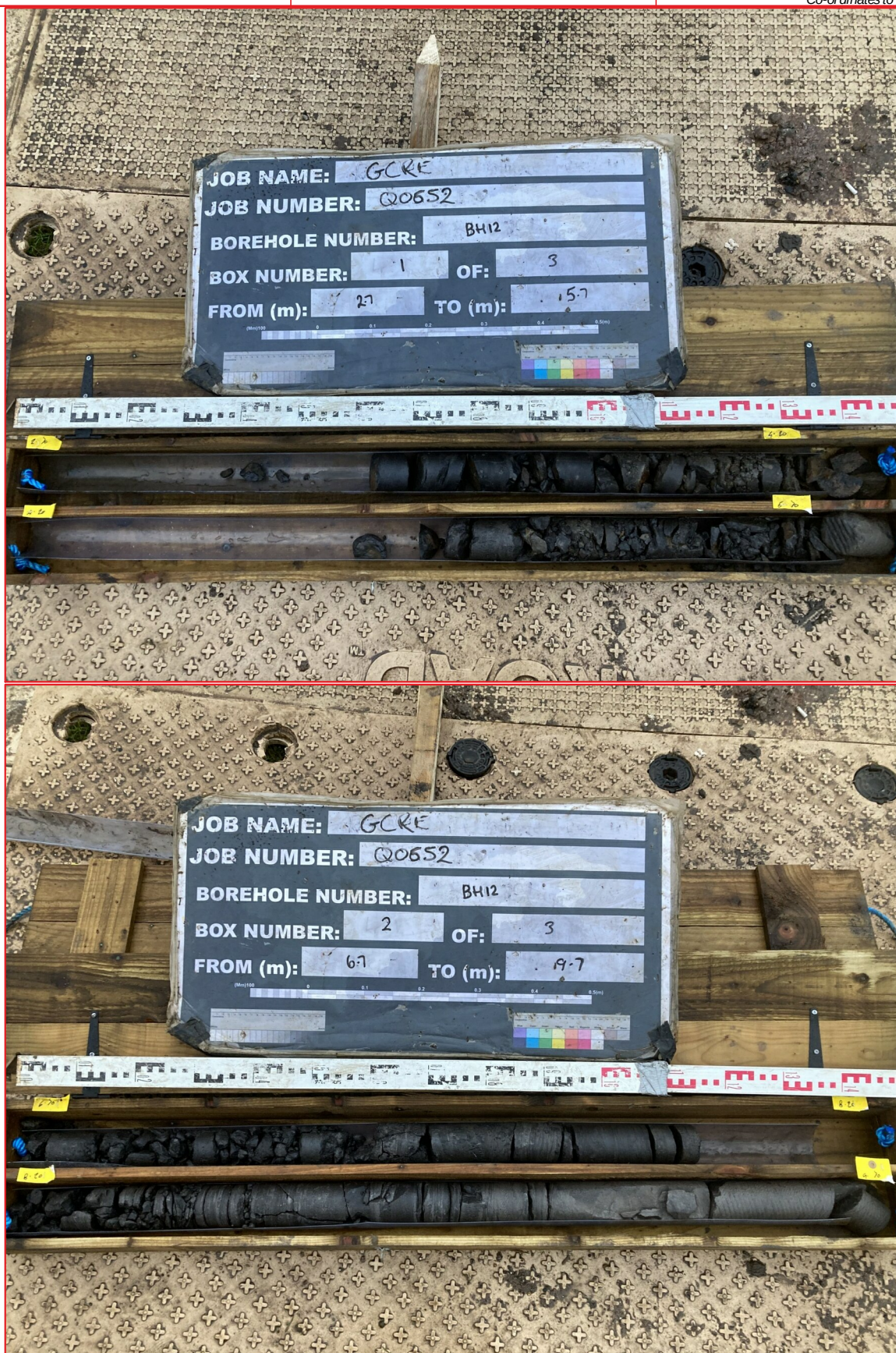
Job Number : Q0652

Ground Level : 258.21 m A.O.D.
Level to Ordnance Datum

Location :

Engineer : ARUP

Coordinates: 283925.43E
211066.30 N
Co-ordinates to National Grid



Plas Newydd
Swansea
Tel: 01554744880
email: enquiries@quantumgeotechnic.co.uk

Operator:
QGL

Logged By:
P Darby

Sheet No.
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m Per
Page
2

All measurements in
metres unless
otherwise stated



Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Borehole No.

BH12

Dates : 14/12/21 - 15/12/21

Job Number : Q0652

Ground Level : 258.21 m A.O.D.
Level to Ordnance Datum

Location :

Engineer : ARUP

Coordinates: 283925.43E
211066.30 N
Co-ordinates to National Grid



Plas Newydd
Swansea
Tel: 01554744880
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Operator:
QGL

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Sheet No.
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**m Per
Page**
2

All measurements in
metres unless
otherwise stated



Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Dates: 16/12/21 - 4/1/22

Location :

Job Number : Q0652

Engineer : ARUP

Ground Level : 259.34 m A.O.D.
Level to Ordnance Datum

Coordinates: 283817.80 E
210965.72 N
Co-ordinates to National Grid

Orientation & Inclination:
Orientation: N/A
Inclination: N/A

Borehole No. BH13

0 m B.G.L.

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Run Details				Fracture Details				Samples		Insitu Tests		Strata				Discontinuities						Water
Core Run	TCR %	SCR %	RQD %	Min	Avg	Max	FI	Depth	Type No. Blows	Depth	Test Results	Depth (Thick-ness)	Description	Legend	Red. Level A.O.D.	Depth (Thick-ness)	Dip	Direction	Fracture Set	Discontinuity Description		
													(0.50)	Topsoil (Drillers Description)								
													0.50 (0.50)	MADE GROUND - Mudstone Fill (Drillers Description)		258.84						
								1.20	SPTLS1	1.2	SPT (S) 16 (2-2-4-4-4-4)		1.00	Clay (Drillers Description). SPT sample firm brown and grey slightly gravelly silty CLAY. Gravel is fine to medium sub-rounded mudstone		258.34						
								2.70 - 4.20 2.70	D1 SPTLS2	2.7	SPT (S) 5 (4-2-2-1-1-1)		1.70									
								2.70					2.70	Cobbles, Boulders and Clay (Drillers Description)		256.64						
								4.20 - 5.70	D2	4.2	SPT (C) 50/150mm (10-10/19mm-17-33--)		(2.50)									
													5.20 (0.50)	Weathered Mudstone (Drillers Description)		254.14						
										5.7	SPT (C) 50/18mm (17-8/14mm-50/18mm--)		5.70 (1.00)	Fractured Mudstone (Drillers Description)		253.64						
6.70 - 7.20	100	0	0				NI						6.70	Weak to medium strong grey MUDSTONE with two discontinuity sets. (SOUTH WALES COAL MEASURES)		252.64	6.70			Sub-horizontal to 10 degree discontinuity set (bedding) extremely closely spaced, rough planar, partly open, locally with clay surface coating and weathered to medium gravel up to 20mm penetration sub-vertical discontinuity set (joints) rough planar, partly open, clean.		
7.20 - 8.70							NI															
	83	41	0	10	59	80	18	8.20 - 8.29	C1													
8.70 - 10.00							NI							 between 8.7 and 9.3mbgl highly weathered to fine to coarse angular Gravel								
	92	27	8	10	64	100	11	9.55 - 9.60	C2											Between 9.3 and 10.0mbgl sub-vertical discontinuity.		
10.00 - 10.30	67	0	0				NI							 between 10.0 and 10.3mbgl highly weathered to fine to coarse angular Gravel								
10.30 - 11.60	92	81	8	30	65	100	19															

