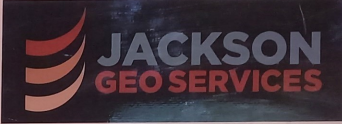


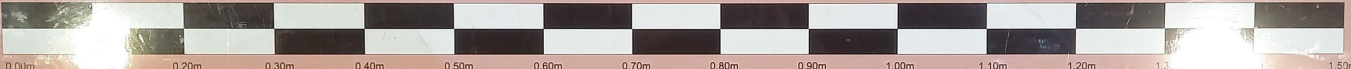
		EXPLORATORY HOLE PHOTOGRAPHS			Remarks Hand excavated inspection pit from GL to 1.20m. Dynamic sampling from 1.20m to 3.00m. Rotary coring from 3.00m to 21.00m. Artesian water strikes at 6.80m and 19.80m, Hydraulic head exceeding 3.00m agl. at 19.80m. Suspected borehole is located within workings pillar. Packer installed at 16.00m. Equipment borehole related to level test, hand tools		Exploratory Hole
Project	Global Centre of Rail Excellence	Easting	284195.05		Method	DS/RC/IP	Sheet 4 of 6
Client	Walters UK Limited	Northing	210572.22		Termination Reason	Artesian water encountered	
Project No	G22069	Level	228.51 mAOD				

Jackson Geoservices
Unit B3, Fram Enterprise Centre
Parc Busnes Edwards, Llantrisant
Pontyclun, CF72 8QZ

Email: team@jacksonge.co.uk
Telephone: 02920 099 769



Project Name	QCRE	Project Number	G22069
Client	WALTERS UK	Date	24 JAN' 2023
Exploratory Hole Number	SI-BH114C	Box / Face Number	
Depth (m) from	13.50 to 15.00	Engineer	A

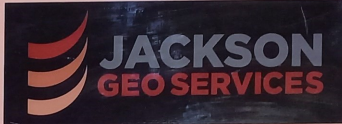




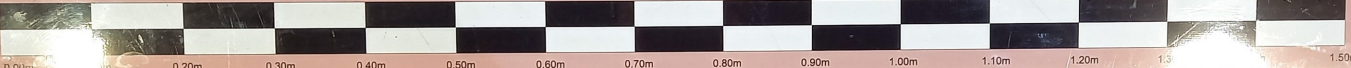
S1-BH114C 13.50 m to 15.00 m

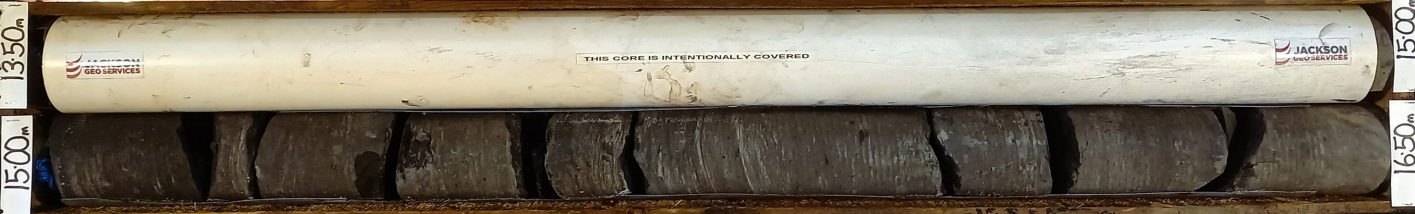
Jackson Geoservices
Unit B3, Fram Enterprise Centre
Parc Busnes Edwards, Llantrisant
Pontyclun, CF72 8QZ

Email: team@jacksonge.co.uk
Telephone: 02920 099 769



Project Name	QCRE	Project Number	G22069
Client	WALTERS UK	Date	24 JAN' 2023
Exploratory Hole Number	SI-BH114C	Box / Face Number	
Depth (m) from	15.00 to 16.50	Engineer	A





S1-BH114C 15.00 m to 16.50 m

EXPLORATORY HOLE PHOTOGRAPHS

Remarks

Hand excavated inspection pit from GL to 1.20m. Dynamic sampling from 1.20m to 3.00m. Rotary coring from 3.00m to 21.00m. Artesian water strikes at 6.80m and 19.80m. Hydraulic head exceeding 3.00m agl. at 19.80m. Suspected borehole is located within workings pillar. Packer installed at 16.00m. Equipment borehole sealed and associated hand tools

