

Project	Global Centre of Rail Excellence (GCRE) Stage 2	Easting	283490.55	Equipment	Comacchio 305
Client	Walters UK Ltd	Northing	211916.45	Method	RO/RC
Project No	G23012	Level	236.21 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

**JACKSON
GEO SERVICES**

Project Name	GCRE STAGE 2	Project Number	Q23012
Client	WALTERS GROUP	Date	8 JUNE 2023
Exploratory Hole Number	SI-BH217	Box / Face Number	
Depth (m) from	25.50 to 27.00	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

25.50m

27.00m

JACKSON GEO SERVICES

THIS CORE IS INTENTIONALLY COVERED.

JACKSON GEO SERVICES

28.50m

S2-BH217 25.50 m to 27.00 m

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	GCRE STAGE 2	Project Number	Q23012
Client	WALTERS GROUP	Date	8 JUNE 2023
Exploratory Hole Number	SI-BH217	Box / Face Number	
Depth (m) from	2700 to 2850	Engineer	A

Scale: 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

Core Label: JACKSON GEO SERVICES, THIS CORE IS INTENTIONALLY COVERED, JACKSON GEO SERVICES

Core Length: 25.50m, 2700m, 2850m

S2-BH217 27.00 m to 28.50 m

		EXPLORATORY HOLE PHOTOGRAPHS		Exploratory Hole	
				S2-BH217	
Project	Global Centre of Rail Excellence (GCRE) Stage 2	Easting	283490.55	Equipment	Comacchio 305
Client	Walters UK Ltd	Northing	211916.45	Method	RO/RC
Project No	G23012	Level	236.21 mAOD	Termination Reason	Scheduled depth
					Sheet 8 of 10

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 STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	8 JUNE 2023
Exploratory Hole Number	SI-BH217	Box / Face Number	
Depth (m) from	28.50 to 30.00	Engineer	A





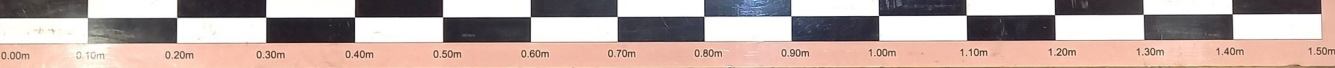

S2-BH217 28.50 m to 30.00 m

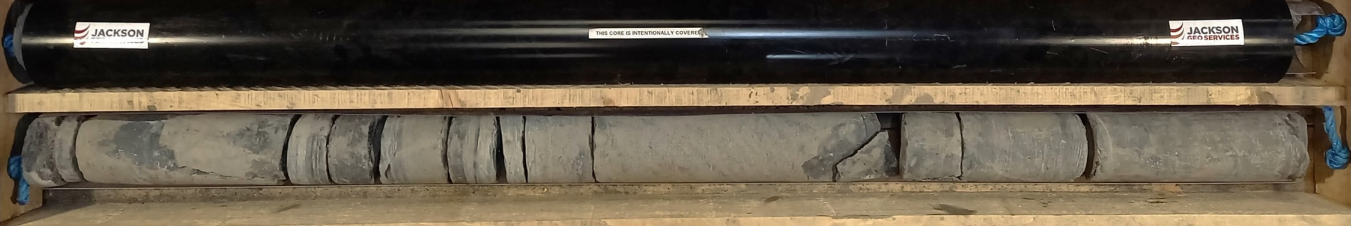
Jackson Geoservices
Unit B3, Fram Enterprise Centre
Parc Busnes Edwards, Llantrisant
Pontyclun, CF72 8QZ

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



Project Name	GCRE STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	8 JUNE 2023
Exploratory Hole Number	SI-BH217	Box / Face Number	
Depth (m) from	30.00 to 31.50	Engineer	A



S2-BH217 30.00 m to 31.50 m

		EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole
						S2-BH217
Project	Global Centre of Rail Excellence (GCRE) Stage 2	Easting	283490.55	Equipment	Comacchio 305	Sheet 9 of 10
Client	Walters UK Ltd	Northing	211916.45	Method	RO/RC	
Project No	G23012	Level	236.21 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 STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	8 JUNE 2023
Exploratory Hole Number	SI-BH217	Box / Face Number	
Depth (m) from	31.50 to 33.00	Engineer	A





S2-BH217 31.50 m to 33.00 m

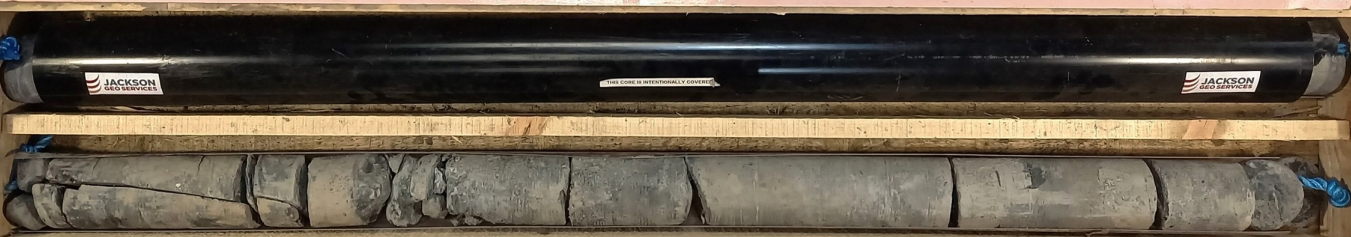
Jackson Geoservices
Unit B3, Fram Enterprise Centre
Parc Busnes Edwards, Llantrisant
Pontyclun, CF72 8QZ

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



Project Name	GCRE STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	8 JUNE 2023
Exploratory Hole Number	SI-BH217	Box / Face Number	
Depth (m) from	33.00 to 34.50	Engineer	A



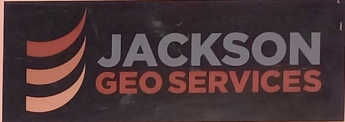


S2-BH217 33.00 m to 34.50 m

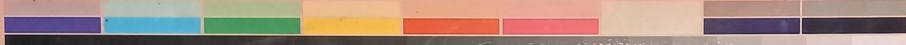
		EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole
						S2-BH217
Project	Global Centre of Rail Excellence (GCRE) Stage 2	Easting	283490.55	Equipment	Comacchio 305	Sheet 10 of 10
Client	Walters UK Ltd	Northing	211916.45	Method	RO/RC	
Project No	G23012	Level	236.21 mAOD	Termination Reason	Scheduled depth	

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 STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	8 JUNE 2023
Exploratory Hole Number	S1-BH217	Box / Face Number	
Depth (m) from	34.50 to 36.00	Engineer	A

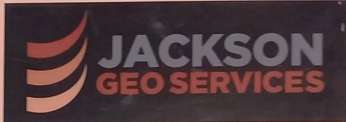





S2-BH217 34.50 m to 36.00 m

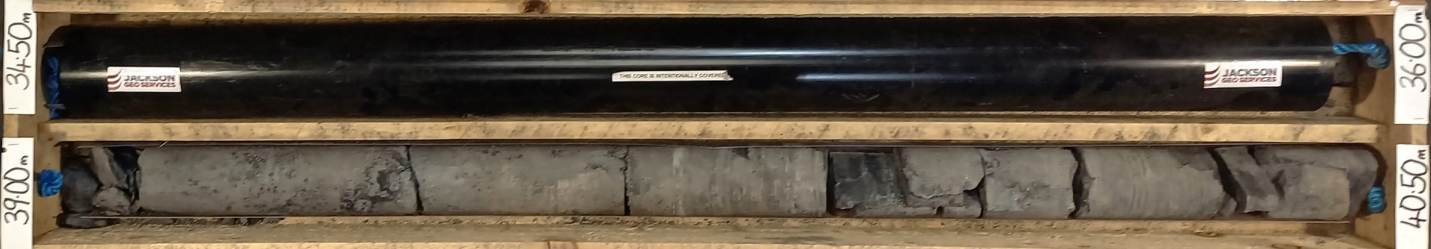
Jackson Geoservices
Unit B3, Fram Enterprise Centre
Parc Busnes Edwards, Llantrisant
Pontyclun, CF72 8QZ