Hole Progress / Water Obs				Casing		Groundwater				Flush				Remarks: BH set out by QGL in liaison with ARUP. Services checked, area CAT scanned and hand dug pit to 1.20mbgl undertaken. No Groundwater Strike Observed. ODEX GL-5.7mbgl, Rotary coring 5.7-29.7mbgl
Date / Time	H. Depth	C. Depth	Water	Depth	Diam.	Struck	Rose To	Behaviour	Sealed	Depth	Type	Returns	Colour	
16/12/2021 07:30	10.20	5.70		5.70	115.00					0.00 - 30.00	Mist	100		

Plas Newydd
Swansea
Tel: 01554744880
email: enquiries@quantumgeotechnic.co.uk

Operator:
QGL

Logged By:
P Darby

Logged Date:

Equipment Used:
Rig: Commachio 600.

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11

All measurements in metres unless otherwise stated

Form Name: ROTARY A3. Version 2.11.000, 22/05/15 Output By: Phil Darby. Library File: C:\USERS\PHIL DARBY\ONEDRIVE - QUANTUM GEOTECHNIC LTD\QUANTUM 4.GLB.

Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Dates: 16/12/21 - 4/1/22

Location :

Job Number : Q0652

Engineer : ARUP

Ground Level : 259.34 m A.O.D.
Level to Ordnance Datum

Coordinates: 283817.80 E
210965.72 N
Co-ordinates to National Grid

Orientation & Inclination:
Orientation: N/A
Inclination: N/A

Borehole No. BH13

1 m B.G.L.

11

12

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Run Details				Fracture Details				Samples		Insitu Tests		Strata										Discontinuities						Water
Core Run	TCR %	SCR %	RQD %	Min	Avg	Max	FI	Depth	Type No. Blows	Depth	Test Results	Depth (Thick-ness)	Description	Legend	Red. Level A.O.D.	Depth (Thick-ness)	Dip	Direction	Fracture Set	Discontinuity Description								
11.60 - 13.10	92	81	8	30	65	100	19	11.15 - 11.25	C3				 between 11.6 and 11.9mbgl highly weathered to fine to coarse angular Gravel between 11.6 and 13.1mbgl thinly laminated															
						NI																						
	90	51	0	10	55	80	21	12.40 - 12.48	C4												Between 12.8 and 13.1mbgl sub-vertical discontinuity locally with silt surface coating.							
13.10 - 13.80	100	0	0				NI	13.50	C5				 between 13.1 and 13.8mbgl highly weathered to fine to coarse angular Gravel								Between 13.8 and 14.1mbgl sub-vertical discontinuity.							
						NI																						
13.80 - 15.30	100	53	7	10	71	110	11	14.80 - 14.90	C6			(17.50)	 between 14.1 and 14.35mbgl highly weathered to fine to coarse angular Gravel								Between 15.3 and 15.94mbgl sub-vertical discontinuity.							
15.30 - 16.70	100	53	0	30	58	70	12	16.30	C7				 below 16.7mbgl medium strong, locally weak								Between 16.7 and 19.7mbgl sub-horizontal to 10 degree discontinuities closely spaced.							
						NI																						
16.70 - 18.20	93	80	8	10	81	120	17	17.98 - 18.10	C8												Between 18.9 and 19.05mbgl sub-vertical discontinuity and smooth.							
18.20 - 19.70	93	87	19	20	79	150	18	19.30 - 19.42	C9												Between 19.7 and 21.3mbgl sub-horizontal discontinuities locally with clay surface coating. At 20.28mbgl 30 degree discontinuity smooth planar, open, clean.							
						NI																						
19.70 - 21.20	90	43	11	50	64	150	14	20.35 - 20.50	C10																			
21.20 - 22.70	93	60	45	40	250	300	5	21.80 -	C11												Between 21.35 and 22.05mbgl sub-horizontal to 10 degree discontinuities close to medium spaced.							

Hole Progress / Water Obs

Casing

Groundwater

Flush

Date / Time

H. Depth

C. Depth

Water

Depth

Diam.

Struck

Rose To

Behaviour

Sealed

Depth

Type

Returns

Colour

Quantum Geotech

Plas Newydd Swansea
Tel: 01554744880
email: enquiries@quantumgeotechnic.co.uk

Operator: QGL

Logged By: P Darby

Logged Date:

Equipment Used: Rig: Commachio 600.

Sheet No. 2 Of 3

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All measurements in metres unless otherwise stated

Form Name: ROTARY A3. Version 2.11.000, 22/05/15 Output By: Phil Darby. Library File: C:\USERS\PHIL DARBY\ONEDRIVE - QUANTUM GEOTECHNIC LTD\QUANTUM 4.GLB.

Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Borehole No.