Exploratory Hole

S1-BH114C

Sheet 6 of 6

Project	Global Centre of Rail Excellence	Easting	284195.05	borehole is located within workings pillar. Packer installed at 16.00m depth. Equipment used borehole rig and associated surface tools	
Client	Walters UK Limited	Northing	210572.22	Method	DS/RC/IP
Project No	G22069	Level	228.51 mAOD	Termination Reason	Artesian water encountered

Jackson Geoservices
Unit B3, Fram Enterprise Centre
Parc Busnes Edwards, Llantrisant
Pontyclun, CF72 8QZ

Email: team@jacksongeo.co.uk
Telephone: 02920 099 769

**JACKSON
GEO SERVICES**

Project Name	QCRE	Project Number	Q22069
Client	WALTERS UK	Date	24 JAN' 2023
Exploratory Hole Number	SI-BH114-C	Box / Face Number	
Depth (m) from	19.50 to 21.00	Engineer	A

0.00m 0.10m 0.20m 0.30m 0.40m 0.50m 0.60m 0.70m 0.80m 0.90m 1.00m 1.10m 1.20m 1.30m 1.40m 1.50m

19.50m 21.00m

S1-BH114C 19.50 m to 21.00 m



Exploratory Hole Progress by Time				Exploratory Hole	
Date and Time	Depth	Casing Depth	Water Depth	S1-BH116	
09/12/2022 13:00	0.00	0.00	N/A		
09/12/2022 16:00	1.20	1.20	Dry		
10/12/2022 08:15	1.20	1.20	Dry		
10/12/2022 11:00	4.20	1.20	Dry	Sheet 1 of 4	
12/12/2022 08:30	4.20	1.20	3.87	Scale	1:25
12/12/2022 16:15	14.40	14.40	14.17	Drilled	TP
13/12/2022 08:15	14.40	14.40	13.06	Logged	AF
13/12/2022 13:30	17.40	17.40	Wet	Checked	AP

Drilling Flush					Hole Diameter		Casing Diameter		Water Added		Water Strikes						
Depth Top	Depth Base	Type	Colour	Returns	Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Date and Time	Casing	Strike	Sealed	Rising to	Time	Remarks
6.30	11.00	Air/Mist	Brown	100%	17.40	146mm	1.20	200mm									
11.00	13.50	Air/Mist	Grey	100%													
13.50	17.40	Air/Mist	Brown	100%													
Drill Bit Type			PCD		Drill Bit Condition		Good		Core Barrel Type		Wireline Triple Tube		Core Barrel Length		1.50		

Printed 16/03/2023 13:15

Printed 16/03/2023 13:15

Printed 16/03/2023 13:15

		EXPLORATORY HOLE PHOTOGRAPHS		Remarks Hand excavated inspection pit from GL to 1.20m. Dynamic sampling from 1.20m to 6.30m. Rotary coring from 6.30m to 17.40m.		Exploratory Hole S1-BH116
Project	Global Centre of Rail Excellence	Easting	284845.78	Equipment	Comacchio 305	Sheet 1 of 7
Client	Walters UK Limited	Northing	210624.37	Method	DS/IP/RC	
Project No	G22069	Level	237.25 mAOD	Termination Reason	Scheduled depth	