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

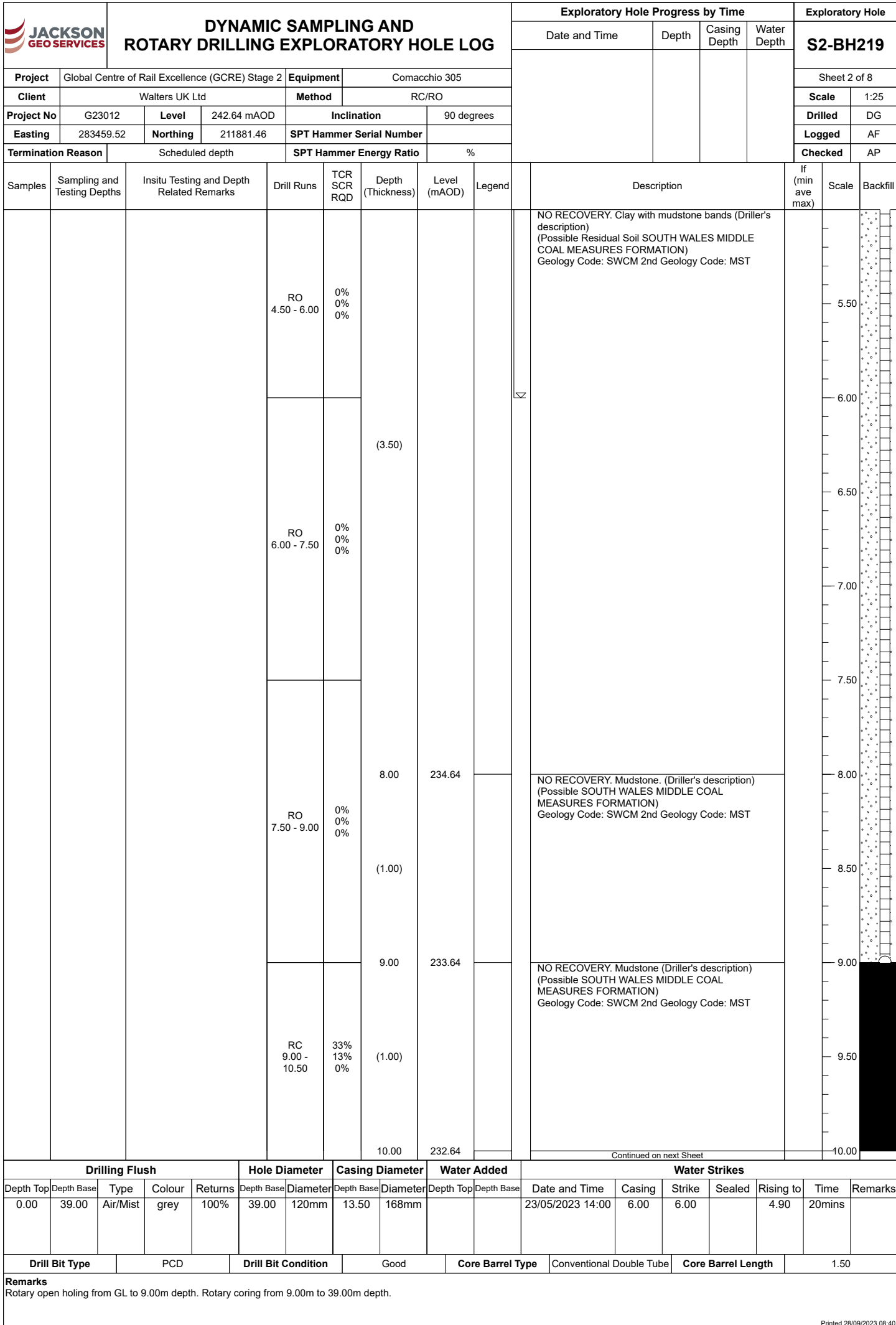


Project Name	GCRE STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	8 JUNE 2023
Exploratory Hole Number	S1-BH217	Box / Face Number	
Depth (m) from	39.00 to 40.50	Engineer	A



S2-BH217 39.00 m to 40.50 m



		DYNAMIC SAMPLING AND ROTARY DRILLING EXPLORATORY HOLE LOG						Exploratory Hole Progress by Time				Exploratory Hole					
								Date and Time		Depth	Casing Depth	Water Depth	S2-BH219				
Project		Global Centre of Rail Excellence (GCRE) Stage 2				Equipment		Comacchio 305				Sheet 3 of 8					
Client		Walters UK Ltd				Method		RC/RO				Scale 1:25					
Project No		G23012		Level		242.64 mAOD		Inclination		90 degrees		Drilled DG					
Easting		283459.52		Northing		211881.46		SPT Hammer Serial Number				Logged AF					
Termination Reason		Scheduled depth				SPT Hammer Energy Ratio		%				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		
101 C	10.90 - 11.16							(0.50)	232.14		Medium strong possibly very thinly to thinly bedded light grey fine grained SANDSTONE. Weathering: Occasional light brown non penetrative staining on fractures. Discontinuities: 15 to 20 degree very closely to closely spaced planar smooth tight bedding fractures, with 1-3mm silty fine sand infill. Joints are 40 to 50 degree undulating smooth tight. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) Geology Code: SWCM 2nd Geology Code: SST 10.00m - 10.10m NI recovered as angular medium to coarse gravel.	Set 1 NI 60 70	10.50				
								xxxxxx		Weak to moderately weak thinly to medium bedded grey slightly sandy SILTSTONE with occasional light grey fine sandstone laminae (<6mm) and very thin beds of medium strong light grey fine grained sandstone. Weathering: Occasional light brown non penetrative staining on fractures. Localised zones with increased fracture spacing. Discontinuities: 0 to 15 degree closely locally medium spaced planar and undulating rough tight bedding fractures, locally with 1-2mm sandy silt infill. Joints are randomly orientated undulating rough tight. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) Geology Code: SWCM 2nd Geology Code: SZT 10.50m - 10.55m NI, recovered as very angular to angular fine to coarse gravel. Possible randomly orientated very closely spaced fractures.		Set 1 NI 160 230					
102 C	11.77 - 11.95					RC 10.50 - 12.00	94% 56% 45%	(1.90)		xxxxxx	11.95m - 12.00m NI, recovered as very angular to angular fine to coarse gravel. Possible randomly orientated very closely spaced fractures.		11.00				
103 C	12.40 - 12.50							12.40	230.24	xxxxxx	12.00m - 12.11m Moderately weak grey sandy siltstone with 85 degree undulating rough tight joint. 12.25m - 12.38m NI, recovered as very angular to angular fine to coarse gravel. Possible randomly orientated very closely spaced fractures.		12.50				
										xxxxxx		Medium strong to strong thinly to medium bedded light grey fine to medium grained SANDSTONE with some grey sandy siltstone laminae (<6mm) and occasional very thin beds of moderately weak grey sandy siltstone. . Weathering: Occasional light brown non penetrative staining on fractures. Discontinuities: 0 to 15 degree very closely and closely spaced undulating rough tight bedding fractures, locally with 1-2mm silty fine sand infill. (SOUTH WALES MIDDLE COAL MEASURES FORMATION) Geology Code: SWCM 2nd Geology Code: SST				Set 1 NI 100 210	
						RC 12.00 - 13.50	87% 57% 37%	(3.90)			14.38m - 14.60m NI, recovered as very angular to angular medium to coarse gravel. Possible randomly orientated very closely spaced fractures.		13.00				
														13.50			
						RC 13.50 - 15.00	97% 67% 47%						14.00				
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
0.00	39.00	Air/Mist	grey	100%	39.00	120mm	13.50	168mm			23/05/2023 14:00	6.00	6.00		4.90	20mins	
Drill Bit Type		PCD		Drill Bit Condition		Good		Core Barrel Type		Conventional Double Tube		Core Barrel Length		1.50			
Remarks Rotary open holing from GL to 9.00m depth. Rotary coring from 9.00m to 39.00m depth.																	
Printed 28/09/2023 08:40																	

