

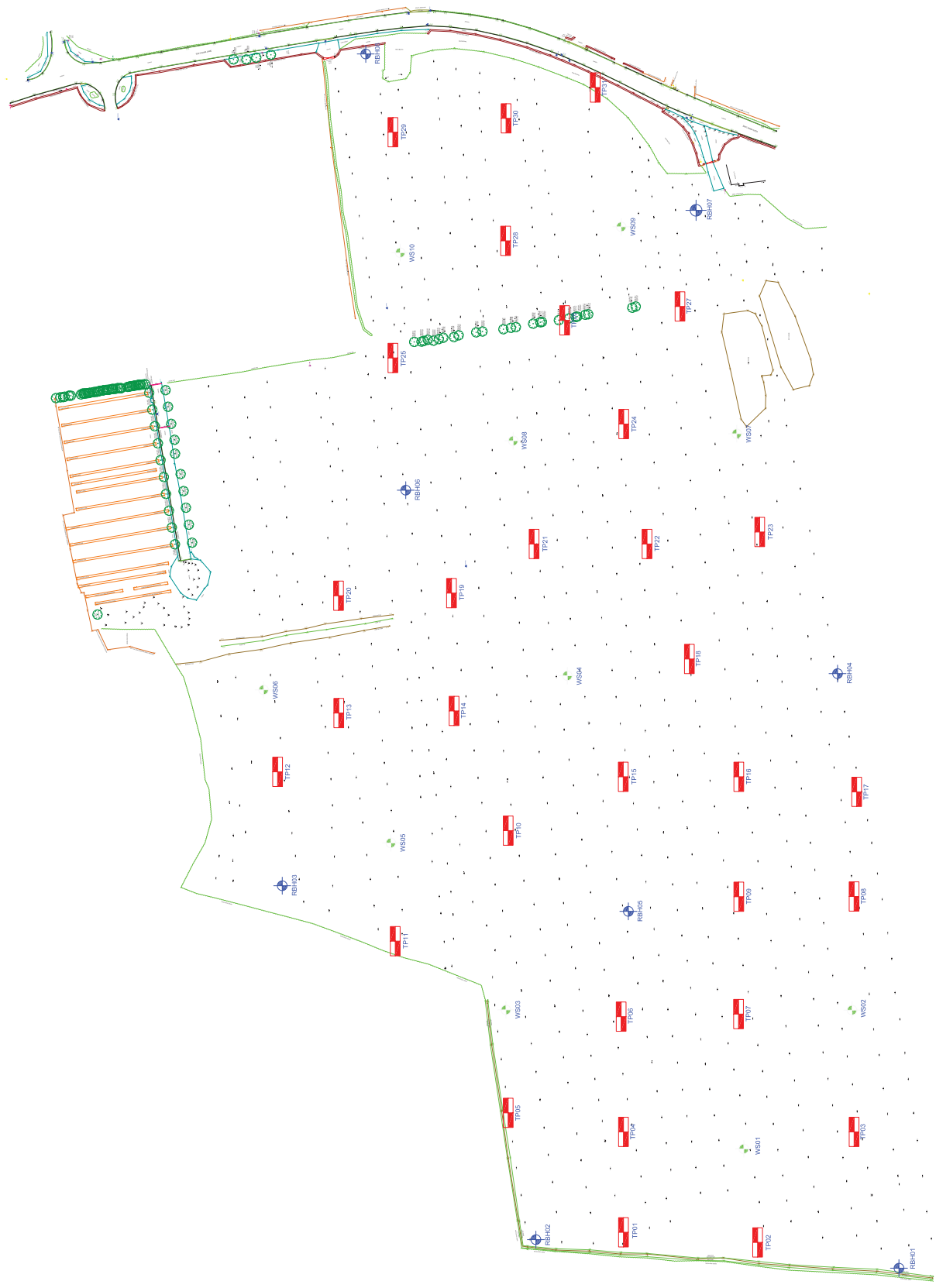


APPENDIX A

DRAWINGS



- Rotary Cored Borehole
- Microfissure Sample
- Marker excavated Tidal PM



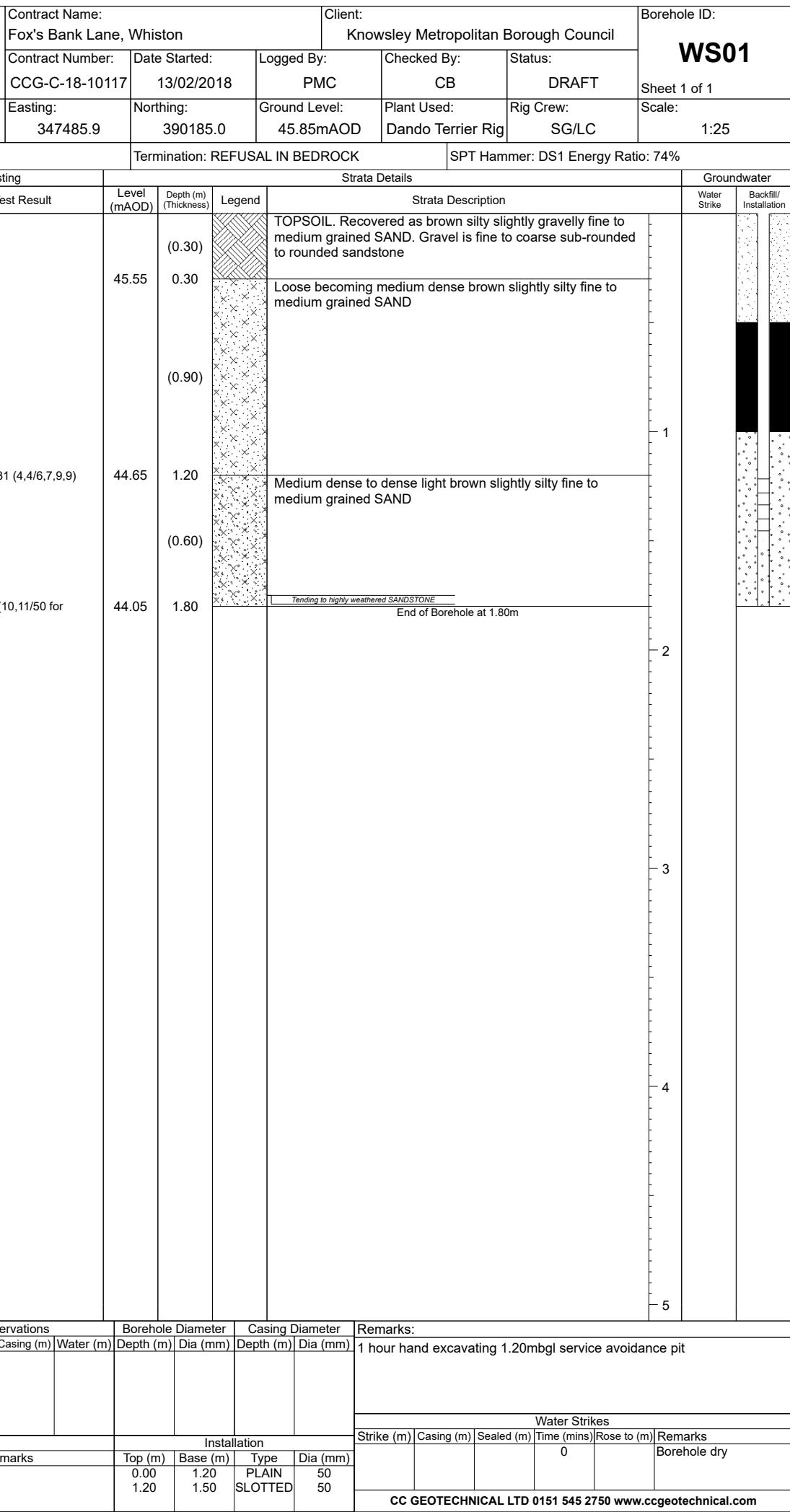
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		Ordnance Survey Crown Licence Licence No AL 5446240001 Reproduced with the permission of the Ordnance Survey Crown Licence No 5446240001			
Client	Keweenaw Metropolitan Borough Council				
Site	Fork Bend Lane, Whitton				
Drawn By	John L. Smith	Drawn No.	0000000000		
Job No.	0000000000	Draw No.	0000000000		
Job No.	0000000000	Draw No.	0000000000		
Job No.	0000000000	Draw No.	0000000000		