S1-BH116 1.20 m to 2.20 m

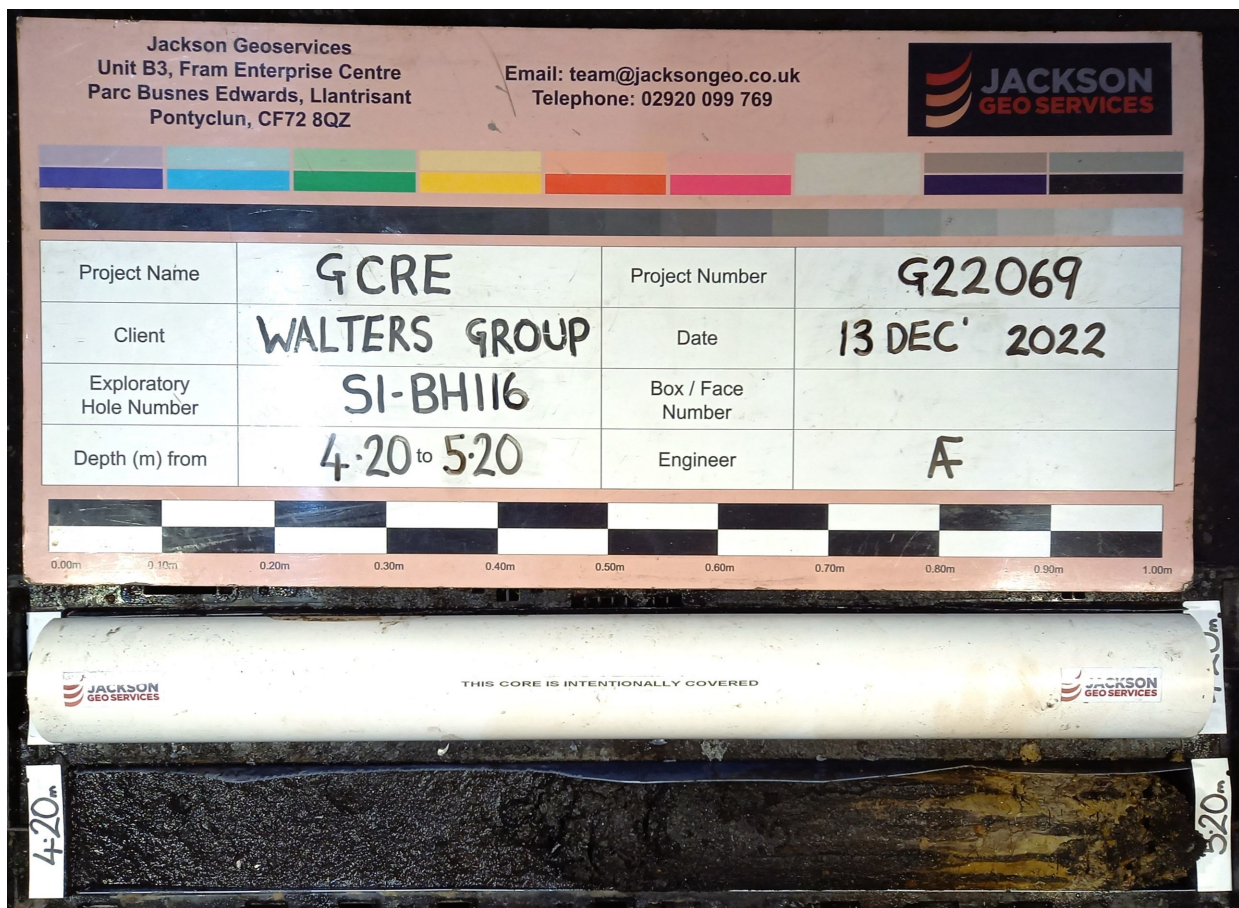


S1-BH116 2.20 m to 3.20 m

		EXPLORATORY HOLE PHOTOGRAPHS		Remarks Hand excavated inspection pit from GL to 1.20m. Dynamic sampling from 1.20m to 6.30m. Rotary coring from 6.30m to 17.40m.		Exploratory Hole S1-BH116
Project	Global Centre of Rail Excellence	Easting	284845.78	Equipment	Comacchio 305	Sheet 2 of 7
Client	Walters UK Limited	Northing	210624.37	Method	DS/IP/RC	
Project No	G22069	Level	237.25 mAOD	Termination Reason	Scheduled depth	