Printed 28/09/2023 08:40

Printed 28/09/2023 08:40



Exploratory Hole Progress by Time				Exploratory Hole	
Date and Time	Depth	Casing Depth	Water Depth	S2-BH219	
				Sheet 6 of 8	
				Scale	1:25
				Drilled	DG
				Logged	AF
				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
0.00	39.00	Air/Mist	grey	100%	39.00	120mm	13.50	168mm			23/05/2023 14:00	6.00	6.00		4.90	20mins	
Drill Bit Type		PCD		Drill Bit Condition		Good		Core Barrel Type		Conventional Double Tube		Core Barrel Length		1.50			

Printed 28/09/2023 08:40

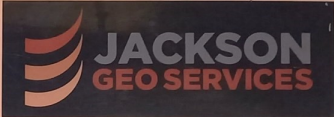
Printed 28/09/2023 08:40

Printed 28/09/2023 08:40

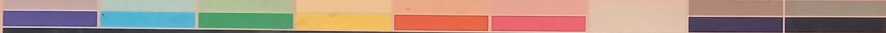
		EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole
						S2-BH219
Project	Global Centre of Rail Excellence (GCRE) Stage 2	Easting	283459.52	Equipment	Comacchio 305	Sheet 1 of 10
Client	Walters UK Ltd	Northing	211881.46	Method	RC/RO	
Project No	G23012	Level	242.64 mAOD	Termination Reason	Scheduled depth	

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

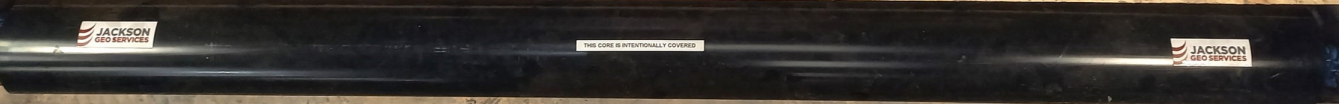
Email: team@jacksongeo.co.uk
Telephone: 02920 099 769



Project Name	GCRE STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAY 2023
Exploratory Hole Number	S2-BH219	Box / Face Number	
Depth (m) from	900 to 10.50	Engineer	A





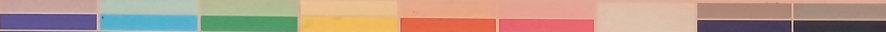
S2-BH219 9.00 m to 10.50 m

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 STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAY 2023
Exploratory Hole Number	S2-BH219	Box / Face Number	
Depth (m) from	10.50 to 12.00	Engineer	A








S2-BH219 10.50 m to 12.00 m

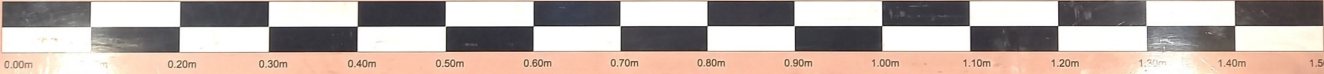
		EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole
						S2-BH219
Project	Global Centre of Rail Excellence (GCRE) Stage 2	Easting	283459.52	Equipment	Comacchio 305	Sheet 2 of 10
Client	Walters UK Ltd	Northing	211881.46	Method	RC/RO	
Project No	G23012	Level	242.64 mAOD	Termination Reason	Scheduled depth	

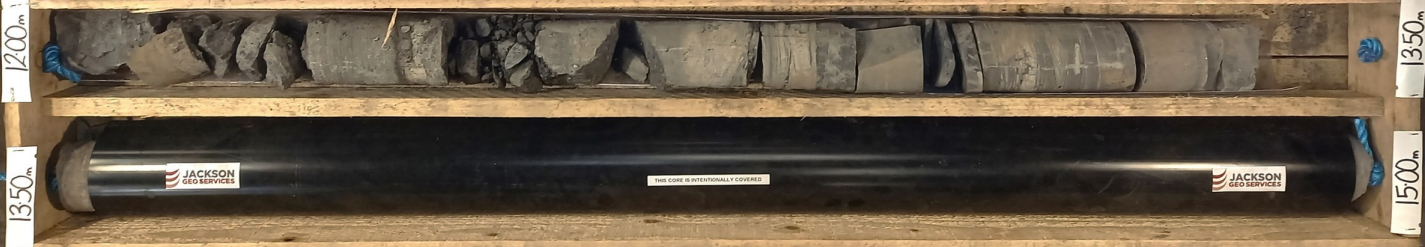
Jackson Geoservices
Unit B3, Fram Enterprise Centre
Parc Busnes Edwards, Llantrisant
Pontyclun, CF72 8QZ

Email: team@jacksongeo.co.uk
Telephone: 02920 099 768



Project Name	GCRE STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAY 2023
Exploratory Hole Number	S2-BH219	Box / Face Number	
Depth (m) from	12.00 to 13.50	Engineer	A





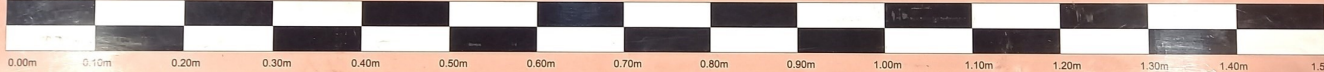
S2-BH219 12.00 m to 13.50 m

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

Email: team@jacksongeo.co.uk
Telephone: 02920 099 768



Project Name	GCRE STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAY 2023
Exploratory Hole Number	S2-BH219	Box / Face Number	
Depth (m) from	13.50 to 15.00	Engineer	A



