Rotary Core Log

GROUNDTECH CONSULTING

Project Name: BRUNSWICK MILL	Client: ARROWSMITH PROPERTY INVESTMENTS	Date: 02/05/2023 - 04/05/2023
Location: MANCHESTER	Contractor:	Co-ords: E385811.00 N398699.70
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH1	CP+RC	53.91m AoD	JR	1:50	Sheet 1 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		0.20	ES								MADE GROUND: Brown very gravelly medium to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, concrete, ceramics, platic and glass.
		0.50	D								
		0.50	ES								
		1.00	ES								
		1.20 - 1.65	D				(22)				
		2.00	D				N=50 (25 for 20mm/ 50 for 10mm)				
		2.00 - 2.45	ES								
		3.00	D					3.00	50.91		
		3.00 - 3.45	ES								MADE GROUND: Soft brown gravelly clay. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, sandstone and shale.
		4.00	ES					4.00	49.91		
		4.00 - 4.45	U								Firm brown slightly gravelly CLAY. Gravel is angular to subangular fine to coarse of mixed lithologies including shale.
		4.50	D								
		5.00 - 5.45	D				(15)				
		6.50 - 6.95	U								
		7.00	D								*Very sandy from 7.0m to 8.0m bgl.*
		8.00 - 8.45	D				(26)				*Becoming stiff at 8.0m bgl.*
		9.50 - 9.95	U								
		10.00	D								

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. SPT refusals encountered at 2.0m, 12.5m, 14.0m, 16.5m and 17.65m bgl. 5. Cable percussion drilling terminated at 18.0m bgl. Rotary core follow on to 24.0m bgl. 7. Monitoring standpipe installed to 24.0m bgl (18.0m plain, 6.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH PROPERTY INVESTMENTS	Date: 02/05/2023 - 04/05/2023
Location: MANCHESTER	Contractor:	Co-ords: E385811.00 N398699.70
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH1	CP+RC	53.91m AoD	JR	1:50	Sheet 2 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		11.00 - 11.45	D				(42)				Firm brown slightly gravelly CLAY. Gravel is angular to subangular fine to coarse of mixed lithologies including shale.
											Becoming gravelly at 12.0m bgl.
		12.50 - 12.95	D				N=50 (25 for 70mm/ 50 for 20mm)	13.00	40.91		Brown sandy silty slightly clayey angular to subrounded fine to coarse GRAVEL of sandstone. Sand is medium to coarse.
		14.00 - 14.45	D				N=50 (25 for 20mm/ 50 for 30mm)				
		15.50 - 15.95	D				(41)				
		16.50 - 16.95	D				N=50 (25 for 70mm/ 50 for 50mm)	17.00	36.91		Weak red SANDSTONE residually weathered recovered as slightly gravelly clayey medium to coarse sand. Gravel is angular to subangular fine to coarse.
		17.65 - 18.00	D				N=50 (25 for 30mm/ 50 for 20mm)	18.00	35.91		Red SANDSTONE.

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. SPT refusals encountered at 2.0m, 12.5m, 14.0m, 16.5m and 17.65m bgl. 5. Cable percussion drilling terminated at 18.0m bgl. Rotary core follow on to 24.0m bgl. 7. Monitoring standpipe installed to 24.0m bgl (18.0m plain, 6.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH PROPERTY INVESTMENTS	Date: 02/05/2023 - 04/05/2023
Location: MANCHESTER	Contractor:	Co-ords: E385811.00 N398699.70
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH1	CP+RC	53.91m AoD	JR	1:50	Sheet 3 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Red SANDSTONE.
								24.00	29.91		End of Borehole at 24.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. SPT refusals encountered at 2.0m, 12.5m, 14.0m, 16.5m and 17.65m bgl. 5. Cable percussion drilling terminated at 18.0m bgl. Rotary core follow on to 24.0m bgl. 7. Monitoring standpipe installed to 24.0m bgl (18.0m plain, 6.0m slotted).

Rotary Core Log

GROUNDTECH CONSULTING

Project Name: BRUNSWICK MILL	Client: ARROWSMITH PROPERTY INVESTMENTS	Date: 04/05/2023 - 10/05/2023
Location: MANCHESTER	Contractor:	
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH2	CP+RC		JR	1:50	Sheet 1 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		0.20	ES								MADE GROUND: Brown very gravelly medium to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, concrete, ceramics, platic, fabric and glass.
		0.50	D								
		0.50	ES								
		1.00	ES								
		1.20 - 1.65	D				(15)				
								1.80			MADE GROUND: Concrete slab.
		2.00	D				(6)	2.00			MADE GROUND: Soft brown gravelly clay. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, sandstone and shale.
		2.00 - 2.45	ES								
		3.00	D				(6)				
		3.00 - 3.45	ES								
								3.50			Soft brown sandy silty CLAY. Sand is fine to coarse.
		4.00	D					4.00			Stiff brown CLAY.
		4.00 - 4.45	ES								
		5.00 - 5.45	U								
		5.50	D								
		6.50 - 6.95	D				(15)				
		8.00 - 8.45	U								
		8.50	D								
		9.50 - 9.95	D				(20)				

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 20.0m bgl. 4. SPT refusals encountered at 14.0m, 15.5m and 16.5m bgl. 5. Cable percussion drilling terminated at 16.0m bgl. Rotary core follow on to 22.0m bgl. 7. Monitoring standpipe installed to 21.0m bgl (18.0m plain, 3.0m slotted).