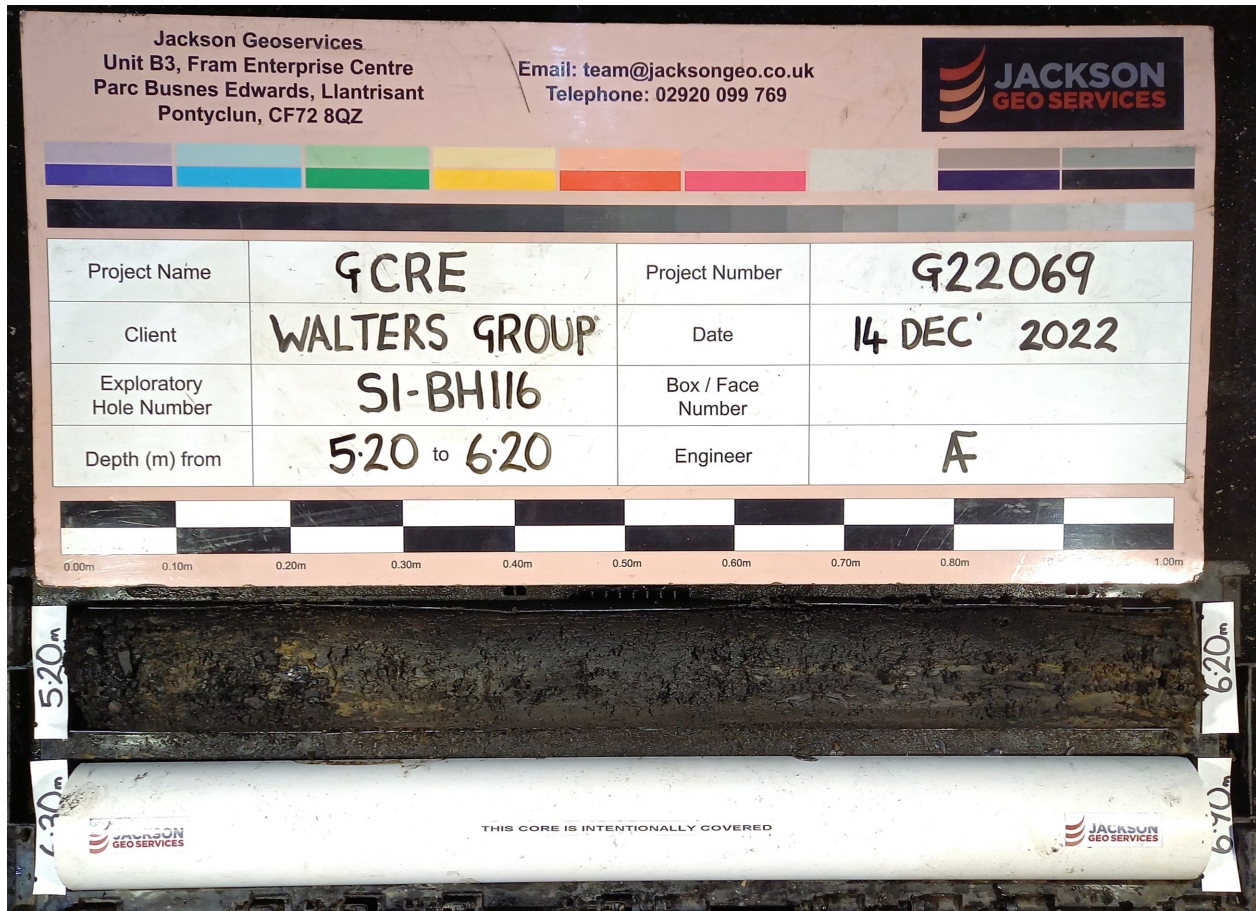


S1-BH116 3.20 m to 4.20 m



S1-BH116 4.20 m to 5.20 m

		EXPLORATORY HOLE PHOTOGRAPHS		Remarks Hand excavated inspection pit from GL to 1.20m. Dynamic sampling from 1.20m to 6.30m. Rotary coring from 6.30m to 17.40m.		Exploratory Hole S1-BH116
Project	Global Centre of Rail Excellence	Easting	284845.78	Equipment	Comacchio 305	Sheet 3 of 7
Client	Walters UK Limited	Northing	210624.37	Method	DS/IP/RC	
Project No	G22069	Level	237.25 mAOD	Termination Reason	Scheduled depth	



S1-BH116 5.20 m to 6.20 m



S1-BH116 6.30 m to 6.90 m

		EXPLORATORY HOLE PHOTOGRAPHS		Remarks Hand excavated inspection pit from GL to 1.20m. Dynamic sampling from 1.20m to 6.30m. Rotary coring from 6.30m to 17.40m.		Exploratory Hole S1-BH116
Project	Global Centre of Rail Excellence	Easting	284845.78	Equipment	Comacchio 305	Sheet 4 of 7
Client	Walters UK Limited	Northing	210624.37	Method	DS/IP/RC	
Project No	G22069	Level	237.25 mAOD	Termination Reason	Scheduled depth	