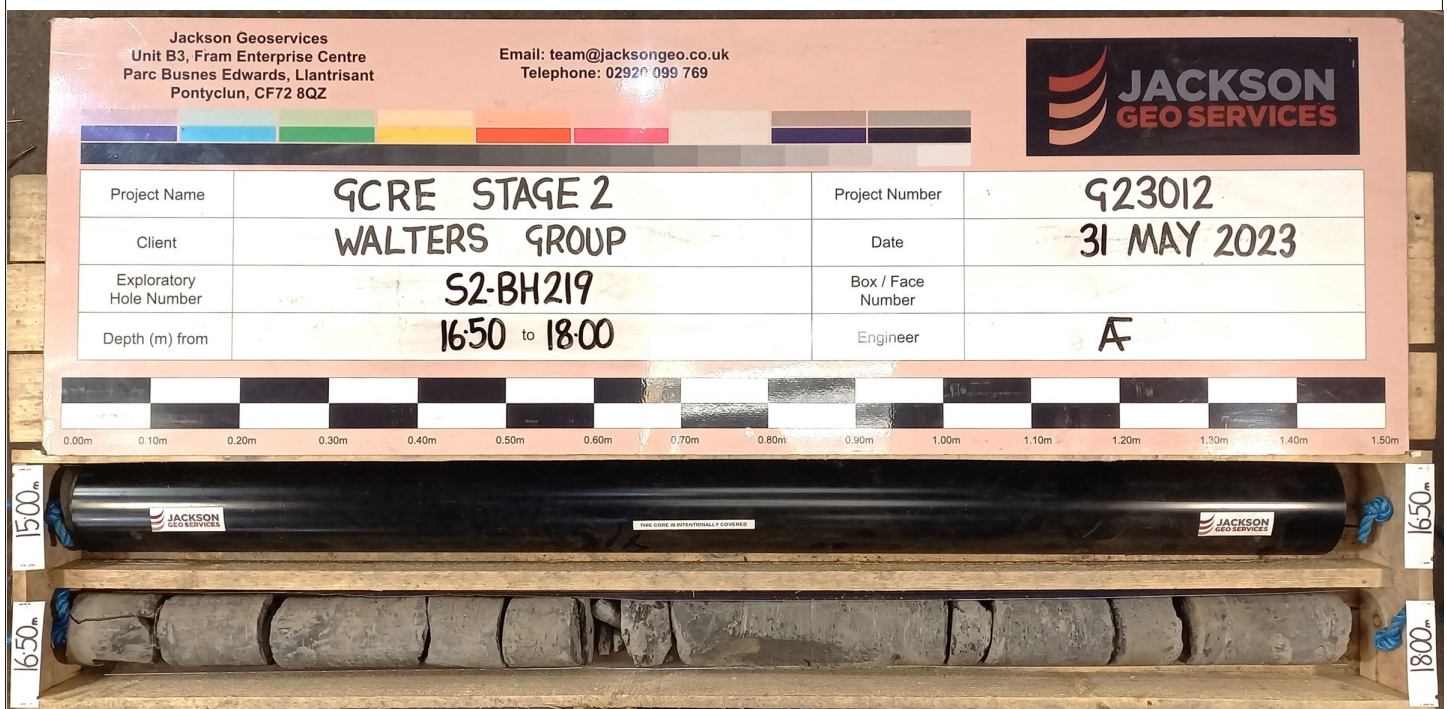


S2-BH219 13.50 m to 15.00 m

		EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole
						S2-BH219
Project	Global Centre of Rail Excellence (GCRE) Stage 2	Easting	283459.52	Equipment	Comacchio 305	Sheet 3 of 10
Client	Walters UK Ltd	Northing	211881.46	Method	RC/RO	
Project No	G23012	Level	242.64 mAOD	Termination Reason	Scheduled depth	



S2-BH219 15.00 m to 16.50 m



S2-BH219 16.50 m to 18.00 m

		EXPLORATORY HOLE PHOTOGRAPHS		Exploratory Hole	
				S2-BH219	
Project	Global Centre of Rail Excellence (GCRE) Stage 2	Easting	283459.52	Equipment	Comacchio 305
Client	Walters UK Ltd	Northing	211881.46	Method	RC/RO
Project No	G23012	Level	242.64 mAOD	Termination Reason	Scheduled depth
					Sheet 4 of 10

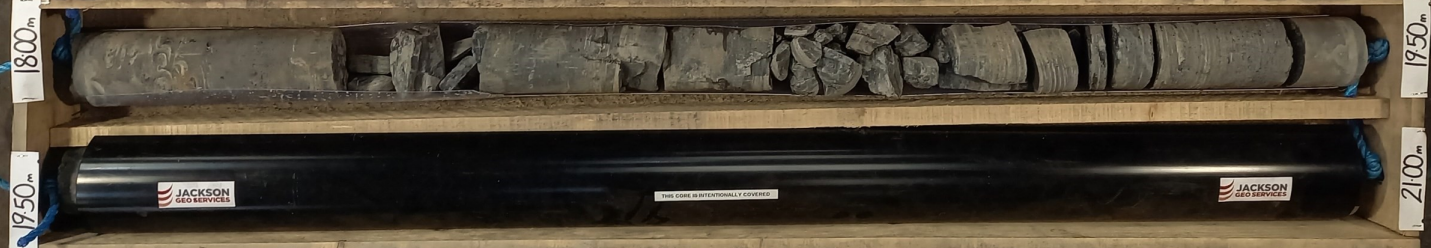
Jackson Geoservices
Unit B3, Fram Enterprise Centre
Parc Busnes Edwards, Llantrisant
Pontyclun, CF72 8QZ

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



Project Name	GCRE STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAY 2023
Exploratory Hole Number	S2-BH219	Box / Face Number	
Depth (m) from	1800 to 1950	Engineer	A





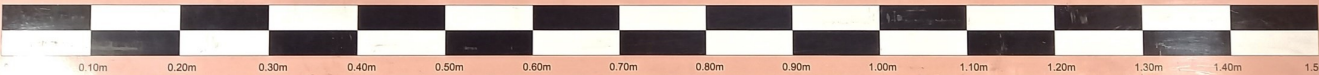
S2-BH219 18.00 m to 19.50 m

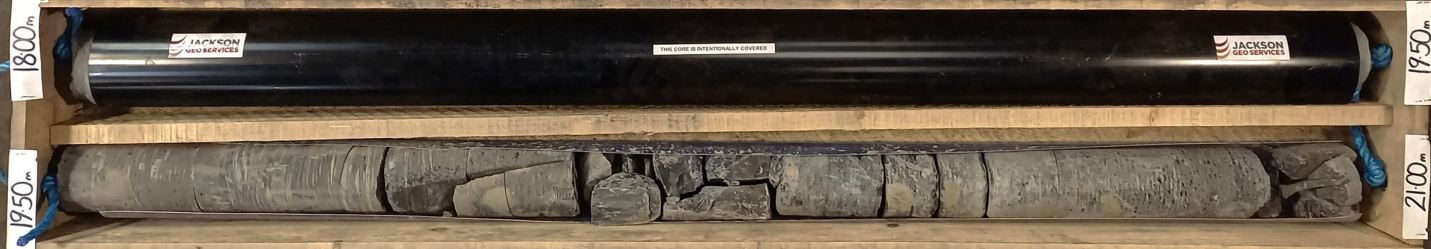
Jackson Geoservices
Unit B3, Fram Enterprise Centre
Parc Busnes Edwards, Llantrisant
Pontyclun, CF72 8QZ

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



Project Name	GCRE STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAY 2023
Exploratory Hole Number	S2-BH219	Box / Face Number	
Depth (m) from	1950 to 2100	Engineer	A





S2-BH219 19.50 m to 21.00 m

		EXPLORATORY HOLE PHOTOGRAPHS		Exploratory Hole	
				S2-BH219	
Project	Global Centre of Rail Excellence (GCRE) Stage 2	Easting	283459.52	Equipment	Comacchio 305
Client	Walters UK Ltd	Northing	211881.46	Method	RC/RO
Project No	G23012	Level	242.64 mAOD	Termination Reason	Scheduled depth

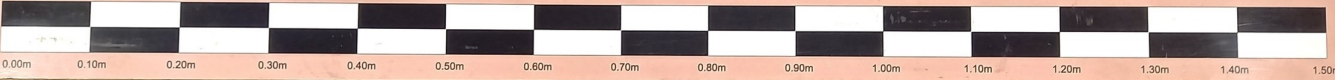
Sheet 5 of 10

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 STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAY 2023
Exploratory Hole Number	S2-BH219	Box / Face Number	
Depth (m) from	21:00 to 22:50	Engineer	A