BH13

Dates : 16/12/21 - 4/1/22

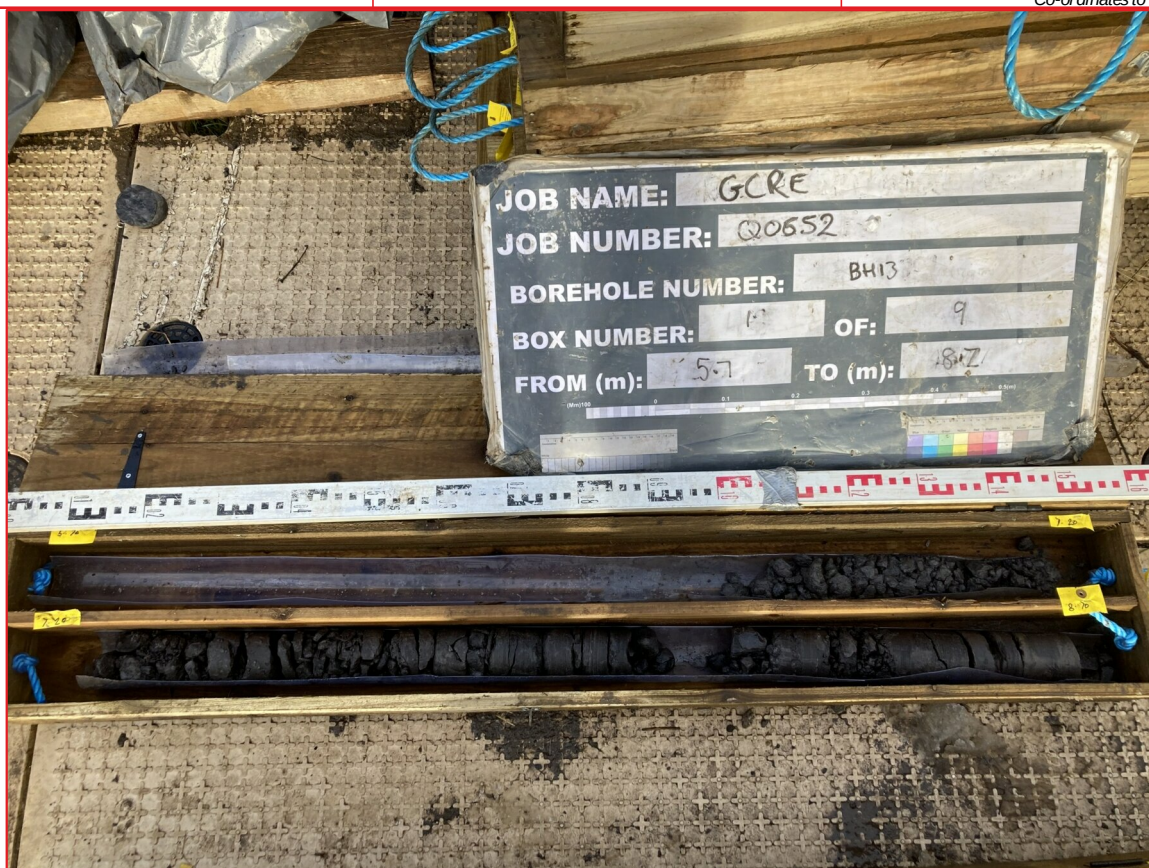
Job Number : Q0652

Ground Level : 259.34 m A.O.D.
Level to Ordnance Datum

Location :

Engineer : ARUP

Coordinates: 283817.80E
210965.72 N
Co-ordinates to National Grid



Plas Newydd
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Operator:
QGL

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Sheet No.
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Page
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All measurements in
metres unless
otherwise stated



Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Borehole No.

BH13

Dates : 16/12/21 - 4/1/22

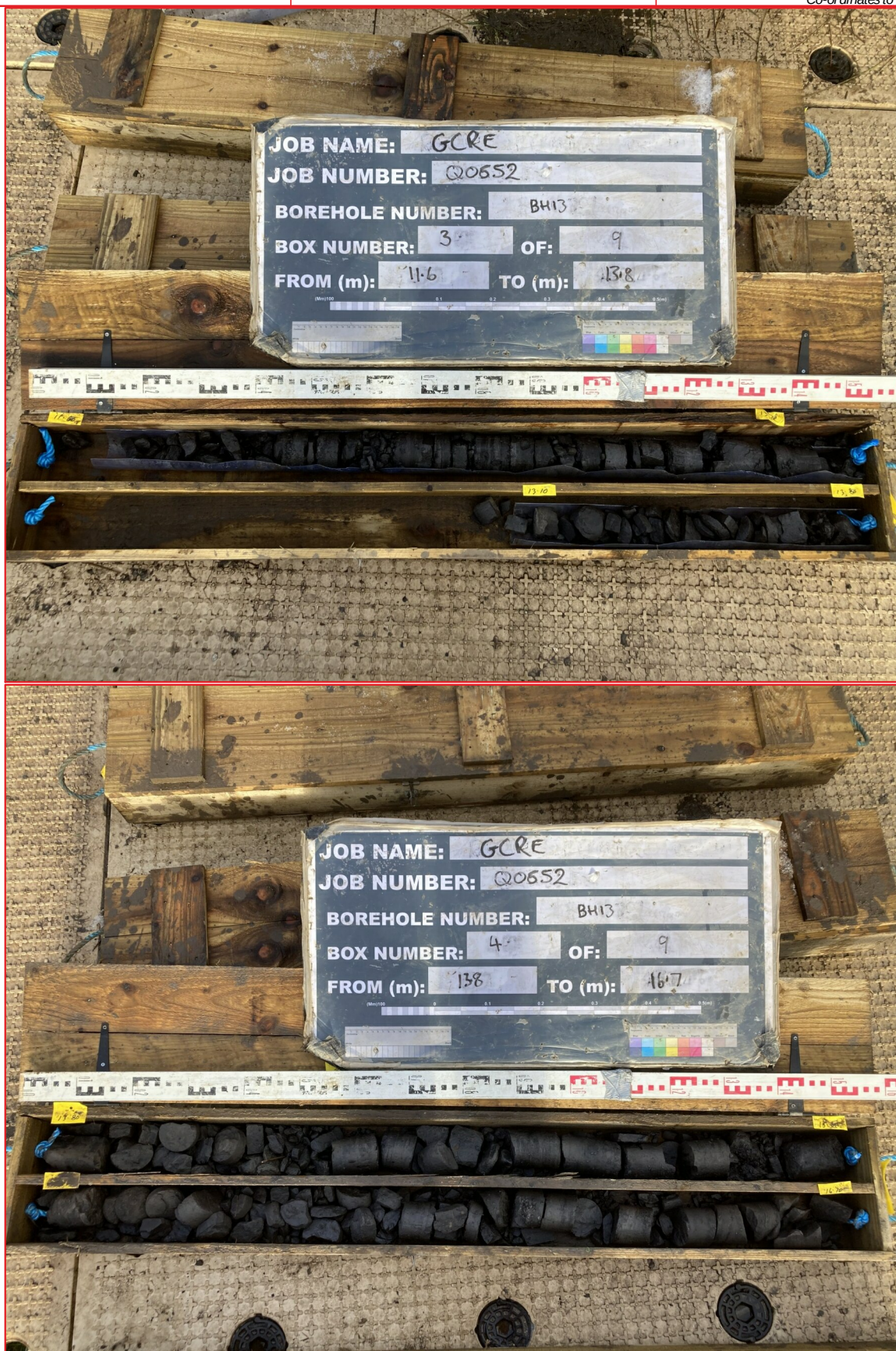
Job Number : Q0652

Ground Level : 259.34 m A.O.D.
Level to Ordnance Datum

Location :

Engineer : ARUP

Coordinates: 283817.80E
210965.72 N
Co-ordinates to National Grid



Plas Newydd
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Page
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All measurements in
metres unless
otherwise stated



Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Borehole No.