S1-BH116 6.90 m to 8.40 m

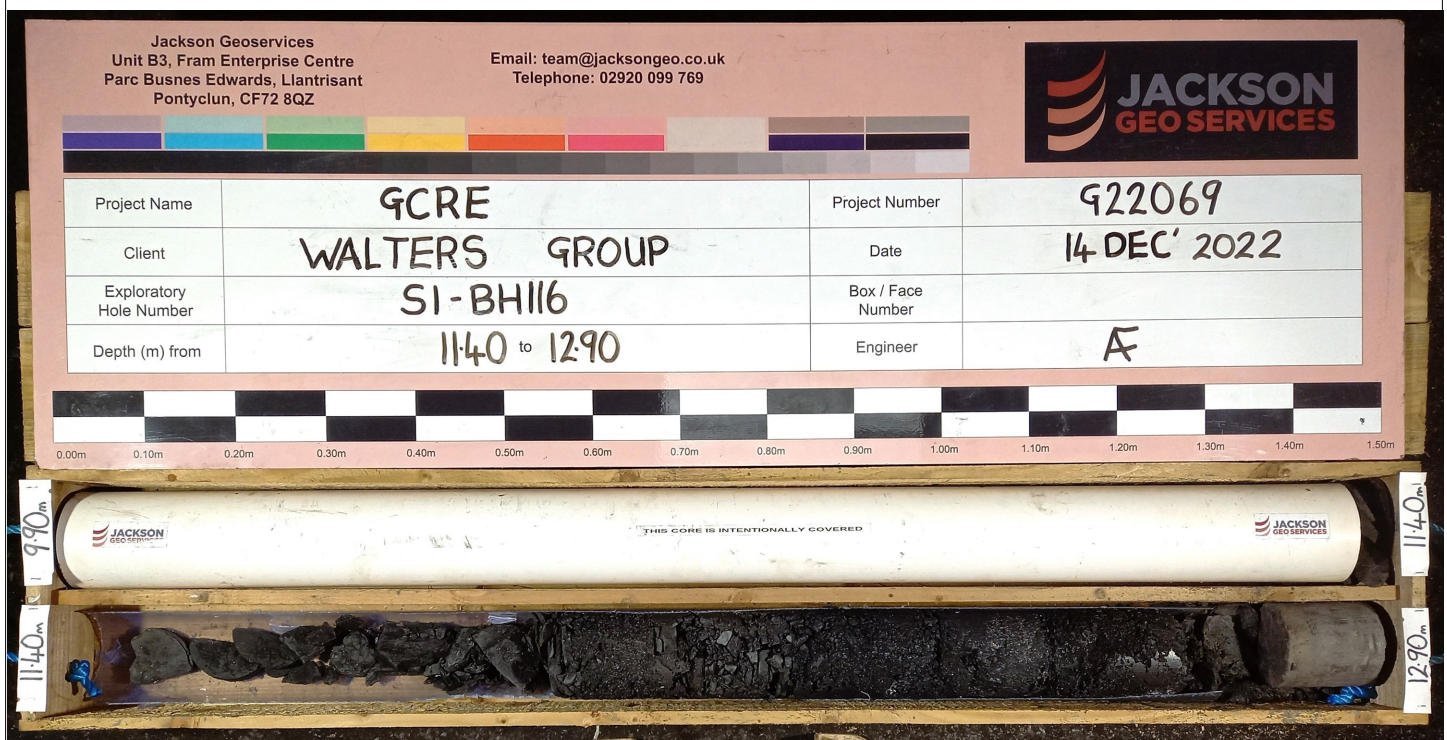


S1-BH116 8.40 m to 9.90 m

		EXPLORATORY HOLE PHOTOGRAPHS		Remarks Hand excavated inspection pit from GL to 1.20m. Dynamic sampling from 1.20m to 6.30m. Rotary coring from 6.30m to 17.40m.		Exploratory Hole S1-BH116
Project	Global Centre of Rail Excellence	Easting	284845.78	Equipment	Comacchio 305	Sheet 5 of 7
Client	Walters UK Limited	Northing	210624.37	Method	DS/IP/RC	
Project No	G22069	Level	237.25 mAOD	Termination Reason	Scheduled depth	