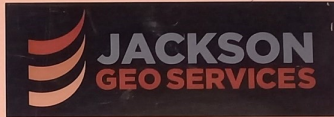





S2-BH219 21.00 m to 22.50 m

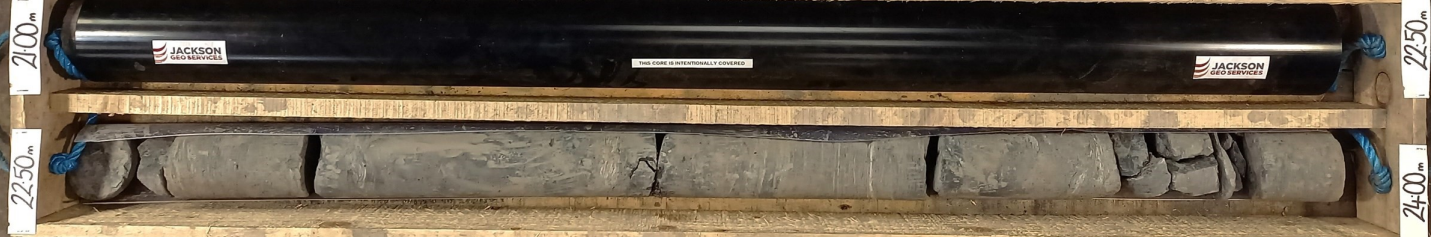
Jackson Geoservices
Unit B3, Fram Enterprise Centre
Parc Busnes Edwards, Llantrisant
Pontyclun, CF72 8QZ

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



Project Name	GCRE STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAY 2023
Exploratory Hole Number	S2-BH219	Box / Face Number	
Depth (m) from	22:50 to 24:00	Engineer	A



S2-BH219 22.50 m to 24.00 m

		EXPLORATORY HOLE PHOTOGRAPHS		Exploratory Hole	
				S2-BH219	
Project	Global Centre of Rail Excellence (GCRE) Stage 2	Easting	283459.52	Equipment	Comacchio 305
Client	Walters UK Ltd	Northing	211881.46	Method	RC/RO
Project No	G23012	Level	242.64 mAOD	Termination Reason	Scheduled depth

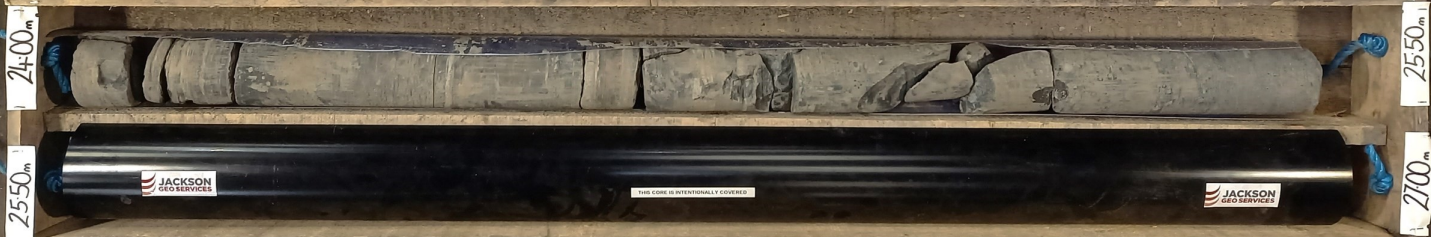
Sheet 6 of 10

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	GCRE STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAY 2023
Exploratory Hole Number	S2-BH219	Box / Face Number	
Depth (m) from	24.00 to 25.50	Engineer	A

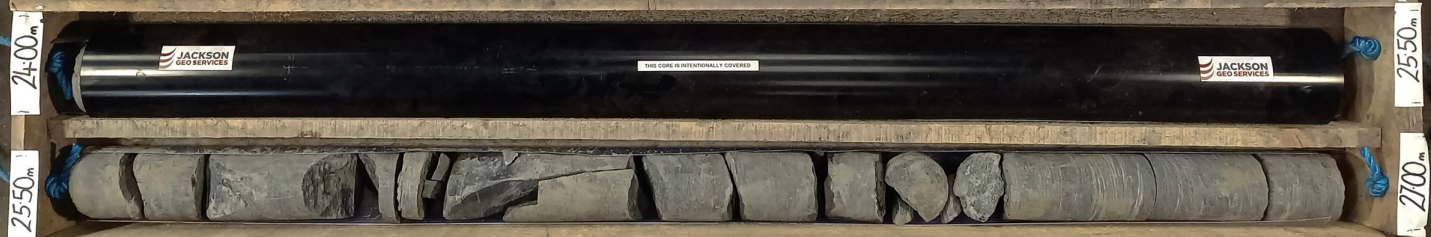
S2-BH219 24.00 m to 25.50 m

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	GCRE STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAY 2023
Exploratory Hole Number	S2-BH219	Box / Face Number	
Depth (m) from	25.50 0	Engineer	A

S2-BH219 25.50 m to 27.00 m

		EXPLORATORY HOLE PHOTOGRAPHS		Exploratory Hole	
				S2-BH219	
Project	Global Centre of Rail Excellence (GCRE) Stage 2	Easting	283459.52	Equipment	Comacchio 305
Client	Walters UK Ltd	Northing	211881.46	Method	RC/RO
Project No	G23012	Level	242.64 mAOD	Termination Reason	Scheduled depth

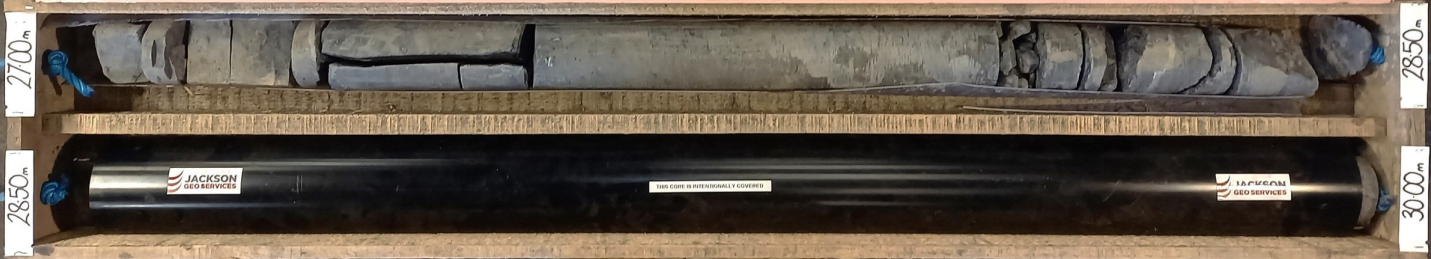
Sheet 7 of 10

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 STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAY 2023
Exploratory Hole Number	S2-BH219	Box / Face Number	
Depth (m) from	27:00 to 28:50	Engineer	A

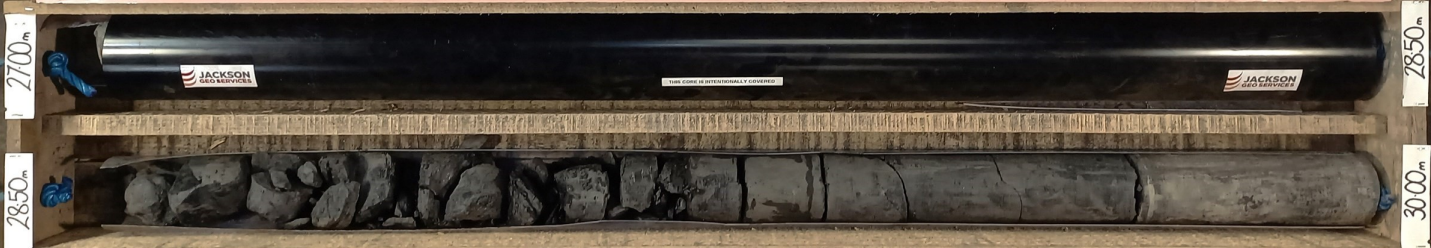
S2-BH219 27.00 m to 28.50 m

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 STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAY 2023
Exploratory Hole Number	S2-BH219	Box / Face Number	
Depth (m) from	28:50 to 30:00	Engineer	A