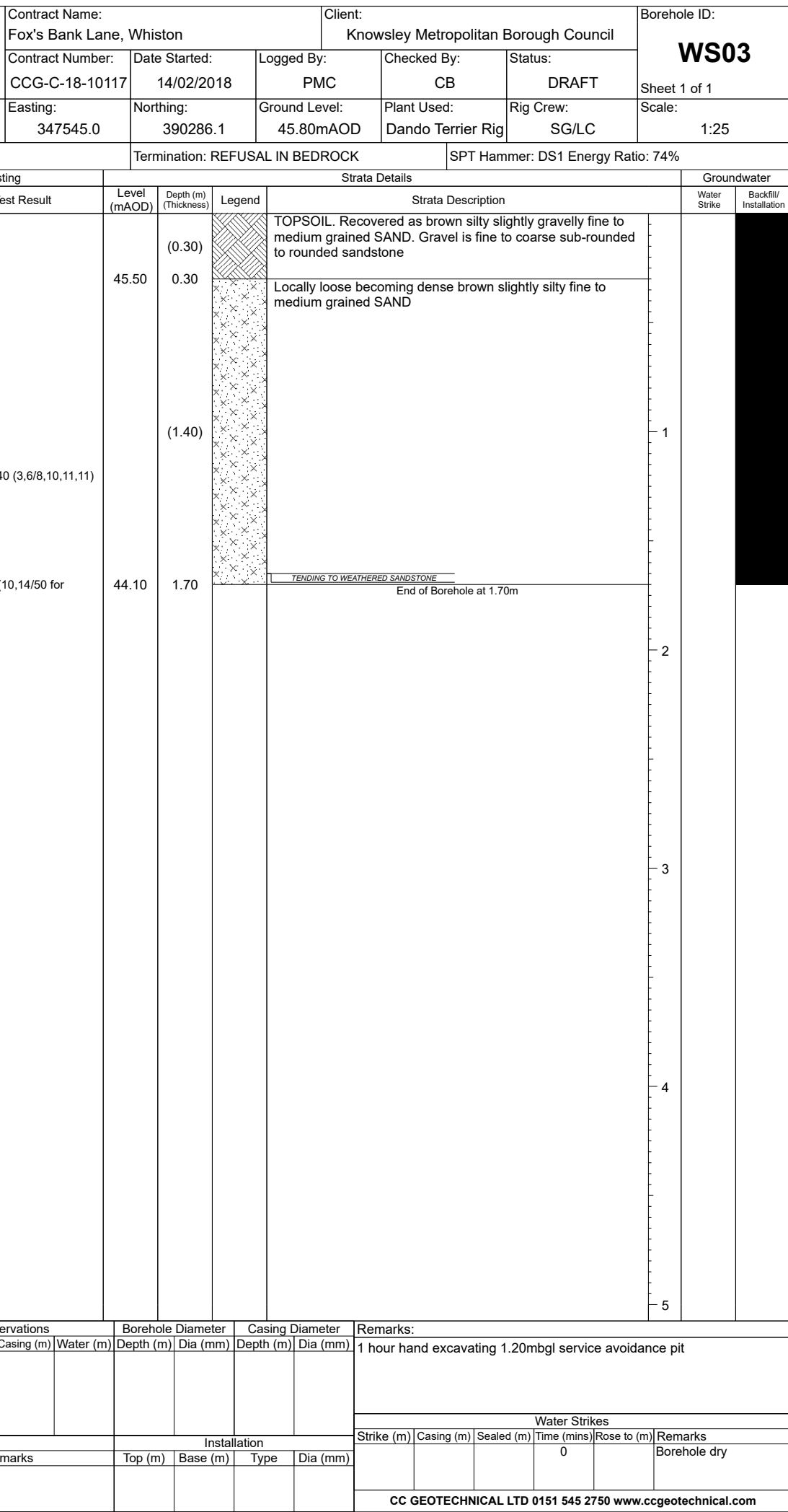


APPENDIX B

BOREHOLE LOG SHEETS



	Contract Name: Fox's Bank Lane, Whiston			Client: Knowsley Metropolitan Borough Council			Borehole ID: WS02		
	Contract Number: CCG-C-18-10117	Date Started: 14/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1			
Dynamic Sampling Borehole Log	Easting: 347544.9	Northing: 390139.0	Ground Level: 43.30mAOD	Plant Used: Dando Terrier Rig	Rig Crew: SG/LC	Scale: 1:25			
	Weather:			Termination: REFUSAL IN BEDROCK		SPT Hammer: DS1 Energy Ratio: 74%			
Samples & In Situ Testing			Strata Details				Groundwater		
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/Installation	
0.10	B		43.00	(0.30)		TOPSOIL. Recovered as brown silty slightly gravelly fine to medium grained SAND. Gravel is fine to coarse sub-rounded to rounded sandstone			
0.20	ES								
0.25	D								
0.30	ES								
0.55	D	HVP=40	42.50	(0.50)		Loose brown slightly silty slightly gravelly fine to medium grained SAND. Gravel is fine to coarse sub-rounded to rounded sandstone			
0.60	B								
1.00	ES	SPT(S)N=32 (3,4/6,7,9,10) HVP=35 HVP=45	41.90	(0.60)		Soft to firm brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium sub-rounded to sandstone and quartz	1		
1.05	D								
1.10	B								
1.20	SPTLS								
1.30	D		41.60	1.40		Dense brown slightly silty slightly gravelly fine to medium SAND			
1.60	ES								
1.70	SPTLS								
		SPT(S)50 (10,14/50 for 140mm)		1.70		TENDING TO WEATHERED SANDSTONE End of Borehole at 1.70m			
							2		
							3		
							4		
							5		
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit
Chiselling					Installation				Water Strikes
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)	Strike (m)	Casing (m)
								0	
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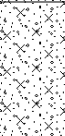