S1-BH116 9.90 m to 11.40 m

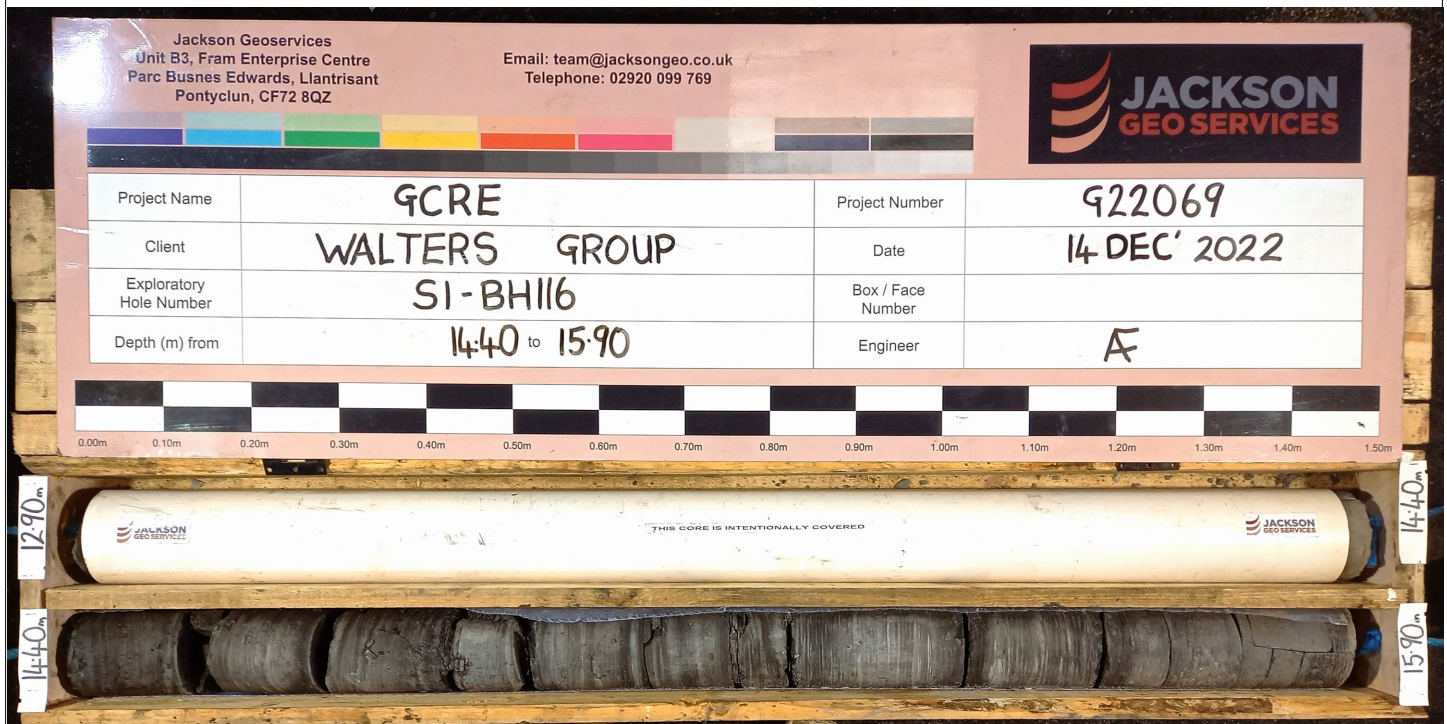


S1-BH116 11.40 m to 12.90 m

		EXPLORATORY HOLE PHOTOGRAPHS		Remarks Hand excavated inspection pit from GL to 1.20m. Dynamic sampling from 1.20m to 6.30m. Rotary coring from 6.30m to 17.40m.		Exploratory Hole S1-BH116
Project	Global Centre of Rail Excellence	Easting	284845.78	Equipment	Comacchio 305	Sheet 6 of 7
Client	Walters UK Limited	Northing	210624.37	Method	DS/IP/RC	
Project No	G22069	Level	237.25 mAOD	Termination Reason	Scheduled depth	



S1-BH116 12.90 m to 14.40 m



S1-BH116 14.40 m to 15.90 m

		EXPLORATORY HOLE PHOTOGRAPHS		Remarks Hand excavated inspection pit from GL to 1.20m. Dynamic sampling from 1.20m to 6.30m. Rotary coring from 6.30m to 17.40m.		Exploratory Hole S1-BH116
Project	Global Centre of Rail Excellence	Easting	284845.78	Equipment	Comacchio 305	Sheet 7 of 7
Client	Walters UK Limited	Northing	210624.37	Method	DS/IP/RC	
Project No	G22069	Level	237.25 mAOD	Termination Reason	Scheduled depth	

Jackson Geoservices
 Unit B3, Fram Enterprise Centre
 Parc Busnes Edwards, Llantrisant
 Pontyclun, CF72 8QZ

Email: team@jacksongeo.co.uk
 Telephone: 02920 099 769



Project Name	GCRE	Project Number	G22069
Client	WALTERS GROUP	Date	14 DEC' 2022
Exploratory Hole Number	S1-BH116	Box / Face Number	
Depth (m) from	1590 to 1740	Engineer	A