S2-BH219 28.50 m to 30.00 m

		EXPLORATORY HOLE PHOTOGRAPHS		Exploratory Hole	
				S2-BH219	
Project	Global Centre of Rail Excellence (GCRE) Stage 2	Easting	283459.52	Equipment	Comacchio 305
Client	Walters UK Ltd	Northing	211881.46	Method	RC/RO
Project No	G23012	Level	242.64 mAOD	Termination Reason	Scheduled depth

Sheet 8 of 10

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 STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAY 2023
Exploratory Hole Number	S2-BH219	Box / Face Number	
Depth (m) from	30.00 to 31.50	Engineer	A





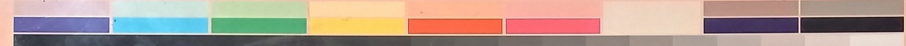

S2-BH219 30.00 m to 31.50 m

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 STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAY 2023
Exploratory Hole Number	S2-BH219	Box / Face Number	
Depth (m) from	31.50 to 33.00	Engineer	A






S2-BH219 31.50 m to 33.00 m

		EXPLORATORY HOLE PHOTOGRAPHS		Exploratory Hole	
				S2-BH219	
Project	Global Centre of Rail Excellence (GCRE) Stage 2	Easting	283459.52	Equipment	Comacchio 305
Client	Walters UK Ltd	Northing	211881.46	Method	RC/RO
Project No	G23012	Level	242.64 mAOD	Termination Reason	Scheduled depth

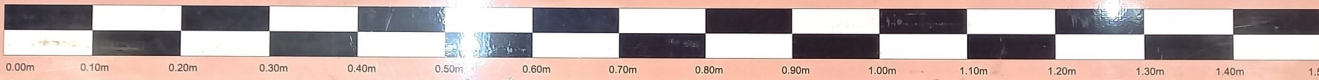
Sheet 9 of 10

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 STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAY 2023
Exploratory Hole Number	S2-BH219	Box / Face Number	
Depth (m) from	3300 34.50	Engineer	A





S2-BH219 33.00 m to 34.50 m

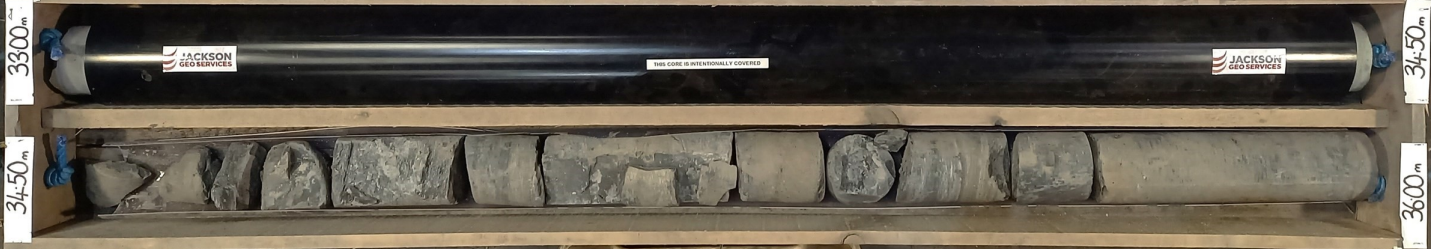
Jackson Geoservices
Unit B3, Fram Enterprise Centre
Parc Busnes Edwards, Llantrisant
Pontyclun, CF72 8QZ

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



Project Name	GCRE STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAY 2023
Exploratory Hole Number	S2-BH219	Box / Face Number	
Depth (m) from	34.50 36.00	Engineer	A





S2-BH219 34.50 m to 36.00 m

		EXPLORATORY HOLE PHOTOGRAPHS		Exploratory Hole	
				S2-BH219	
Project	Global Centre of Rail Excellence (GCRE) Stage 2	Easting	283459.52	Equipment	Comacchio 305
Client	Walters UK Ltd	Northing	211881.46	Method	RC/RO
Project No	G23012	Level	242.64 mAOD	Termination Reason	Scheduled depth

Sheet 10 of 10

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 STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAY 2023
Exploratory Hole Number	S2-BH219	Box / Face Number	
Depth (m) from	36.00 to 37.50	Engineer	A





S2-BH219 36.00 m to 37.50 m

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 STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAY 2023
Exploratory Hole Number	S2-BH219	Box / Face Number	
Depth (m) from	37.50 to 39.00	Engineer	A