	Contract Name: Fox's Bank Lane, Whiston			Client: Knowsley Metropolitan Borough Council			Borehole ID: WS04		
	Contract Number: CCG-C-18-10117	Date Started: 13/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1			
Dynamic Sampling Borehole Log	Easting: 347687.1	Northing: 390260.0	Ground Level: 44.75mAOD	Plant Used: Dando Terrier Rig	Rig Crew: SG/LC	Scale: 1:25			
	Weather:			Termination: REFUSAL IN BEDROCK		SPT Hammer: DS1 Energy Ratio: 74%			
Samples & In Situ Testing			Strata Details				Groundwater		
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/Installation	
0.10	B	SPT(S)N=27 (3,4/5,6,8,8)	44.45	(0.30)		TOPSOIL. Recovered as brown silty fine to medium grained SAND	1		
0.20	ES			0.30		Loose becoming medium dense brown slightly silty fine to medium grained SAND			
0.25	D								
0.50	ES	SPT(S)50 (9,11/50 for 160mm)	43.55	(0.90)		Medium dense brown silty fine to medium grained SAND with pocket of clay	2		
0.60	B								
0.65	D								
1.00	ES								
1.10	B								
1.15	D	43.35	1.40		Medium dense to dense light brown slightly silty fine to medium grained SAND	3			
1.20	SPTLS								
1.30	D	42.95	1.80		Tending to highly weathered SANDSTONE End of Borehole at 1.80m	4			
1.50	D								
1.60	B	42.95	1.80		Tending to highly weathered SANDSTONE End of Borehole at 1.80m	5			
1.80	ES								
1.80	SPTLS								
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit
Chiselling					Installation				Water Strikes
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)	Strike (m)	Casing (m)
				0.00	1.20	PLAIN	50		
				1.20	1.80	SLOTTED	50		
									Sealed (m)
									Time (mins)
									Rose to (m)
									Remarks
									Borehole dry
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	Contract Name: Fox's Bank Lane, Whiston			Client: Knowsley Metropolitan Borough Council			Borehole ID: WS05				
	Contract Number: CCG-C-18-10117		Date Started: 13/02/2018		Logged By: PMC		Checked By: CB		Status: DRAFT		
	Easting: 347616.0		Northing: 390335.0		Ground Level: 46.74mAOD		Plant Used: Dando Terrier Rig		Rig Crew: SG/LC		
Dynamic Sampling Borehole Log									Sheet 1 of 1		
Weather:			Termination: REFUSAL IN BEDROCK			SPT Hammer: DS1 Energy Ratio: 74%			Scale: 1:25		
Samples & In Situ Testing				Strata Details					Groundwater		
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description			Water Strike	Backfill/Installation	
0.10 0.20 0.25	B ES D	SPT(S)N=29 (3,3/6,6,8,9)	46.44	(0.30) 0.30		TOPSOIL. Recovered as brown silty fine to medium grained SAND			1		
0.50 0.60 0.65	ES B D				(1.30)	Loose becoming medium dense brown tending to orange slightly silty fine to medium grained SAND					
1.00 1.10 1.15 1.20	ES B D SPTLS										
1.40 1.50	ES D										
1.60	SPTLS										
SPT(S)50 (11,13/50 for 160mm)			45.14	1.60	TENDING TO WEATHERED SANDSTONE End of Borehole at 1.60m			2			
									3		
									4		
									5		
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:		
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit		
Chiselling					Installation		Water Strikes				
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)	Strike (m)	Casing (m)	Sealed (m)	
							Time (mins)		Rose to (m)	Remarks	
							0			Borehole dry	
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Weather:					Termination: REFUSAL IN BEDROCK					SPT Hammer: DS1 Energy Ratio: 74%								
Samples & In Situ Testing					Strata Details							Groundwater						
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description					Water Strike	Backfill/ Installation						
0.10	B		49.35	(0.30)		TOPSOIL. Recovered as brown silty fine to medium grained SAND					1							
0.20	ES																	
0.25	D																	
0.50	ES																	
0.60	B																	
0.65	D	SPT(S)N=36 (2,6/7,9,9,11)		(1.30)		Loose becoming medium dense brown slightly silty fine to medium grained SAND												
1.00	ES																	
1.10	B																	
1.15	D																	
1.20	SPTLS																	
1.30	ES	SPT(S)49 (12,13/49 for 76mm)	48.05	1.60		TENDING TO WEATHERED SANDSTONE					2							
1.50	B																	
1.60	D																	
1.60	SPTLS																	
1.60																		
						End of Borehole at 1.60m					3							
													4					
															5			
																	5	
											5							
													5					
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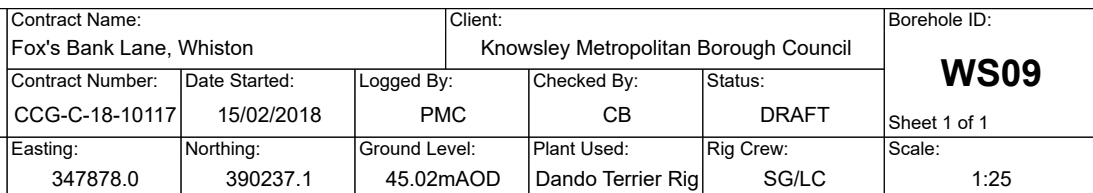
	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Borehole ID: WS07	
	Contract Number: CCG-C-18-10117	Date Started: 13/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1	
Dynamic Sampling Borehole Log	Easting: 347790.0	Northing: 390188.0	Ground Level: 42.46mAOD	Plant Used: Dando Terrier Rig	Rig Crew: SG/LC	Scale: 1:25	
	Weather:		Termination: REFUSAL IN BEDROCK		SPT Hammer: DS1 Energy Ratio: 74%		

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/Installation
0.10	B		42.06	(0.40)		TOPSOIL. Recovered as brown silty fine to medium grained SAND		
0.20	ES			0.40		Loose becoming medium dense brown slightly gravelly slightly silty fine to medium grained SAND. Gravel is fine to coarse sub-rounded sandstone		
0.25	D							
0.50	ES	SPT(S)N=26 (2,4/6,6,7,7)	41.26	(0.80)		Medium dense yellowish brown slightly silty fine to medium grained SAND	1	
0.60	B							
0.65	D							
1.00	ES							
1.10	B	SPT(S)50 (9,15/50 for 125mm)	40.86	1.60		Dense to very dense orange slightly silty fine to coarse grained SAND		
1.15	D							
1.20	SPTLS							
1.30	D	40.66	1.80			tending to highly weathered SANDSTONE	2	
1.50	B							
1.80	ES	SPT(S)50 (9,15/50 for 125mm)	40.66	1.80		End of Borehole at 1.80m	3	
1.80	SPTLS							
							4	
							5	

Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks: 1 hour hand excavating 1.20mbgl service avoidance pit											
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)												
Chiselling					Installation															
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)													
				0.00	1.20	PLAIN	50													
				1.20	1.80	SLOTTED	50													
					Water Strikes <table border="1"> <tr> <th>Strike (m)</th> <th>Casing (m)</th> <th>Sealed (m)</th> <th>Time (mins)</th> <th>Rose to (m)</th> <th>Remarks</th> </tr> <tr> <td></td> <td></td> <td></td> <td>0</td> <td></td> <td>Borehole dry</td> </tr> </table>				Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks				0		Borehole dry
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks															
			0		Borehole dry															