BH13

Dates : 16/12/21 - 4/1/22

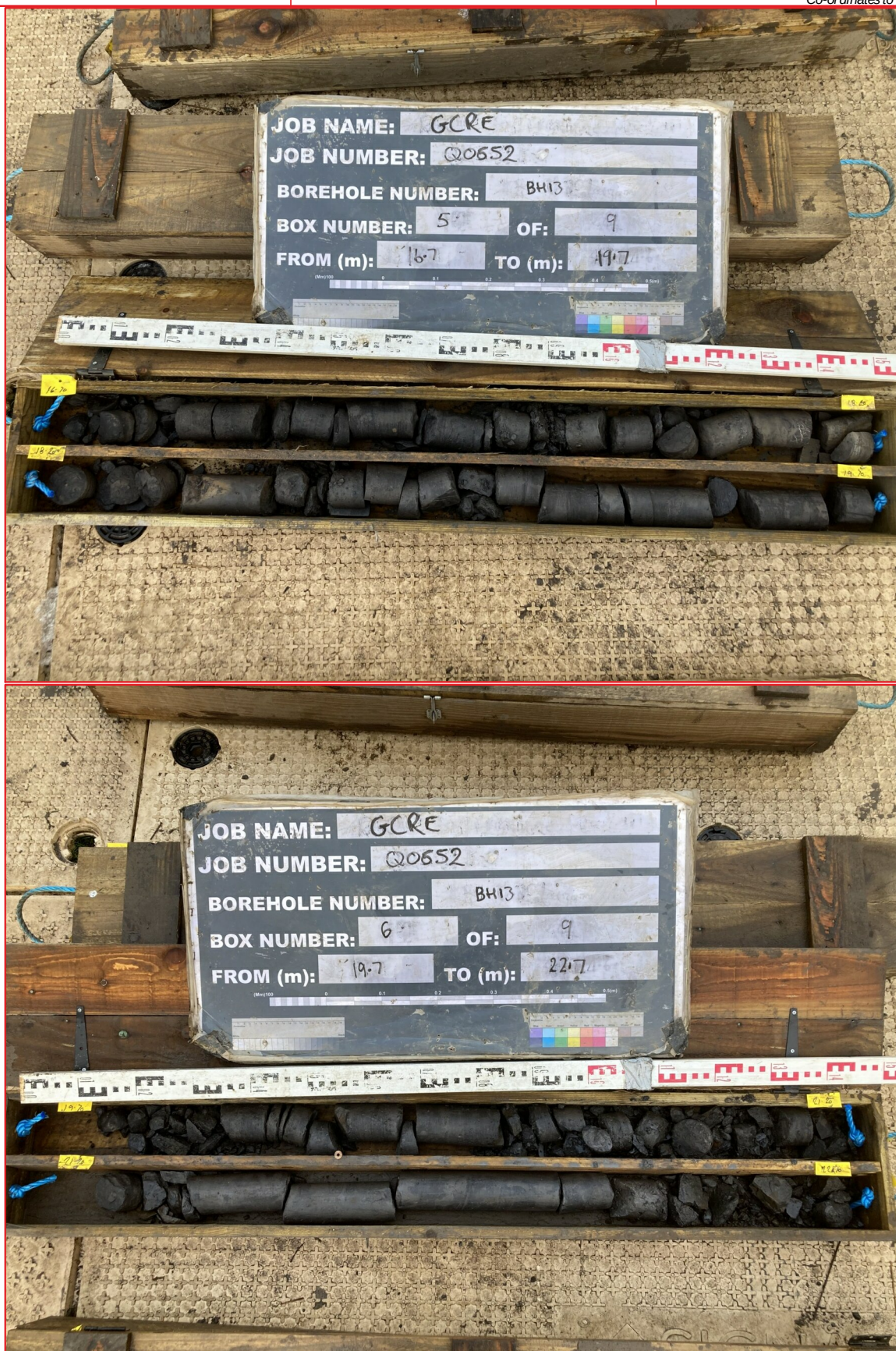
Job Number : Q0652

Ground Level : 259.34 m A.O.D.
Level to Ordnance Datum

Location :

Engineer : ARUP

Coordinates: 283817.80E
210965.72 N
Co-ordinates to Naional Grid



Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Borehole No.

BH13

Dates : 16/12/21 - 4/1/22

Job Number : Q0652

Ground Level : 259.34 m A.O.D.
Level to Ordnance Datum

Location :

Engineer : ARUP

Coordinates: 283817.80E
210965.72 N
Co-ordinates to National Grid



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Page
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All measurements in
metres unless
otherwise stated



Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Borehole No.

BH13

Dates : 16/12/21 - 4/1/22

Job Number : Q0652

Ground Level : 259.34 m A.O.D.
Level to Ordnance Datum

Location :

Engineer : ARUP

Coordinates: 283817.80E
210965.72 N
Co-ordinates to National Grid



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All measurements in
metres unless
otherwise stated



Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Dates: 15/12/21 - 16/12/21

Location :