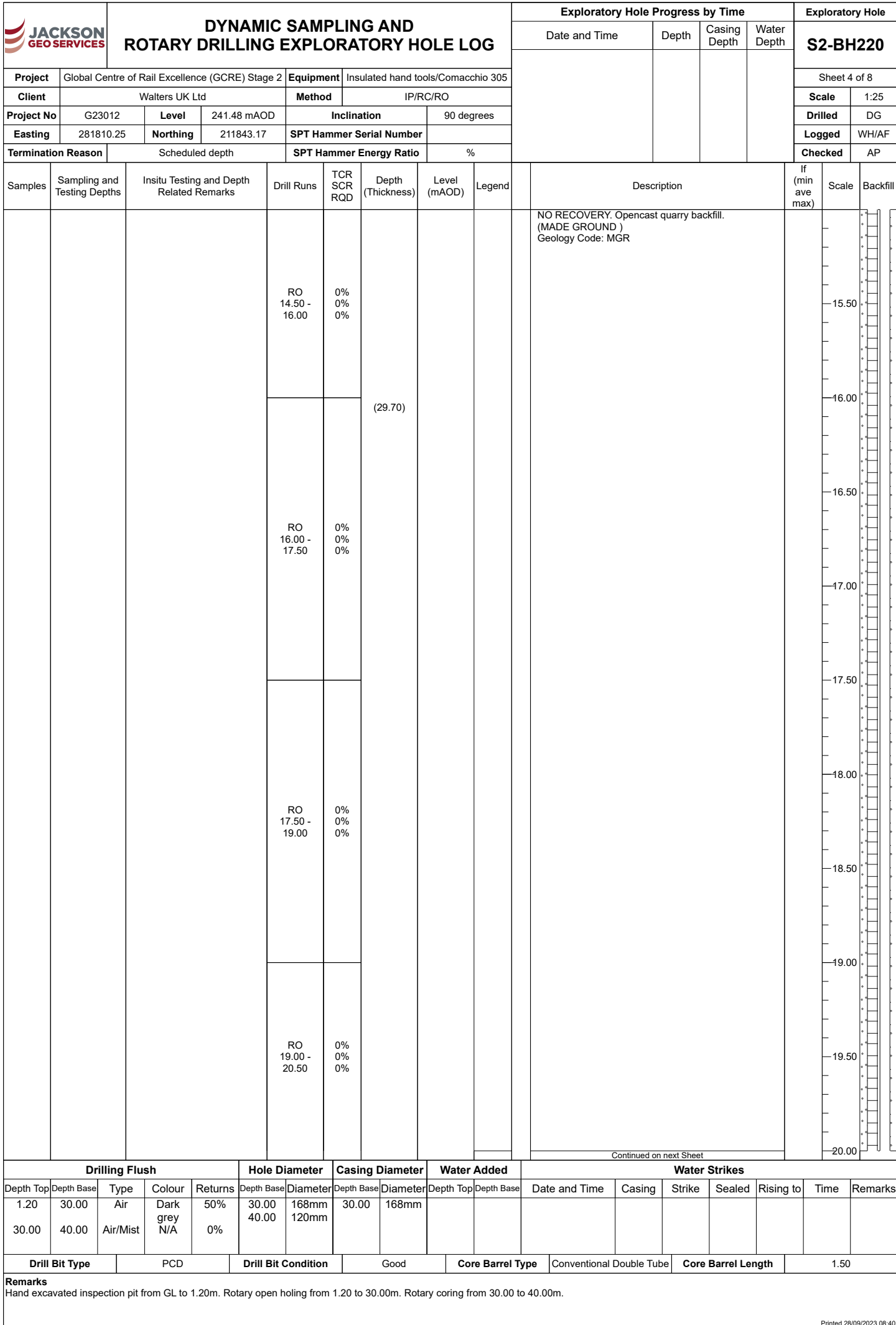


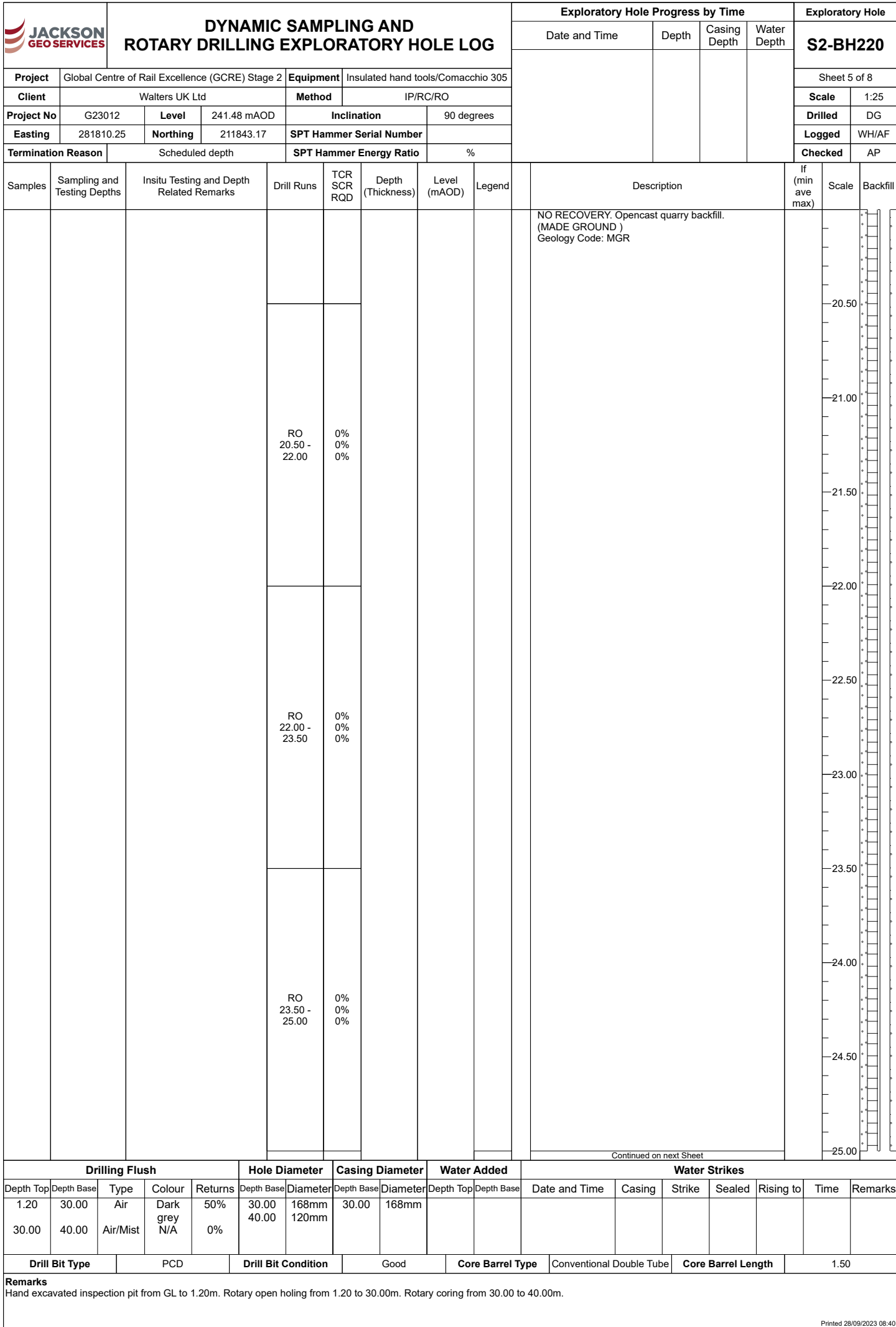


S2-BH219 37.50 m to 39.00 m

		DYNAMIC SAMPLING AND ROTARY DRILLING EXPLORATORY HOLE LOG						Exploratory Hole Progress by Time				Exploratory Hole					
								Date and Time		Depth	Casing Depth	Water Depth	S2-BH220				
								03/04/2023 08:00 03/04/2023 15:00		40.00 40.00	30.00 30.00	Dry Dry					
								ProjectGlobal Centre of Rail Excellence (GCRE) Stage 2		EquipmentInsulated hand tools/Comacchio 305							
ClientWalters UK Ltd		MethodIP/RC/RO		Sheet 2 of 8		Scale1:25											
Project NoG23012		Level241.48 mAOD		Inclination90 degrees		DrilledDG											
Easting281810.25		Northing211843.17		SPT Hammer Serial Number		LoggedWH/AF											
Termination ReasonScheduled depth		SPT Hammer Energy Ratio		%		CheckedAP											
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				
				RO 5.50 - 7.00	0% 0% 0%				NO RECOVERY. Opencast quarry backfill. (MADE GROUND) Geology Code: MGR								
				RO 7.00 - 8.50	0% 0% 0%												
				RO 8.50 - 10.00	0% 0% 0%												
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
1.20	30.00	Air	Dark grey	50%	30.00	168mm	30.00	168mm									
30.00	40.00	Air/Mist	N/A	0%	40.00	120mm											
Drill Bit Type		PCD		Drill Bit Condition		Good		Core Barrel Type		Conventional Double Tube		Core Barrel Length		1.50			
Remarks Hand excavated inspection pit from GL to 1.20m. Rotary open holing from 1.20 to 30.00m. Rotary coring from 30.00 to 40.00m.																	
Printed 28/09/2023 08:40																	

JACKSON GEO SERVICES		DYNAMIC SAMPLING AND ROTARY DRILLING EXPLORATORY HOLE LOG						Exploratory Hole Progress by Time				Exploratory Hole					
								Date and Time		Depth	Casing Depth	Water Depth	S2-BH220				
Project		Global Centre of Rail Excellence (GCRE) Stage 2				Equipment		Insulated hand tools/Comacchio 305				Sheet 3 of 8					
Client		Walters UK Ltd				Method		IP/RC/RO				Scale 1:25					
Project No		G23012		Level		241.48 mAOD		Inclination		90 degrees		Drilled DG					
Easting		281810.25		Northing		211843.17		SPT Hammer Serial Number				Logged WH/AF					
Termination Reason		Scheduled depth				SPT Hammer Energy Ratio		%				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		
						RO 10.00 - 11.50	0% 0% 0%				NO RECOVERY. Opencast quarry backfill. (MADE GROUND) Geology Code: MGR						
						RO 11.50 - 13.00	0% 0% 0%										
						RO 13.00 - 14.50	0% 0% 0%										
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
1.20	30.00	Air	Dark grey	50%	30.00	168mm	30.00	168mm									
30.00	40.00	Air/Mist	N/A	0%													
Drill Bit Type		PCD			Drill Bit Condition		Good		Core Barrel Type		Conventional Double Tube		Core Barrel Length		1.50		
Remarks																	
Hand excavated inspection pit from GL to 1.20m. Rotary open holing from 1.20 to 30.00m. Rotary coring from 30.00 to 40.00m.																	