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	Contract Name: Fox's Bank Lane, Whiston			Client: Knowsley Metropolitan Borough Council			Borehole ID: WS08				
	Contract Number: CCG-C-18-10117		Date Started: 14/02/2018		Logged By: PMC		Checked By: CB		Status: DRAFT		
	Easting: 347787.0		Northing: 390283.0		Ground Level: 45.70mAOD		Plant Used: Dando Terrier Rig		Rig Crew: SG/LC		
Dynamic Sampling Borehole Log			Weather:			Termination: REFUSAL IN BEDROCK			SPT Hammer: N/R, Energy Ratio: N/R		
Samples & In Situ Testing			Strata Details						Groundwater		
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description			Water Strike	Backfill/Installation	
0.10 0.20 0.25	B ES D	SPT(S)N=28 (2,5/7,7,7,7)	45.40	(0.30) 0.30		TOPSOIL. Recovered as brown silty fine to medium grained SAND			1		
0.50 0.55 0.60	ES D B					Locally loose becoming medium dense brown slightly silty fine to medium grained SAND					
1.00 1.05 1.10 1.20	ES D B SPTLS										
1.40 1.50	ES B										
1.80	SPTLS					SPT(S)50 (10,13/50 for 162mm)	43.90	1.80			TENDING TO WEATHERED SANDSTONE End of Borehole at 1.80m
									2		
									3		
									4		
									5		
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:		
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit		
Chiselling					Installation				Water Strikes		
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)	Strike (m)	Casing (m)	Sealed (m)	
									Time (mins)	Rose to (m)	Remarks
									0		Borehole dry
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Samples & In Situ Testing	Strata Details	Groundwater
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Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	
									1 hour hand excavating 1.20mbgl service avoidance pit

	Contract Name: Fox's Bank Lane, Whiston			Client: Knowsley Metropolitan Borough Council			Borehole ID: WS10		
	Contract Number: CCG-C-18-10117	Date Started: 12/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1			
Dynamic Sampling Borehole Log	Easting: 347867.0	Northing: 390331.0	Ground Level: 46.60mAOD	Plant Used: Dando Terrier Rig	Rig Crew: SG/LC	Scale: 1:25			
	Weather:			Termination: REFUSAL IN BEDROCK		SPT Hammer: N/R, Energy Ratio: N/R			
Samples & In Situ Testing			Strata Details				Groundwater		
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/Installation	
0.20	ES		46.20	(0.40)		TOPSOIL. Recovered as brown very silty slightly gravelly fine to medium grained SAND with fine to coarse sub-rounded to rounded gravels of mudstone	1		
0.30	D			0.40					Loose becoming medium dense brown slightly silty fine to medium grained SAND
0.50	ES								
0.60	D								
0.80	B	(1.40)		TENDING TO WEATHERED SANDSTONE					
1.00	ES								
1.10	D								
1.20	SPTLS				SPT(S)N=25 (4,6/5,6,6,8)				
1.50	ES		44.80	1.80		End of Borehole at 1.80m	2		
1.60	B								
1.80	SPTLS					SPT(S)50 (11,13/50 for 180mm)			
							3		
							4		
							5		
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit
12-02-2018	16:00	1.20	1.20						
Chiselling					Installation				Water Strikes
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)	Strike (m)	Casing (m)
								Sealed (m)	Time (mins)
								0	
								Rose to (m)	Remarks
									Borehole dry
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SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

James Fisher Testing Services
Ruby House
Hardwick Grange
Woolston
Warrington

SPT Hammer Ref: TS1
Test Date: 15/01/2018
Report Date: 16/01/2018
File Name: DS1.spt
Test Operator: DA

Instrumented Rod Data

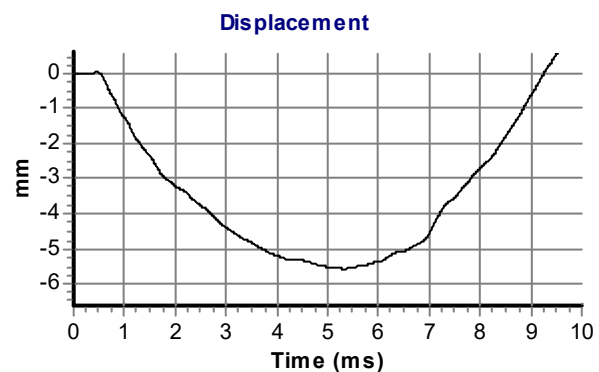
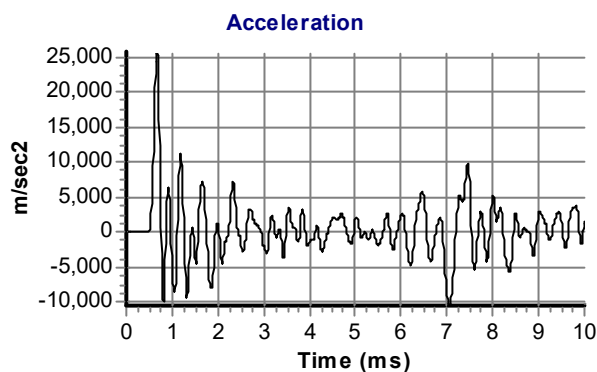
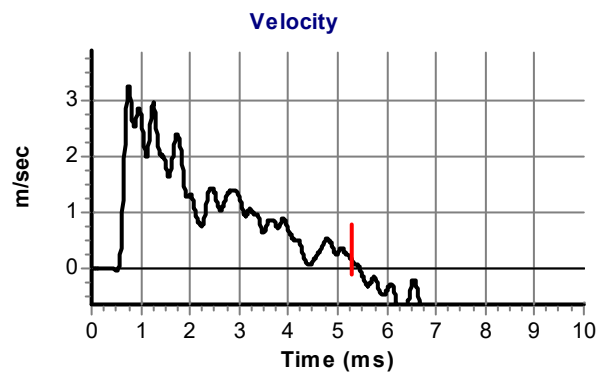
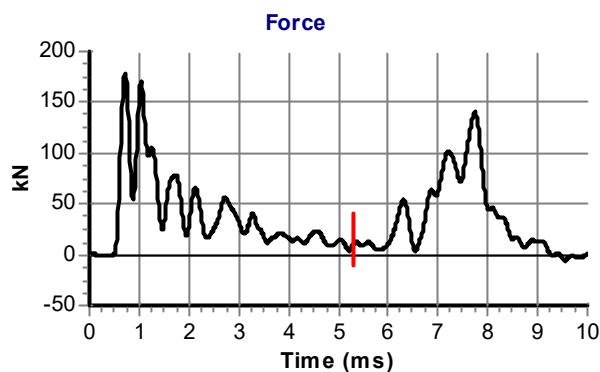
Diameter d_r (mm): 54
Wall Thickness t_r (mm): 6.6
Assumed Modulus E_a (GPa): 208
Accelerometer No.1: 9603
Accelerometer No.2: 9983