Rotary Core Log

GROUNDTECH CONSULTING

Project Name: BRUNSWICK MILL	Client: ARROWSMITH PROPERTY INVESTMENTS	Date: 04/05/2023 - 10/05/2023
Location: MANCHESTER	Contractor:	
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH2	CP+RC		JR	1:50	Sheet 2 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Stiff brown CLAY.
		11.00 - 11.45	U								
		11.50	D								
		12.50 - 12.95	D				(35)				
		14.00 - 14.45	D				N=50 (5,6/50 for 70mm)				
		15.00 - 15.45	D				(18)	15.20			Brown red fine to medium SAND.
		15.50 - 16.00	D				N=50 (25 for 30mm/ 50 for 10mm) N=50 (25 for 10mm/ 50 for 10mm)	15.50 16.00			Weak red SANDSTONE residually weathered recovered as sandy angular to subangular fine to coarse gravel. Sand is medium to coarse. Red SANDSTONE.

11 12 13 14 15 16 17 18 19 20

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 20.0m bgl. 4. SPT refusals encountered at 14.0m, 15.5m and 16.5m bgl. 5. Cable percussion drilling terminated at 16.0m bgl. Rotary core follow on to 22.0m bgl. 7. Monitoring standpipe installed to 21.0m bgl (18.0m plain, 3.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH PROPERTY INVESTMENTS	Date: 04/05/2023 - 10/05/2023
Location: MANCHESTER	Contractor:	
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH2	CP+RC		JR	1:50	Sheet 3 of 3

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Red SANDSTONE.
								22.00			End of Borehole at 22.000m

21 22 23 24 25 26 27 28 29 30

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 20.0m bgl. 4. SPT refusals encountered at 14.0m, 15.5m and 16.5m bgl. 5. Cable percussion drilling terminated at 16.0m bgl. Rotary core follow on to 22.0m bgl. 7. Monitoring standpipe installed to 21.0m bgl (18.0m plain, 3.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH PROPERTY INVESTMENTS	Date: 10/05/2023 - 12/05/2023
Location: MANCHESTER	Contractor:	Co-ords: E385741.30 N398644.50
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH3	CP+RC	54.44m AoD	JR	1:50	Sheet 1 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		0.50	D								MADE GROUND: Dark brown very gravelly medium to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, sandstone, concrete and plastic.
		0.50	ES								
		1.00	ES								
		1.20 - 1.65	D				(16)				
		2.00	D				(10)				
		2.00 - 2.45	ES					2.30	52.14		
		3.00	ES								Firm grey mottled brown sandy CLAY. Sand is fine to coarse.
		3.00 - 3.45	U								
		3.50	D								
		4.00 - 4.45	D				(21)				
		5.00 - 5.45	U								
		5.50	D								
		6.50 - 6.95	D				(22)				
		8.00 - 8.45	U								
		8.50	D								
		9.50 - 9.95	D				(22)				

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 20.0m bgl. 4. SPT refusals encountered at 19.0m and 19.5m bgl. 5. Cable percussion drilling terminated at 20.0m bgl. Rotary core follow on to 26.0m bgl. 7. Dual monitoring standpipes installed to 21.0m bgl and 3.0m bgl (18.0m plain, 3.0m slotted, and 1.0m plain, 2.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH PROPERTY INVESTMENTS	Date: 10/05/2023 - 12/05/2023
Location: MANCHESTER	Contractor:	Co-ords: E385741.30 N398644.50
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH3	CP+RC	54.44m AoD	JR	1:50	Sheet 2 of 3

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Firm grey mottled brown sandy CLAY. Sand is fine to coarse.
		11.00 - 11.45	U								
		11.50	D								
		12.50 - 12.95	D				(32)				
		14.00 - 14.45	D				(40)	14.00	40.44		Brown gravelly sandy COBBLES of sandstone. Gravel is angular to rounded fine to coarse of sandstone. Sand is medium to coarse.
								15.00	39.44		Stiff brown CLAY with a high cobble content of sandstone.
		15.50 - 15.95	D				(42)				
								16.50	37.94		Stiff grey silty CLAY.
		17.00 - 17.45	D				(37)				
								17.80	36.64		Weak red SANDSTONE residually weathered recovered as firm brown red gravelly sandy clay. Gravel is angular to subangular fine to coarse. Sand is medium to coarse.
		18.00 - 18.45	D				(27)				
		19.00	D				N=50 (25 for 10mm/ 50 for 20mm)				
		19.50	D				N=50 (25 for				
								20.00	34.44		

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 20.0m bgl. 4. SPT refusals encountered at 19.0m and 19.5m bgl. 5. Cable percussion drilling terminated at 20.0m bgl. Rotary core follow on to 26.0m bgl. 7. Dual monitoring standpipes installed to 21.0m bgl and 3.0m bgl (18.0m plain, 3.0m slotted, and 1.0m plain, 2.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH PROPERTY INVESTMENTS	Date: 10/05/2023 - 12/05/2023
Location: MANCHESTER	Contractor:	Co-ords: E385741.30 N398644.50
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH3	CP+RC	54.44m AoD	JR	1:50	Sheet 3 of 3

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
							20mm/ 50 for 10mm)				Red SANDSTONE.
								26.00	28.44		End of Borehole at 26.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 20.0m bgl. 4. SPT refusals encountered at 19.0m and 19.5m bgl. 5. Cable percussion drilling terminated at 20.0m bgl. Rotary core follow on to 26.0m bgl. 7. Dual monitoring standpipes installed to 21.0m bgl and 3.0m bgl (18.0m plain, 3.0m slotted, and 1.0m plain, 2.0m slotted).