JACKSON GEO SERVICES		DYNAMIC SAMPLING AND ROTARY DRILLING EXPLORATORY HOLE LOG						Exploratory Hole Progress by Time				Exploratory Hole					
								Date and Time		Depth	Casing Depth	Water Depth	S2-BH220				
Project		Global Centre of Rail Excellence (GCRE) Stage 2				Equipment		Insulated hand tools/Comacchio 305				Sheet 6 of 8					
Client		Walters UK Ltd				Method		IP/RC/RO				Scale 1:25					
Project No		G23012		Level		241.48 mAOD		Inclination		90 degrees		Drilled DG					
Easting		281810.25		Northing		211843.17		SPT Hammer Serial Number				Logged WH/AF					
Termination Reason		Scheduled depth				SPT Hammer Energy Ratio		%				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		
						RO 25.00 - 26.50	0% 0% 0%				NO RECOVERY. Opencast quarry backfill. (MADE GROUND) Geology Code: MGR						
						RO 26.50 - 28.00	0% 0% 0%										
						RO 28.00 - 29.50	0% 0% 0%										
						RO 29.50 - 30.00	0% 0% 0%										
											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
1.20	30.00	Air	Dark grey	50%	30.00	168mm	30.00	168mm									
30.00	40.00	Air/Mist	N/A	0%													
Drill Bit Type		PCD			Drill Bit Condition		Good		Core Barrel Type		Conventional Double Tube		Core Barrel Length		1.50		
Remarks																	
Hand excavated inspection pit from GL to 1.20m. Rotary open holing from 1.20 to 30.00m. Rotary coring from 30.00 to 40.00m.																	

Printed 28/09/2023 08:40

Exploratory Hole Progress by Time				Exploratory Hole	
Date and Time	Depth	Casing Depth	Water Depth	S2-BH220	
				Sheet 7 of 8	
				Scale	1:25
				Drilled	DG
				Logged	WH/AF
				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
1.20	30.00	Air	Dark grey	50%	30.00	168mm	30.00	168mm									
30.00	40.00	Air/Mist	N/A	0%	40.00	120mm											
Drill Bit Type		PCD			Drill Bit Condition		Good		Core Barrel Type		Conventional Double Tube		Core Barrel Length			1.50	

Printed 28/09/2023 08:40

JACKSON GEO SERVICES		DYNAMIC SAMPLING AND ROTARY DRILLING EXPLORATORY HOLE LOG						Exploratory Hole Progress by Time				Exploratory Hole					
								Date and Time		Depth	Casing Depth	Water Depth	S2-BH220				
Project	Global Centre of Rail Excellence (GCRE) Stage 2			Equipment	Insulated hand tools/Comacchio 305							Sheet 8 of 8					
Client	Walters UK Ltd			Method	IP/RC/RO							Scale	1:25				
Project No	G23012		Level	241.48 mAOD		Inclination	90 degrees						Drilled	DG			
Easting	281810.25		Northing	211843.17		SPT Hammer Serial Number							Logged	WH/AF			
Termination Reason	Scheduled depth			SPT Hammer Energy Ratio		%						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				
				RC 34.50 - 36.00	60% 12% 8%	(9.10)			Partial recovery. Recovery is of stronger materials, core loss presumed to be weaker, more weathered materials. Recovered core comprises medium strong to strong (possible very thinly to thinly bedded) light grey and grey fine to medium grained SANDSTONE with some subordinate beds of weak to moderately weak slightly sandy SILTSTONE (<150mm thickness). with occasional vugs and quartz mineralisation on fractures. Weathering: Some light brown and brown staining on fractures penetrating 1-2mm. Increased fracture spacing throughout rock mass. Discontinuities: Typically NI recovered as angular to subangular cobbles with some angular to subangular fine to coarse gravel. Possible randomly orientated very closely spaced fractures. Intact core comprises 10 to 20 degree closely locally very closely spaced planar and undulating rough tight and open bedding fractures, infilled with 1-3mm silty fine sand. Joints are randomly orientated undulating rough tight and open. (SOUTH WALES LOWER COAL MEASURES FORMATION) Geology Code: SWCM 2nd Geology Code: SST 35.10m - 35.15m Stained light brownish green with many vugs (1-10mm). 36.50m - 36.90m 0 to 15 degree closely locally very closely spaced undulating rough tight bedding fractures. 37.00m - 37.10m Very weak dark grey MUDSTONE. NI, recovered as very angular fine to medium gravel. 37.30m - 37.50m 0 to 15 degree closely locally very closely spaced undulating rough tight bedding fractures. 38.50m - 39.00m 0 to 15 degree closely locally very closely spaced undulating rough tight bedding fractures.	35.50 36.00 36.50 37.00 37.50 38.00 38.50 39.00 39.50 40.00							
			RC 36.00 - 37.50	73% 34% 32%													
			RC 37.50 - 39.00	50% 24% 13%													
			RC 39.00 - 40.00	85% 7% 0%													
201.48								End of Exploratory Hole at 40.00m		40.00							
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
1.20	30.00	Air	Dark grey	50%	30.00	168mm	30.00	168mm									
30.00	40.00	Air/Mist	N/A	0%													
Drill Bit Type		PCD		Drill Bit Condition		Good		Core Barrel Type		Conventional Double Tube		Core Barrel Length		1.50			
Remarks																	
Hand excavated inspection pit from GL to 1.20m. Rotary open holing from 1.20 to 30.00m. Rotary coring from 30.00 to 40.00m.																	
Printed 28/09/2023 08:40																	

		EXPLORATORY HOLE PHOTOGRAPHS		Exploratory Hole	
				S2-BH220	
Project	Global Centre of Rail Excellence (GCRE) Stage 2	Easting	281810.25	Equipment	Insulated hand tools/Cornacchio 305
Client	Walters UK Ltd	Northing	211843.17	Method	IP/RC/RO
Project No	G23012	Level	241.48 mAOD	Termination Reason	Scheduled depth

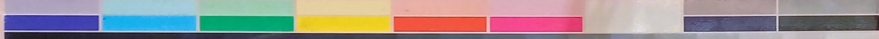
Sheet 1 of 4

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 STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAR' 2023
Exploratory Hole Number	S2-BH220	Box / Face Number	
Depth (m) from	30.00 to 31.50	Engineer	A





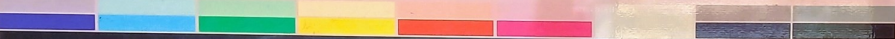

S2-BH220 30.00 m to 31.50 m

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 STAGE 2	Project Number	G23012
Client	WALTERS GROUP	Date	31 MAR' 2023
Exploratory Hole Number	S2-BH220	Box / Face Number	
Depth (m) from	31.50 to 33.00	Engineer	A






S2-BH220 31.50 m to 33.00 m