SPT Hammer Information

Hammer Mass m (kg): 63.5
Falling Height h (mm): 760
SPT String Length L (m): 14.5

Comments / Location

Client: CC Geotechnical Limited
Location: JFTS laboratory
Hammer Type: Window sampler

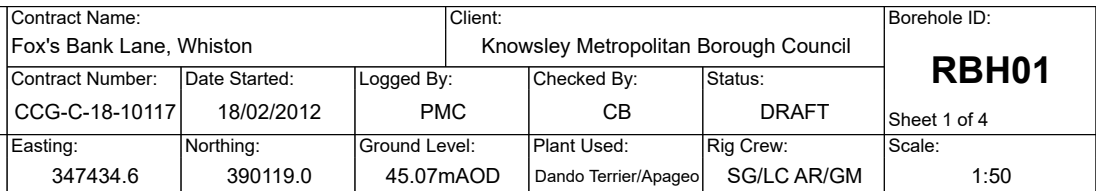


Calculations

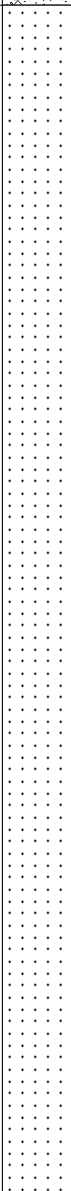
Area of Rod A (mm²): 983
Theoretical Energy E_{theor} (J): 473
Measured Energy E_{meas} (J): 350

Energy Ratio E_r (%): **74**

Signed: Dylan Akpan
Title: Technician



Samples & In Situ Testing	Strata Details	Groundwater
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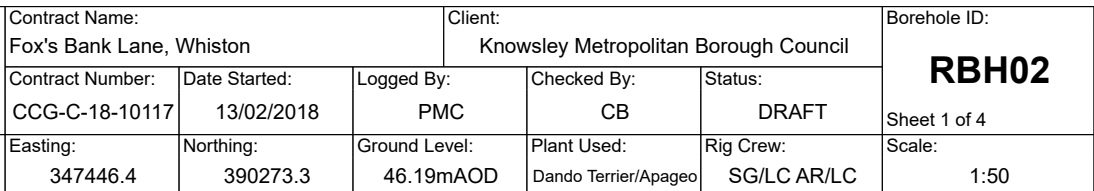
Depth	Sample ID	Test Result				Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description		Water Strike	Backfill/ Installation	
0.10	B	HVP=80 HVP=90				44.77	(0.30)		TOPSOIL. Recovered as brown very silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium sub-rounded sandstone	1			
0.20	ES												
0.25	D												
0.50	ES												
0.60	B												
0.65	D												
1.00	ES	SPT(S)N=13 (2,2/2,3,3,5) HVP=100				43.72	(1.05)		Locally firm becoming stiff brown slightly sandy slightly gravelly silty CLAY. Low cobble content. Gravel is fine to medium sub-rounded to rounded sandstone and quartz				
1.10	B												
1.15	D												
1.20	SPTLS												
1.30	D												
1.50	B												
1.60	ES	SPT(S)50 (10, 14/50 for 155mm)				43.07	(0.65)		Medium dense yellowish brown slightly silty slightly gravelly SAND				
1.60	D												
2.00-2.05	SPTLS												
2.05-3.00	100						0						0
3.00-4.50	45						15						0
4.50-4.58													
4.58-6.00	88	11	0		43.07	2.00		Very weak occasionally weak brownish yellow fine to medium grained thickly laminated SANDSTONE. Highly weathered. Discontinuities are very close to medium spaced, horizontal, clean, rough and tight to wide	2				
6.00-6.07													
6.07-6.50	0	0	0										
6.50-6.55													
6.55-7.00	100	58	29										
7.00-7.50	0	0	0										
7.50-7.56													
7.56-8.00	0	0	0										
8.00-8.05													
8.05-9.00	92	32	15										
9.00-9.50	0	0	0										
9.50-9.55													
9.55-10.00													
10.00-10.05													
10.05-10.10													
10.10-10.15													
10.15-10.20													
10.20-10.25													
	TCR	SCR	RQD	Fracture	Water			Continued next sheet					

Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:					
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit Advanced by dynamic sampling 1.20-2.00mbgl Advanced by rotary coring 2.00-30.00mbgl					
									Water Strikes					
Chiselling					Installation				Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
From (m)	To (m)	Duration	Remarks		Top (m)	Base (m)	Type	Dia (mm)				0		Borehole dry
					0.00	1.45	PLAIN							
					1.45	1.85	SLOTTED							
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	Contract Name: Fox's Bank Lane, Whiston				Client: Knowsley Metropolitan Borough Council				Borehole ID: RBH01					
	Contract Number: CCG-C-18-10117		Date Started: 18/02/2012		Logged By: PMC		Checked By: CB		Status: DRAFT					
Rotary Core Drilling Log		Easting: 347434.6		Northing: 390119.0		Ground Level: 45.07mAOD		Plant Used: Dando Terrier/Apageo		Rig Crew: SG/LC AR/GM				
										Sheet 2 of 4				
										Scale: 1:50				
Weather:				Termination: AT INSTRUCTED DEPTH				SPT Hammer: DS1/CCG6 Energy Ratio: 74/72%						
Samples & In Situ Testing						Strata Details						Groundwater		
Depth	TCR	SCR	RQD	Fracture Spacing	Water Added	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description			Water Strike	Backfill/Installation	
9.55 - 10.50	100	16	11						CONTINUED CORING IN SAME STRATUM			10		
				110										
10.50 - 12.00	100	75	65	65					NON-INTACT, RECOVERED AS SLIGHTLY SANDY GRAVEL - 10.50-10.61mbgl					
				60					NON-INTACT, RECOVERED AS GRAVELLY SAND - 10.99-11.04mbgl			11		
				137										
				190										
12.00 - 13.50	82	31	0						NO RECOVERY - 12.00-12.27mbgl			12		
				55										
				90					NON-INTACT, RECOVERED AS SAND - 12.50-12.54mbgl					
									NON-INTACT, RECOVERED AS GRAVELLY SAND - 12.63-13.16mbgl			13		
				70										
13.50 - 15.00									NON-INTACT, RECOVERED AS SANDY GRAVEL - 13.45-13.72mbgl					
				68					SPT (25 for 15mm, 100 for 20mm) - 13.50-13.54mbgl			14		
									NO RECOVERY - 13.95-14.00mbgl					
15.00 - 16.50	97	62	47	78								15		
				148										
				301										
16.50 - 18.00	90	47	14						NON-INTACT, RECOVERED AS GRAVEL - 15.19-15.25mbgl			16		
				55										
				120										
				240										
18.00 - 19.50	97	43	20						NON-INTACT, RECOVERED AS SANDY GRAVEL - 16.21-16.40mbgl			17		
				48										
				80					SPT (25 for 15mm, 100 for 20mm) - 16.50-16.54mbgl					
				70					NO RECOVERY - 16.54-16.69mbgl			18		
									NON-INTACT, RECOVERED AS SANDY GRAVEL - 16.94-17.19mbgl					
				42					NON-INTACT, RECOVERED AS SLIGHTLY SANDY GRAVEL - 17.27-17.43mbgl					
				63					NON-INTACT, RECOVERED AS SANDY GRAVEL - 17.50-17.69mbgl					
				70					NON-INTACT, RECOVERED AS SAND - 17.80-17.84mbgl			19		
									NON-INTACT, RECOVERED AS GRAVEL - 18.00-18.10mbgl					
				110					NON-INTACT, RECOVERED AS SLIGHTLY SANDY GRAVEL - 18.50-18.97mbgl					
				90					NON-INTACT, RECOVERED AS SLIGHTLY SANDY GRAVEL - 19.01-19.41mbgl					
				69					SPT (25 for 10mm, 100 for 20mm) - 19.50-19.53mbgl					
									NON-INTACT, RECOVERED AS SANDY GRAVEL - 19.53-19.63mbgl					
									NON-INTACT, RECOVERED AS GRAVEL - 19.79-19.88mbgl					
									Continued next sheet					
Start & End of Shift Observations						Borehole Diameter		Casing Diameter		Remarks:				
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit					
									Advanced by dynamic sampling 1.20-2.00mbgl					
									Advanced by rotary coring 2.00-30.00mbgl					
									Water Strikes					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks									
			0		Borehole dry									
Flush Information					Installation									
Top (m)	Base (m)	Flush Type	Return	Flush Colour	Top (m)	Base (m)	Type	Dia (mm)						
					0.00	1.45	PLAIN							
					1.45	1.85	SLOTTED							
									Fracture spacing reported in mm as min, Average and Max values. TCR, SCR and RQD reported in %					
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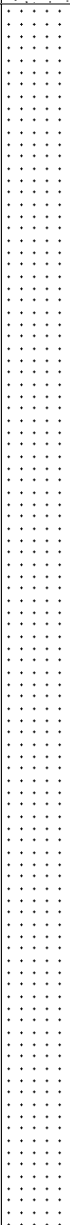
	Contract Name: Fox's Bank Lane, Whiston				Client: Knowsley Metropolitan Borough Council				Borehole ID: RBH01						
	Contract Number: CCG-C-18-10117		Date Started: 18/02/2012		Logged By: PMC		Checked By: CB		Status: DRAFT						
	Easting: 347434.6		Northing: 390119.0		Ground Level: 45.07mAOD		Plant Used: Dando Terrier/Apageo		Rig Crew: SG/LC AR/GM						
Rotary Core Drilling Log										Sheet 3 of 4					
										Scale: 1:50					
Weather:				Termination: AT INSTRUCTED DEPTH				SPT Hammer: DS1/CCG6 Energy Ratio: 74/72%							
Samples & In Situ Testing						Strata Details						Groundwater			
Depth	TCR	SCR	RQD	Fracture Spacing	Water Added	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description			Water Strike	Backfill/Installation		
19.53 - 21.00	89	44	17	115		22.77	22.30		NO RECOVERY - 19.88-20.00mbgl			20			
				NON-INTACT, RECOVERED AS GRAVELLY SAND - 20.00-20.13mbgl											
				CONTINUED CORING IN SAME STRATUM											
				82					NON-INTACT, RECOVERED AS GRAVELLY SAND - 20.43-20.50mbgl						
				NON-INTACT, RECOVERED AS GRAVELLY SAND - 20.78-21.00mbgl											
				NO RECOVERY - 21.00-21.18mbgl											
21.00 - 22.50	84	20	0	50		20.57	24.50		NON-INTACT, RECOVERED AS SLIGHTLY SANDY GRAVEL - 21.23-21.27mbgl			21			
				NON-INTACT, RECOVERED AS SANDY GRAVEL - 21.50-22.07mbgl											
				NON-INTACT, RECOVERED AS SANDY GRAVEL - 22.15-22.50mbgl											
22.50 - 24.00	100	44	34	38		20.19	(2.20)		Very weak occasionally weak grey fine to medium grained thickly laminated SANDSTONE. Fresh. Discontinuities are very close to medium spaced, horizontal, clean, rough and tight to partly open			22			
				SPT (25 for 10mm, 100 for 15mm) - 22.50-22.53mbgl											
				NON-INTACT, RECOVERED AS GRAVEL - 22.53-23.00mbgl											
24.00 - 25.50	98	93	89	290		20.57	(0.38)		NON-INTACT, RECOVERED AS GRAVEL - 23.29-23.37mbgl			23			
				Reddish brown thickly laminated MUDSTONE. Fresh											
				Very weak becoming medium strong grey thickly laminated MUDSTONE. Moderately weathered. Discontinuities are very close to medium spaced, horizontal, clean, smooth, undulating and tight to partly open with occasional coal on fracture faces											
25.53 - 27.00	98	95	80	90		20.57	(5.12)		SPT (25 for 10mm, 100 for 20mm) - 25.50-25.53mbgl			24			
				NO RECOVERY - 27.00-27.20mbgl											
				NON-INTACT, RECOVERED AS CLAYEY SAND - 27.20-27.72mbgl											
27.00 - 28.50	88	19	11	27		20.57	(5.12)		INCLUSION OF COAL - 27.70mbgl			25			
				NON-INTACT, RECOVERED AS GRAVEL - 28.11-28.17mbgl											
				NON-INTACT, RECOVERED AS GRAVEL - 28.39-28.50mbgl											
28.53 - 30.00	97	24	18	56		20.57	(5.12)		SPT (25 for 10mm, 100 for 15mm) - 28.50-28.53mbgl			26			
				NON-INTACT, RECOVERED AS GRAVELLY CLAYEY - 28.53-29.10mbgl											
				NON-INTACT, RECOVERED AS GRAVEL - 29.10-29.67mbgl											
Continued next sheet															
Start & End of Shift Observations						Borehole Diameter		Casing Diameter		Remarks:					
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit						
									Advanced by dynamic sampling 1.20-2.00mbgl						
									Advanced by rotary coring 2.00-30.00mbgl						
										Water Strikes					
										Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
													0		Borehole dry
Flush Information						Installation									
Top (m)	Base (m)	Flush Type	Return	Flush Colour	Top (m)	Base (m)	Type	Dia (mm)							
					0.00	1.45	PLAIN								
					1.45	1.85	SLOTTED								
Fracture spacing reported in mm as min, Average and Max values. TCR, SCR and RQD reported in %															
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	Contract Name: Fox's Bank Lane, Whiston				Client: Knowsley Metropolitan Borough Council				Borehole ID: RBH01						
	Contract Number: CCG-C-18-10117	Date Started: 18/02/2012	Loggged By: PMC	Checked By: CB	Status: DRAFT		Sheet 4 of 4								
Rotary Core Drilling Log	Easting: 347434.6	Northing: 390119.0	Ground Level: 45.07mAOD	Plant Used: Dando Terrier/Apageo	Rig Crew: SG/LC AR/GM	Scale: 1:50									
Weather:		Termination: AT INSTRUCTED DEPTH			SPT Hammer: DS1/CCG6 Energy Ratio: 74/72%										
Samples & In Situ Testing						Strata Details					Groundwater				
Depth	TCR	SCR	RQD	Fracture Spacing	Water Added	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description		Water Strike	Backfill/ Installation			
						15.07	30.00		CONTINUED CORING IN SAME STRATUM End of Borehole at 30.00m		30				
											31				
											32				
											33				
											34				
											35				
											36				
											37				
											38				
											39				
Start & End of Shift Observations						Borehole Diameter		Casing Diameter		Remarks:					
Date	Time	Depth (m)	Casing (m)	Water (m)		Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit Advanced by dynamic sampling 1.20-2.00mbgl Advanced by rotary coring 2.00-30.00mbgl					
										Water Strikes					
										Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
													0		Borehole dry
Flush Information					Installation										
Top (m)	Base (m)	Flush Type	Return	Flush Colour	Top (m)	Base (m)	Type	Dia (mm)							
					0.00	1.45	PLAIN								
					1.45	1.85	SLOTTED								
Fracture spacing reported in mm as min, Average and Max values. TCR, SCR and RQD reported in %															
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1:50