Job Number : Q0652

Engineer : ARUP

Ground Level : 260.01 m A.O.D.
Level to Ordnance Datum

Coordinates: 283702.06 E
210915.06 N
Co-ordinates to National Grid

Orientation & Inclination:
Orientation: N/A
Inclination: N/A

Borehole No. BH14

0m B.G.L.	Run Details				Fracture Details				Samples		Insitu Tests		Strata				Discontinuities						Water
	Core Run	TCR %	SCR %	RQD %	Min	Avg	Max	FI	Depth	Type No. Blows	Depth	Test Results	Depth (Thick-ness)	Description	Legend	Red. Level A.O.D.	Depth (Thick-ness)	Dip	Direction	Fracture Set	Discontinuity Description		
									0.20 - 0.60	B1			(0.10)	TOPSOIL - Brown CLAY / SILT with many rootlets		259.91							
									1.20	SPTLS1	1.2	SPT (S) 10 (2-4-2-2-4)	(0.10)	MADE GROUND - Grey gravelly CLAY with medium cobble content. Gravel is fine to coarse angular mudstone. Cobbles are sub-angular mudstone.									
													(1.10)										
													1.20	Clay with mudstone and sandstone boulders (Drillers Description). SPT Sample at 1.2mbgl - Firm brown gravelly Clay. Gravel is fine to medium sub-rounded mudstone.		258.81							
													(1.40)										
									2.70 - 4.20	D1 SPTLS2	2.7	SPT (S) 50/42mm (25/14mm-50/42mm---	2.60	Clay and sandstone boulders (Drillers Description)		257.41							
									2.70														
									4.20 - 5.70	D2	4.2	SPT (C) 50/29mm (20-5/16mm-50/29mm---	(2.80)										
5.70 - 6.20	100	0	0				NI			5.7	SPT (C) 50/22mm (25/16mm-50/22mm---	5.40 (0.30)	Weathered Sandstone (Drillers Description)		254.61								
6.20 - 7.70								6.20	C1			5.70	Weak to medium strong dark grey MUDSTONE with two discontinuity sets. (SOUTH WALES COAL MEASURES)		254.31	5.70				Sub-horizontal to 10 degree discontinuity set (bedding) extremely closely spaced, smooth planar, partly open to open, generally clean and fresh, locally with soft clay infill..			
7.70 - 9.20	87	10	0	5	27	60	47													Between 5.7 and 9.2mbgl dicontinuities locally highly weathered to fine to medium angular gravel upto 150mm penetration.			
9.20 - 10.70								7.20	C2														
								8.70	C3														
10.70 - 12.20	100	73	8	10	57	120	25	10.20	C4											Below 10.7mbgl discontinuities closely spaced, rough planar to undulating,			

Hole Progress / Water Obs				Casing		Groundwater				Flush				Remarks: BH set out by QGL in liaison with ARUP. Services checked, area CAT scanned and hand dug pit to 1.20mbgl undertaken. No Groundwater Strike Observed. ODEX GL-5.7mbgl, Rotary coring 5.7-16.3mbgl, Rotary 'open hole' 16.3-30.0mbgl
Date / Time	H. Depth	C. Depth	Water	Depth	Diam.	Struck	Rose To	Behaviour	Sealed	Depth	Type	Returns	Colour	
				5.70	115.00					0.00 - 30.00	Mist	100		

Plas Newydd
Swansea
Tel: 01554744880
email: enquiries@quantumgeotechnic.co.uk

Operator:
QGL

Logged By:
P Darby

Logged Date:

Equipment Used:
Rig: Commachio 600.

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All measurements in metres unless otherwise stated

Form Name: ROTARY A3. Version 2.11.000, 22/05/15 Output By: Phil Darby. Library File: C:\USERS\PHIL DARBY\ONEDRIVE - QUANTUM GEOTECHNIC LTD\QUANTUM 4.GLB.

Form Name: ROTARY A3 Version 2.11.000, 22/05/15 Output By: Phil Darby. Library File: C:\USERS\PHIL DARBY\ONEDRIVE - QUANTUM GEOTECHNIC LTD\QUANTUM 4.GLB.

Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Borehole No.

BH14

Dates : 15/12/21 - 16/12/21

Job Number : Q0652

Ground Level : 260.01 m A.O.D.
Level to Ordnance Datum

Location :

Engineer : ARUP

Coordinates: 283702.06 E
210915.06 N
Co-ordinates to National Grid



Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Borehole No.

BH14

Dates : 15/12/21 - 16/12/21

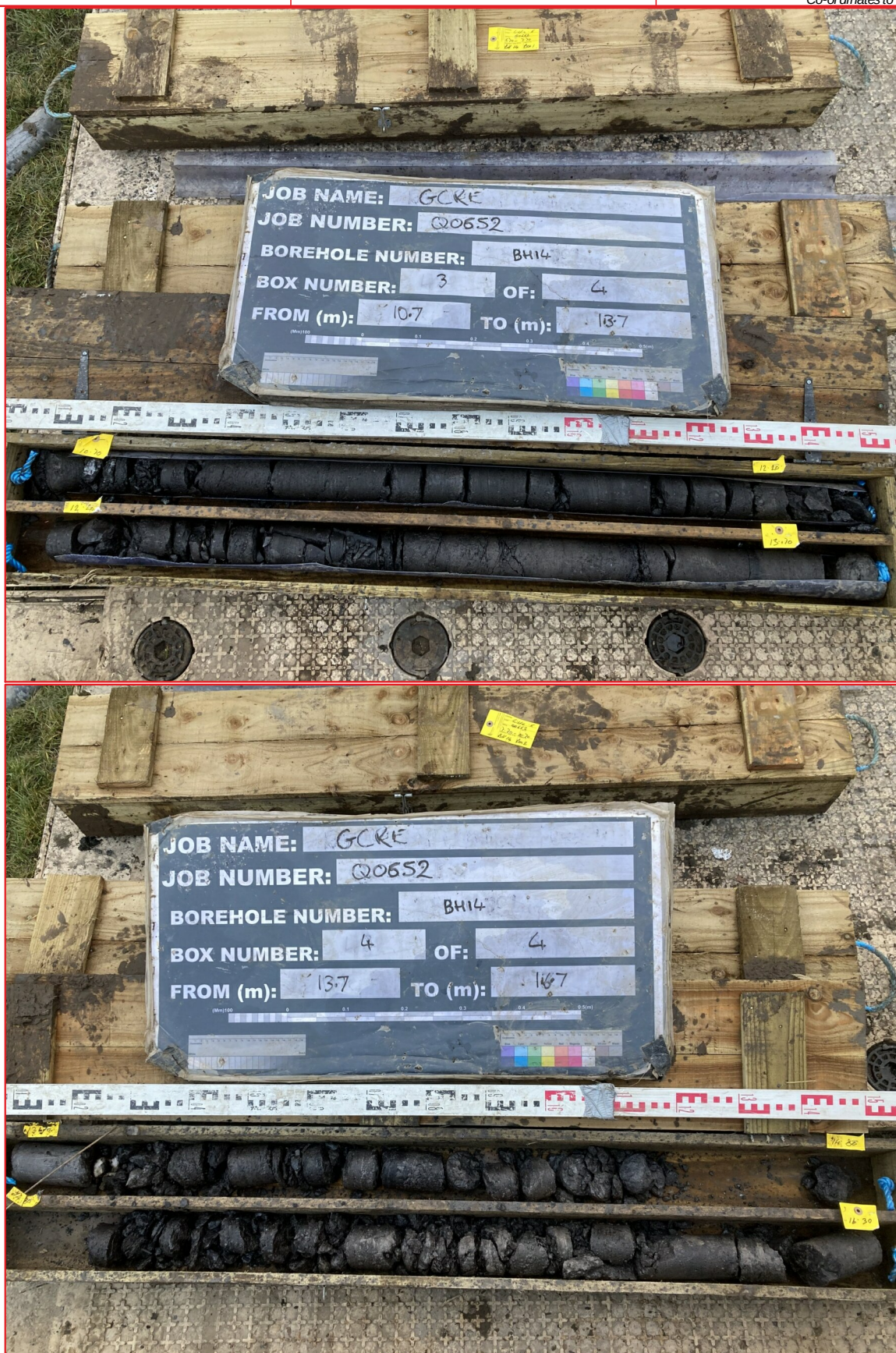
Job Number : Q0652

Ground Level : 260.01 m A.O.D.
Level to Ordnance Datum

Location :