S1-BH116 15.90 m to 17.40 m

		DYNAMIC SAMPLING AND ROTARY DRILLING EXPLORATORY HOLE LOG						Exploratory Hole Progress by Time				Exploratory Hole					
								Date and Time		Depth	Casing Depth	Water Depth	S1-BH121				
Project		Global Centre of Rail Excellence			Equipment		Beretta T44/Insulated Hand Tools			08/11/2022 09:30 08/11/2022 16:00		0.00 10.50	6.50	0.30	Sheet 1 of 3		
Client		Walters UK Limited			Method		RC/DS/IP								Scale	1:25	
Project No		G22069		Level	230.88 mAOD		Inclination		90 degrees						Drilled	KO	
Easting		284475.72		Northing	210703.00		SPT Hammer Serial Number		TECH1						Logged	AF	
Termination Reason		Scheduled depth			SPT Hammer Energy Ratio		66 %								Checked	AP	
Samples	Sampling and Testing Depths		Insitu Testing and Depth Related Remarks			Drill Runs	TCR SCR RQD	Depth (Thickness)	Level (mAOD)	Legend	Description			If (min ave max)	Scale	Backfill	
1 ES 3 B	0.10 - 0.30 0.10 - 0.60		PID: 0.0ppmv					0.00 (0.70)			Dark grey and black very sandy slightly silty very angular to angular fine to coarse GRAVEL of siltstone, mudstone, sandstone, limestone and occasional coal with low cobble content. Sand is fine to coarse. Cobbles are subangular of siltstone. (MADE GROUND) Geology Code: MGR 2nd Geology Code: GR						
2 ES	0.50 - 0.70																
1 D	0.70 - 1.20 0.70		PID: 0.0ppmv			DS 0.70 - 1.20	100% 0% 0%	0.70	230.18		Very loose dark grey and black very sandy slightly silty very angular to angular fine to coarse GRAVEL of mudstone, siltstone, sandstone and coal. Sand is fine to coarse occasionally of ash. Occasional fragments of timber. (MADE GROUND) Geology Code: MGR 2nd Geology Code: GR						
101 ES 103 B 2 D	1.20 - 1.40 1.20 - 1.65 1.20 - 1.80 1.20 1.40																
102 ES	1.80 - 2.00		PID: 0.3ppmv			DS 1.20 - 2.00	100% 0% 0%	(1.10)	1.80	229.08	Spongy brown oxidising to dark brownish black pseudofibrous PEAT. Occasional fibrous plant remains and rootlets. (PEAT) Geology Code: PEAT						
4 D	2.00 - 2.45 2.00 2.00																
104 D	2.70 - 2.80		SPT(S) N=2 (1,2/1,0,0,1) Casing: 2.00 Water: 0.30 PID: 15.8ppmv			DS 2.00 - 3.00	30% 0% 0%	(1.80)									
6 D	3.00 - 3.45 3.00 3.00																
105 D	3.20 - 3.30		SPT(S) N=0 (1 for 450mm/0 for 0mm) Casing: 3.00 Water: 0.30 PID: 0.1ppmv			DS 3.00 - 4.00	97% 0% 0%	3.60 (0.10) 3.70	227.28 227.18		Very soft grey slightly sandy slightly gravelly silty CLAY. Gravel is angular fine of mudstone lithorelicts. Sand is fine to coarse. (Weathered SOUTH WALES LOWER COAL MEASURES FORMATION) Geology Code: SWCM 2nd Geology Code: CL Soft to firm grey slightly sandy gravelly silty CLAY. Gravel is angular fine of mudstone lithorelicts. Sand is fine to coarse. (Weathered SOUTH WALES LOWER COAL MEASURES) Geology Code: SWCM 2nd Geology Code: CL Soft to firm becoming firm grey slightly sandy gravelly silty CLAY. Gravel is angular fine of mudstone lithorelicts. Sand is fine to coarse. Occasional relic rock fabric. (Weathered SOUTH WALES LOWER COAL MEASURES FORMATION) Geology Code: SWCM 2nd Geology Code: CL 4.00m - 5.00m Dynamic sample is minimal recovery. Core loss presumed to be finer fraction. Recovered material comprises slightly sandy very clayey angular to subangular fine to coarse GRAVEL of mudstone and siltstone.						
21 EW 19 EW 20 EW	3.28 3.30 3.32																
106 D	3.50 - 3.60		SPT(S) N=8 (1,2/2,2,2,2) Casing: 4.00 Water: 0.30 PID: 0.0ppmv			DS 4.00 - 5.00	25% 0% 0%	4.00	226.88								
107 D	3.60 - 3.70																
108 D	3.90 - 4.00							(0.30)									
8 D	4.00 - 4.45 4.00 4.00																
10 D	5.00 - 5.45							(1.45)									
Continued on next Sheet																	
Drilling Flush					Hole Diameter		Casing Diameter		Water Added		Water Strikes						
Depth Top	Depth Base	Type	Colour	Returns	Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Date and Time	Casing	Strike	Sealed	Rising to	Time	Remarks
6.50	10.50	Air/Mist	Grey	80%	6.50	168mm 122mm	6.50	168mm			08/11/2022 09:44		0.70		0.40	20mins	
Drill Bit Type		PCD		Drill Bit Condition		Good		Core Barrel Type		Conventional Triple Tube		Core Barrel Length		1.50			
Remarks Hand excavated inspection pit from GL to 0.70m depth. Dynamic sampling from 0.70m to 6.50m depth. Rotary coring from 6.50m to 10.50m depth.																	