Weather:	Termination: AT INSTRUCTED DEPTH	SPT Hammer: DS1/CCG6 Energy Ratio: 74/72%
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Samples & In Situ Testing						Strata Details		Groundwater	
Depth	Sample ID	Test Result		Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
0.10	B	SPT(S)N=30 (2,4/6,8,8,8)		45.89	(0.30)		TOPSOIL. Recovered as brown silty fine to medium grained SAND	1	
0.20	ES						Loose becoming medium dense (drillers description) brown slightly silty fine to medium grained SAND		
0.25	D								
0.50	ES								
0.60	B								
0.65	D								
1.00	ES								
1.10	B								
1.15	D								
1.20	SPTLS								
1.40	ES								
1.50	B			44.39	1.80		TENDING TO WEATHERED SANDSTONE	2	
1.80-2.07	D	SPT(S)50 (9,11/50 for 215mm)					Very weak occasionally weak brownish grey fine to medium grained thickly laminated SANDSTONE. Moderately weathered. Discontinuities are very close to medium spaced, horizontal with occasional drilling-induced sub-vertical fractures, clean, rough and tight to open		
1.80	SPTLS						SPT (9, 11, 16, 18 for 65mm) - 1.80-1.87mbgl NON-INTACT, RECOVERED AS SANDY GRAVEL - 1.87-2.17mbgl NON-INTACT, RECOVERED AS SANDY GRAVEL - 2.22-2.35mbgl NON-INTACT, RECOVERED AS SANDY GRAVEL - 2.53-2.92mbgl NON-INTACT, RECOVERED AS GRAVEL - 2.96-3.02mbgl NON-INTACT, RECOVERED AS SANDY GRAVEL - 3.07-3.17mbgl NO RECOVERY - 3.30-3.36mbgl		
1.87 - 3.30	100	30	9				NON-INTACT, RECOVERED AS SANDY GRAVEL - 3.63-3.71mbgl		
3.30 - 4.80	96	60	44	51 136 281	4				
4.80 - 4.85				220	5	SPT (25 for 15mm, 100 for 35mm) - 4.80-4.85mbgl NON-INTACT, RECOVERED AS GRAVEL - 5.07-5.27mbgl			
4.85 - 6.30	99	69	69	246 265 284	6	NON-INTACT, RECOVERED AS GRAVELLY SAND - 5.80-5.90mbgl			
				103		NO RECOVERY - 6.30-6.63mbgl NON-INTACT, RECOVERED AS GRAVEL - 6.63-6.69mbgl			
6.30 - 7.80	78	51	47	177 230 323	7	NON-INTACT, RECOVERED AS GRAVEL - 7.38-7.72mbgl			
				80	8	ADVANCED BY ROTARY OPEN HOLE DRILLING 7.80-30.00mbgl SPT (25 for 10mm, 100 for 25mm) - 7.80mbgl			
					9				
	TCR	SCR	RQD	Fracture	Water	Continued next sheet			

Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:					
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit Advanced by dynamic sampling 1.20-1.80mbgl Advanced by rotary coring 1.80-7.80mbgl Advanced by rotary open hole 7.80-30.00mbgl					
26-02-2018	08:00	19.80	19.80	17.50										
Chiselling					Installation				Water Strikes					
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)	Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	
				0.00	17.80	PLAIN		19.50			0			
				17.80	19.80	SLOTTED								
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	Contract Name: Fox's Bank Lane, Whiston				Client: Knowsley Metropolitan Borough Council				Borehole ID: RBH02						
	Contract Number: CCG-C-18-10117		Date Started: 13/02/2018		Logged By: PMC		Checked By: CB		Status: DRAFT		Sheet 2 of 4				
	Rotary Core Drilling Log		Easting: 347446.4		Northing: 390273.3		Ground Level: 46.19mAOD		Plant Used: Dando Terrier/Apageo		Rig Crew: SG/LC AR/LC				
Weather:				Termination: AT INSTRUCTED DEPTH				SPT Hammer: DS1/CCG6 Energy Ratio: 74/72%							
Samples & In Situ Testing						Strata Details						Groundwater			
Depth	TCR	SCR	RQD	Fracture Spacing	Water Added	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description			Water Strike	Backfill/Installation		
									CONTINUED CORING IN SAME STRATUM			10			
									SPT (25 for 10mm, 100 for 22mm) - 10.80mbgl			11			
												12			
												13			
									SPT (25 for 5mm, 100 for 22mm) - 13.80mbgl			14			
							(28.20)					15			
												16			
									SPT (25 for 5mm, 100 for 20mm) - 16.80mbgl			17			
												18			
									SPT (25 for 10mm, 100 for 15mm) - 19.80mbgl			19			
									Continued next sheet						
Start & End of Shift Observations						Borehole Diameter		Casing Diameter		Remarks:					
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit						
26-02-2018	08:00	19.80	19.80	17.50					Advanced by dynamic sampling 1.20-1.80mbgl						
									Advanced by rotary coring 1.80-7.80mbgl						
									Advanced by rotary open hole 7.80-30.00mbgl						
										Water Strikes					
										Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
										19.50			0		
Flush Information						Installation									
Top (m)	Base (m)	Flush Type	Return	Flush Colour	Top (m)	Base (m)	Type	Dia (mm)							
					0.00	17.80	PLAIN								
					17.80	19.80	SLOTTED								
										Fracture spacing reported in mm as min, Average and Max values. TCR, SCR and RQD reported in %					
CCGEOTECHNICAL LTD 0151 545 2750 www.ccgtechnical.com															