Engineer : ARUP

Coordinates: 283702.06 E
210915.06 N
Co-ordinates to National Grid



Plas Newydd
Swansea
Tel: 01554744880
email: enquiries@quantumgeotechnic.co.uk

Operator:
QGL

Logged By:
P Darby

Sheet No.
2 Of 2

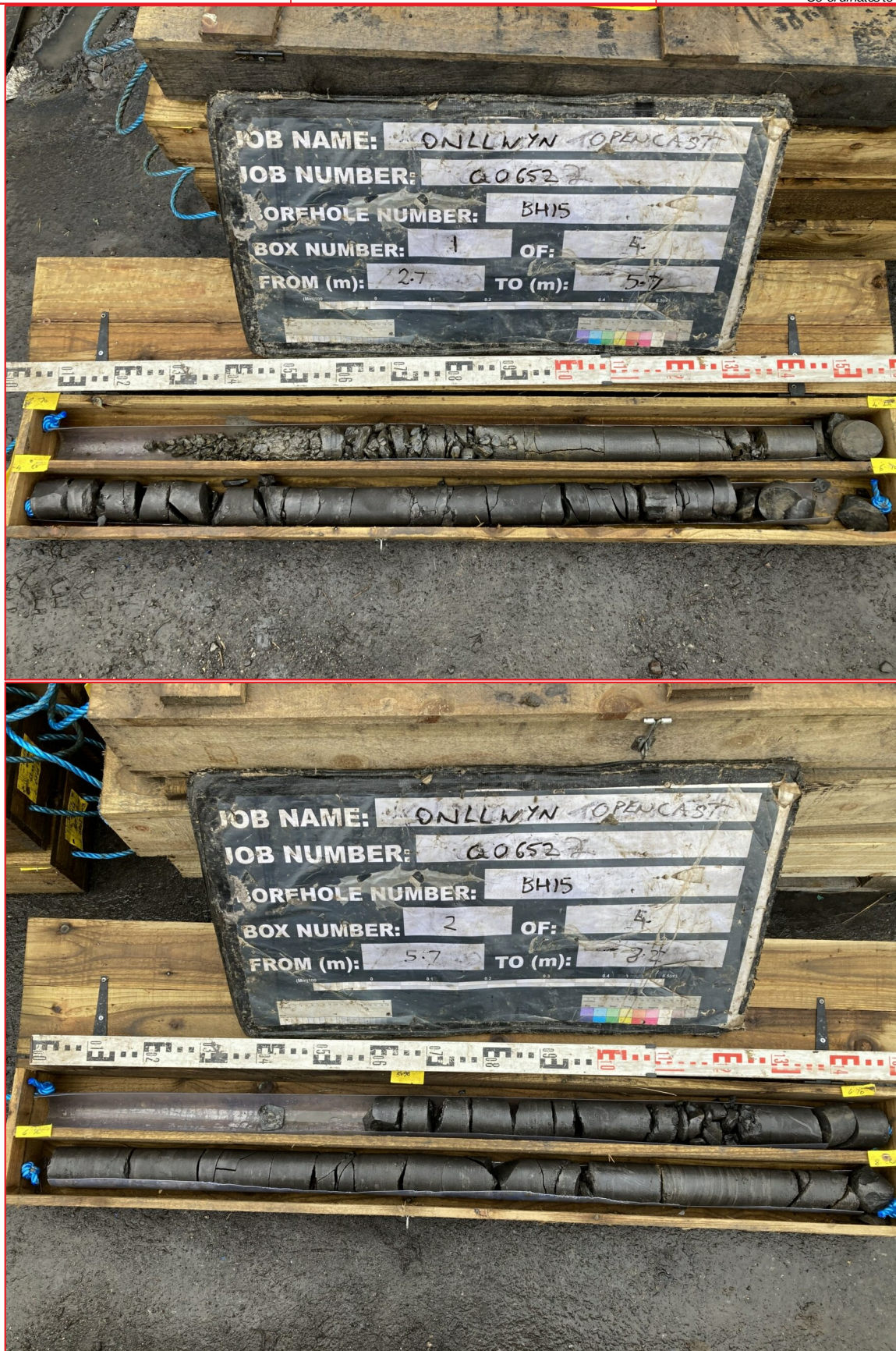
m Per
Page
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All measurements in
metres unless
otherwise stated



Form Name: ROTARY A3 Version 2.11.000, 22/05/15 Output By: Phil Darby. Library File: C:\USERS\PHIL DARBY\ONEDRIVE - QUANTUM GEOTECHNIC LTD\QUANTUM 4.GLB.

Contract : Global Centre of Rail Excellence		Borehole No.
Client : Global Centre of Rail Excellence		BH15
Dates : 5/12/21 - 6/12/21	Job Number : Q0652	Ground Level : 249.63 m A.O.D. Level to Ordnance Datum
Location :	Engineer : ARUP	Coordinates: 283332.65E 210758.18 N Co-ordinates to National Grid



	Plas Newydd Swansea Tel: 01554744880 email: enquiries@quantumgeotechnic.co.uk	Operator:	Logged By:	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	
		QGL	P Darby	1 Of 2	2		

Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Borehole No.