		DYNAMIC SAMPLING AND ROTARY DRILLING EXPLORATORY HOLE LOG						Exploratory Hole Progress by Time				Exploratory Hole					
								Date and Time		Depth	Casing Depth	Water Depth	S1-BH121				
Project		Global Centre of Rail Excellence			Equipment		Beretta T44/Insulated Hand Tools			Sheet 2 of 3							
Client		Walters UK Limited			Method		RC/DS/IP			Scale	1:25						
Project No		G22069		Level		230.88 mAOD		Inclination		90 degrees							
Easting		284475.72		Northing		210703.00		SPT Hammer Serial Number		TECH1							
Termination Reason		Scheduled depth			SPT Hammer Energy Ratio		66 %		Checked	AP							
Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks			Drill Runs	TCR SCR RQD	Depth (Thickness)	Level (mAOD)	Legend	Description	If (min ave max)	Scale	Backfill				
	5.00	SPT(S) N=21 (2,3/4,4,6,7) Casing: 5.00 Water: 0.30			RC 5.00 - 6.50	30% 0% 0%	5.45	225.43		Soft to firm becoming firm grey slightly sandy gravelly silty CLAY. Gravel is angular fine of mudstone lithorelicts. Sand is fine to coarse. Occasional relic rock fabric. (Weathered SOUTH WALES LOWER COAL MEASURES FORMATION) Geology Code: SWCM 2nd Geology Code: CL							
	6.50	SPT(C) N=40 (6,9/9,9,11,11) Casing: 6.50 Water: 0.30					RC 6.50 - 8.00	0% 0% 0%		6.30			224.58	NO RECOVERY. Grey silty clay with mudstone gravel. Possible highly weathered mudstone (Driller's description). (Probable weathered SOUTH WALES LOWER COAL MEASURES FORMATION) Geology Code: SWCM 2nd Geology Code: CL			
	8.00	SPT(C) N=50 (25 for 100mm/50 for 170mm) Casing: 6.50 Water: 0.30			RC 8.00 - 9.00	0% 0% 0%			(3.70)	220.88			NO RECOVERY. Highly weathered mudstone (Driller's description). (Probable weathered SOUTH WALES LOWER COAL MEASURES FORMATION) Geology Code: SWCM 2nd Geology Code: MST				
	9.00	SPT(C) N=50 (25 for 75mm/50 for 160mm) Casing: 6.50 Water: 0.30					RC 9.00 - 10.50	33% 3% 0%					10.00	220.88	Continued on next Sheet		
Drilling Flush					Hole Diameter				Casing Diameter		Water Added		Water Strikes				
Depth Top	Depth Base	Type	Colour	Returns	Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Date and Time	Casing	Strike	Sealed	Rising to	Time	Remarks
6.50	10.50	Air/Mist	Grey	80%	6.50	168mm 122mm	6.50	168mm			08/11/2022 09:44		0.70		0.40	20mins	
Drill Bit Type		PCD		Drill Bit Condition		Good		Core Barrel Type		Conventional Triple Tube		Core Barrel Length		1.50			
Remarks Hand excavated inspection pit from GL to 0.70m depth. Dynamic sampling from 0.70m to 6.50m depth. Rotary coring from 6.50m to 10.50m depth.																	
Printed 16/03/2023 13:16																	



		EXPLORATORY HOLE PHOTOGRAPHS		Remarks Hand excavated inspection pit from GL to 0.70m depth. Dynamic sampling from 0.70m to 6.50m depth. Rotary coring from 6.50m to 10.50m depth.		Exploratory Hole S1-BH121
Project	Global Centre of Rail Excellence	Easting	284475.72	Equipment	Beretta T44/Insulated Hand Tools	Sheet 1 of 3
Client	Walters UK Limited	Northing	210703.00	Method	RC/DS/IP	
Project No	G22069	Level	230.88 mAOD	Termination Reason	Scheduled depth	



S1-BH121 1.20 m to 2.00 m



S1-BH121 2.00 m to 3.00 m