BH15

Dates : 5/12/21 - 6/12/21

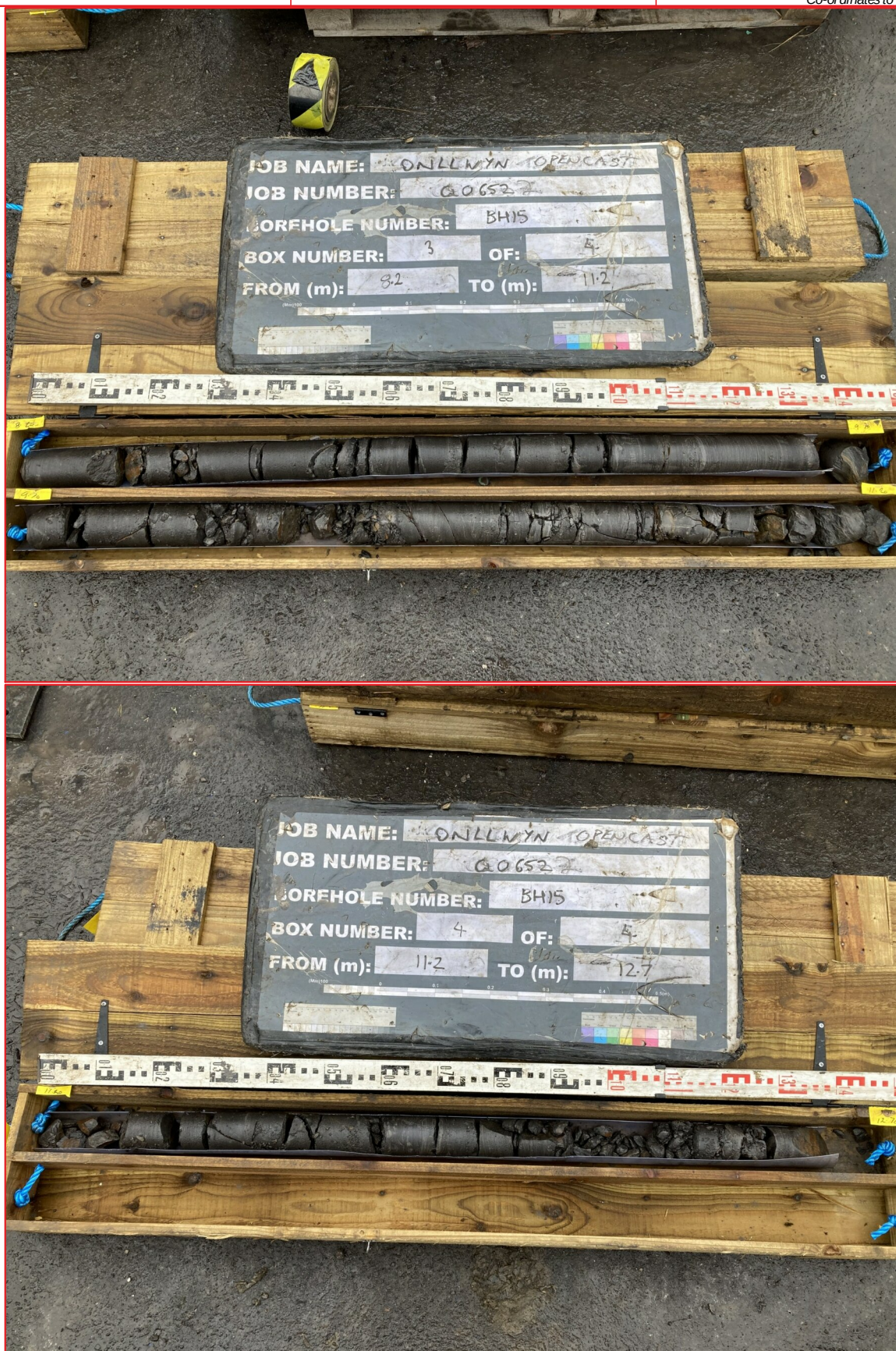
Job Number : Q0652

Ground Level : 249.63 m A.O.D.
Level to Ordnance Datum

Location :

Engineer : ARUP

Coordinates: 283332.65E
210758.18 N
Co-ordinates to National Grid



Plas Newydd
Swansea
Tel: 01554744880
email: enquiries@quantumgeotechnic.co.uk

Operator:
QGL

Logged By:
P Darby

Sheet No.
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m Per
Page
2

All measurements in
metres unless
otherwise stated



Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Dates: 14/12/21 - 16/12/21

Location :

Job Number : Q0652

Engineer : ARUP

Ground Level : 280.71 m A.O.D.
Level to Ordnance Datum

Coordinates: 283439.29 E
211441.07 N
Co-ordinates to National Grid

Orientation & Inclination:
Orientation: N/A
Inclination: N/A

Borehole No.
BH16

0 m B.G.L.

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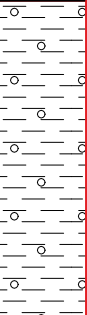
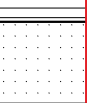
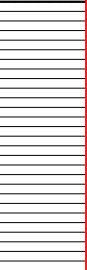
6

7

8

9

10

Run Details				Fracture Details				Samples		Insitu Tests		Strata				Discontinuities						Water	Install/ Backfill
Core Run	TCR %	SCR %	RQD %	Min	Avg	Max	FI	Depth	Type No. Blows	Depth	Test Results	Depth (Thick-ness)	Description	Legend	Red. Level A.O.D.	Depth (Thick-ness)	Dip	Direction	Fracture Set	Discontinuity Description			
													Clay and Gravel (Drillers Description)										
										1.2	SPT (S) 11 (3-3-3-2-3-3)	(2.70)											
										2.7	SPT (C) 50/35mm (25/60mm-50/35mm--)	2.70	Clay and Boulders (Drillers Description)		278.01								
										4.2	SPT (C) 50/10mm (25/30mm-50/10mm--)	4.00 (0.20) 4.20 (0.70)	Weathered Mudstone (Drillers Description) Strong light grey SANDSTONE with two discontinuity sets. (SOUTH WALES COAL MEASURES)		276.71 276.51	4.20 0.70					30 degree discontinuity set closely spaced, rough planar, open with black surface staining and locally highly weathered to sandy fine to coarse angular gravel. 60 to 70 degree discontinuity set closely spaced, rough planar, open with black surface staining and locally highly weathered to sandy fine to coarse angular gravel..		
										4.90			Weak to medium strong grey MUDSTONE with one discontinuity set. (SOUTH WALES COAL MEASURES) between 4.9 and 5.2mbgl highly weathered to fine to coarse angular Gravel between 5.2 and 5.6mbgl completely weathered to silty Sand		275.81								
5.70 - 7.20		44	0	0			NI																
7.20 - 8.70		73	21	0			NI	7.70	C2							7.20					Sub-horizontal to 10 degree discontinuity set (bediing) extremely closely spaced, smooth planar locally undulating, open, clean, highly weathered to fine to medium angular gravel up to 20mm penetration.. Below 7.9mbgl locally highly weathered at 7.9mbgl discontinuity with possible slickened surface between 7.9 and 8.3mbgl sub-horizontal discontinuities rough undulating to stepped, tight to partly open, clean, locally highly weathered to fine to medium angular gravel up to 5mm penetration..		
8.70 - 10.20		100	29	20			NI	9.20	C3														
					20	81	150	8								4.90					Below 9.55mbgl discontinuities extremely close to closely spaced.		
10.20 - 11.70		73	44	20	20	69	180	15		10.70	C4												

Hole Progress / Water Obs

Casing

Groundwater

Flush

Date / Time	H. Depth	C. Depth	Water	Depth	Diam.	Struck	Rose To	Behaviour	Sealed	Depth	Type	Returns	Colour
15/12/2021 07:30	7.20	4.20	3.60	4.20	115.00	4.20	3.90	Medium groundwater inflow		0.00 - 40.20	Mist	100	

Remarks: BH set out by QGL in liaison with ARUP. Services checked, area CAT scanned and hand dug pit to 1.20mbgl undertaken. ODEX GL-4.2mbgl, Rotary coring 4.2-40.2mbgl



Quantum Geotech

Plas Newydd
Swansea
Tel: 01554744880
email: enquiries@quantumgeotechnic.co.uk

Operator:
QGL

Logged By:
P Darby

Logged Date:

Equipment Used:
Rig: Commachio 600.

Sheet No.
1 Of 4

m Per Page
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All measurements in metres unless otherwise stated



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Contract : Global Centre of Rail Excellence

Client : Global Centre of Rail Excellence

Dates: 14/12/21 - 16/12/21

Location :

Job Number : Q0652

Engineer : ARUP

Ground Level : 280.71 m A.O.D.
Level to Ordnance Datum

Coordinates: 283439.29 E
211441.07 N
Co-ordinates to National Grid

Orientation & Inclination:
Orientation: N/A
Inclination: N/A

Borehole No.
BH16

11 m B.G.L.

12

13

14

15

16

17

18

19

20

21

Run Details				Fracture Details				Samples		Insitu Tests		Strata				Discontinuities							
Core Run	TCR %	SCR %	RQD %	Min	Avg	Max	FI	Depth	Type No. Blows	Depth	Test Results	Depth (Thick-ness)	Description	Legend	Red. Level A.O.D.	Depth (Thick-ness)	Dip	Direction	Fracture Set	Discontinuity Description	Water	Install/ Backfill	
11.70 - 13.20	73	44	20	20	69	180	15	12.65 - 12.75	C5				Weak black COAL. Highly weathered to fine to coarse angular Gravel. (SOUTH WALES COAL MEASURES)		268.61								
	99	63	27	15	57	120	6																NI
30				79	160	6																	
13.20 - 14.70				30	79	120	6	14.10 - 14.25	C6			14.00 (0.28) 14.28	Weak to medium strong black COAL. (SOUTH WALES COAL MEASURES) Weak to medium strong grey MUDSTONE with one discontinuity set. (SOUTH WALES COAL MEASURES)		266.71 266.43	12.70 14.28				Sub-horizontal to 10 degree discontinuity set (bediing) extremely closely spaced, smooth planar locally undulating, open, clean..			
				20	57	60	6																
14.70 - 16.20	88	41	9				NI	15.20 - 15.50	C7												Sub-horizontal to 10 degree discontinuity set (bediing) closely spaced, smooth planar locally, open, clean.. Between 14.85 and 15.0mbgl sub-vertical discontinuity rough undulating, partly open, clean. Between 15.85 and 16.0mbgl sub-vertical discontinuity rough undulating, partly open, clean.		
16.20 - 17.70	93	77	31	20	107	230	12																
								17.70 - 19.20	97	87	11	40	112	180	12								
19.20 - 20.70	99	72	35	10	64	280	22									18.00 - 18.20	C9						
								20.70 - 22.20	92	88	35	20	69	160	19								
21.70 - 21.80	C11																						

Hole Progress / Water Obs

Casing

Groundwater

Flush

Remarks: BH set out by QGL in liaison with ARUP. Services checked, area CAT scanned and hand dug pit to 1.20mbgl undertaken. ODEX GL-4.2mbgl, Rotary coring 4.2-40.2mbgl

Date / Time	H. Depth	C. Depth	Water	Depth	Diam.	Struck	Rose To	Behaviour	Sealed	Depth	Type	Returns	Colour

Plas Newydd
Swansea
Tel: 01554744880
email: enquiries@quantumgeotechnic.co.uk

Operator:
QGL

Logged By:
P Darby

Logged Date:

Equipment Used:
Rig: Commachio 600.

Sheet No.
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Dates: 14/12/21 - 16/12/21

Location :

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Engineer : ARUP

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Level to Ordnance Datum

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211441.07 N
Co-ordinates to National Grid

Orientation & Inclination:
Orientation: N/A
Inclination: N/A

Borehole No.
BH16

23m B.G.L.

22m B.G.L.

23

24

25

26

27

28

29

30

31

32

Run Details				Fracture Details				Samples		Insitu Tests		Strata										Discontinuities							
Core Run	TCR %	SCR %	RQD %	Min	Avg	Max	FI	Depth	Type No. Blows	Depth	Test Results	Depth (Thick-ness)	Description	Legend	Red. Level A.O.D.	Depth (Thick-ness)	Dip	Direction	Fracture Set	Discontinuity Description	Water	Install/ Backfill							
22.20 - 23.70	92	88	35	20	69	160	19																						
	100	97	44	10	68	300	21	23.05 - 23.20	C12																				
23.70 - 25.20																													
	97	77	25	10	60	140	24	24.50 - 24.65	C13																				
25.20 - 26.70																													
	100	90	27	20	53	140	27	25.90 - 26.00	C14																				
26.70 - 28.20																													
	93	93	19	10	45	150	31	27.40 - 27.45	C15			(25.92)																	
28.20 - 29.70													 medium strong below 28.2mbgl																
	97	93	63	50	122	300	11	29.20 - 29.45	C16																				
29.70 - 31.20																													
	99	95	64	30	114	200	12	30.50 - 30.65	C17																				
31.20 - 32.70								31.00 - 31.05	C18																				
	100	100	15	20	65	220	22																						
32.70 - 34.20	93	88	40	10	82	290	16																						

Hole Progress / Water Obs				Casing		Groundwater				Flush				Remarks: BH set out by QGL in liaison with ARUP. Services checked, area CAT scanned and hand dug pit to 1.20mbgl undertaken. ODEX GL-4.2mbgl, Rotary coring 4.2-40.2mbgl
Date / Time	H. Depth	C. Depth	Water	Depth	Diam.	Struck	Rose To	Behaviour	Sealed	Depth	Type	Returns	Colour	
16/12/2021 07:30	28.20	4.20	4.20											

Plas Newydd

Swansea

Tel: 01554744880

email: enquiries@quantumgeotechnic.co.uk

Operator:

QGL

Logged By:

P Darby

Logged Date:

Equipment Used:

Rig: Commachio 600.

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m Per Page

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