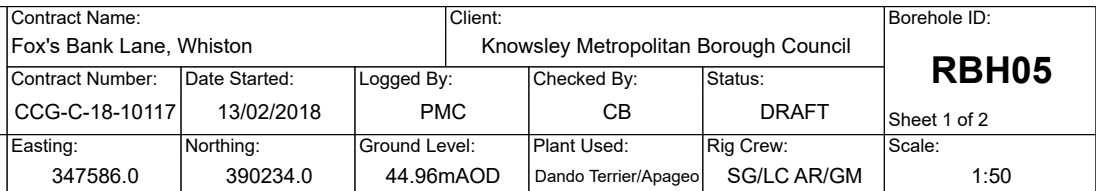
	Contract Name: Fox's Bank Lane, Whiston				Client: Knowsley Metropolitan Borough Council				Borehole ID: RBH02						
	Contract Number: CCG-C-18-10117		Date Started: 13/02/2018		Logged By: PMC		Checked By: CB		Status: DRAFT		Sheet 3 of 4				
	Rotary Core Drilling Log		Easting: 347446.4		Northing: 390273.3		Ground Level: 46.19mAOD		Plant Used: Dando Terrier/Apageo		Rig Crew: SG/LC AR/LC				
Weather:				Termination: AT INSTRUCTED DEPTH				SPT Hammer: DS1/CCG6 Energy Ratio: 74/72%							
Samples & In Situ Testing						Strata Details						Groundwater			
Depth	TCR	SCR	RQD	Fracture Spacing	Water Added	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description			Water Strike	Backfill/ Installation		
									CONTINUED CORING IN SAME STRATUM			20			
												21			
												22			
									SPT (25 for 5mm, 100 for 10mm) - 22.80mbgl			23			
												24			
												25			
									SPT (25 for 10mm, 100 for 10mm) - 25.80mbgl			26			
												27			
												28			
									SPT (25 for 10mm, 100 for 10mm) - 28.80mbgl			29			
Continued next sheet															
Start & End of Shift Observations						Borehole Diameter		Casing Diameter		Remarks:					
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit Advanced by dynamic sampling 1.20-1.80mbgl Advanced by rotary coring 1.80-7.80mbgl Advanced by rotary open hole 7.80-30.00mbgl						
26-02-2018	08:00	19.80	19.80	17.50											
										Water Strikes					
										Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
										19.50			0		
Flush Information						Installation									
Top (m)	Base (m)	Flush Type	Return	Flush Colour	Top (m)	Base (m)	Type	Dia (mm)							
					0.00	17.80	PLAIN								
					17.80	19.80	SLOTTED								
Fracture spacing reported in mm as min, Average and Max values. TCR, SCR and RQD reported in %										CCGEOTECHNICAL LTD 0151 545 2750 www.ccgteotechnical.com					

	Contract Name: Fox's Bank Lane, Whiston				Client: Knowsley Metropolitan Borough Council				Borehole ID: RBH02					
	Contract Number: CCG-C-18-10117		Date Started: 13/02/2018		Loggged By: PMC		Checked By: CB		Status: DRAFT		Sheet 4 of 4			
	Rotary Core Drilling Log		Easting: 347446.4		Northing: 390273.3		Ground Level: 46.19mAOD		Plant Used: Dando Terrier/Apageo		Rig Crew: SG/LC AR/LC			
Weather:				Termination: AT INSTRUCTED DEPTH				SPT Hammer: DS1/CCG6 Energy Ratio: 74/72%						
Samples & In Situ Testing						Strata Details						Groundwater		
Depth	TCR	SCR	RQD	Fracture Spacing	Water Added	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description			Water Strike	Backfill/Installation	
						16.19	30.00		CONTINUED CORING IN SAME STRATUM SPT (25 for 5mm, 100 for 10mm) - 30.00mbgl End of Borehole at 30.00m			30		
												31		
												32		
												33		
												34		
												35		
												36		
												37		
												38		
												39		
Start & End of Shift Observations						Borehole Diameter		Casing Diameter		Remarks:				
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit Advanced by dynamic sampling 1.20-1.80mbgl Advanced by rotary coring 1.80-7.80mbgl Advanced by rotary open hole 7.80-30.00mbgl					
26-02-2018	08:00	19.80	19.80	17.50					Water Strikes					
									Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
									19.50			0		
Flush Information					Installation									
Top (m)	Base (m)	Flush Type	Return	Flush Colour	Top (m)	Base (m)	Type	Dia (mm)	Fracture spacing reported in mm as min, Average and Max values. TCR, SCR and RQD reported in %					
					0.00	17.80	PLAIN							
					17.80	19.80	SLOTTED		CCGEOTECHNICAL LTD 0151 545 2750 www.ccgteotechnical.com					

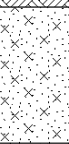
Weather:		Termination: AT INSTRUCTED DEPTH				SPT Hammer: DS1/CCG6 Energy Ratio: 74/72%							
Samples & In Situ Testing						Strata Details						Groundwater	
Depth	TCR	SCR	RQD	Fracture Spacing	Water Added	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation		
							48.80	(0.30) 0.30	TOPSOIL. Recovered as brown silty slightly gravelly fine to medium grained SAND. Gravel is fine to coarse sub-rounded sandstone				
								(0.90)	Loose becoming medium dense (drillers description) brown slightly silty fine to medium grained SAND				
									TENDING TO WEATHERED SANDSTONE	1			
1.20 - 1.51							47.90	1.20	Very weak becoming weak orangeish brown fine to medium grained thinly laminated SANDSTONE. Moderately weathered. Recovered locally as gravelly sand. Discontinuities are very close to medium spaced, horizontal, clean, rough and tight to wide				
									SPT (10, 14/20, 23, 3 for 3mm) - 1.20-1.51mbgl NO RECOVERY - 1.51-1.96mbgl NON-INTACT, RECOVERED AS GRAVELLY SAND - 1.96-2.88mbgl	2			
1.51 - 2.70	38	0	0										
2.70 - 3.70	100	79	33	48 103 201						3			
3.70 - 3.77													
3.77 - 4.70	100	68	16	65 105 155				(5.50)		4			
4.70 - 5.70	80	24	10	36 100 151						5			
5.70 - 5.75													
5.75 - 6.70	99	24	0	60 45 90 90						6			
							42.40	6.70	NON-INTACT, RECOVERED AS GRAVEL - 6.00-6.03mbgl NON-INTACT, RECOVERED AS GRAVEL - 6.34-6.44mbgl NON-INTACT, RECOVERED AS GRAVEL - 6.53-6.61mbgl SPT (25 for 10mm, 100 for 200mm) - 6.70mbgl	7			
									End of Borehole at 6.70m				
										8			
										9			
										10			
Start & End of Shift Observations						Borehole Diameter		Casing Diameter		Remarks:			
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit Advanced by rotary coring 1.20-6.70mbgl				
Flush Information						Installation		Water Strikes					
Top (m)	Base (m)	Flush Type	Return	Flush Colour	Top (m)	Base (m)	Type	Dia (mm)	Strike (m)	Casing (m)	Sealed (m)	Rose to (m)	Remarks
												0	Borehole dry
Fracture spacing reported in mm as min, Average and Max values. TCR, SCR and RQD reported in %													
CCGEOTECHNICAL LTD 0151 545 2750 www.ccgetechnical.com													

	Contract Name: Fox's Bank Lane, Whiston				Client: Knowsley Metropolitan Borough Council			Borehole ID: RBH04	
	Contract Number: CCG-C-18-10117		Date Started: 14/02/2018		Logged By: PMC		Checked By: CB		Status: DRAFT
	Easting: 347687.1		Northing: 390145.1		Ground Level: 41.37mAOD		Plant Used: Dando Terrier/Apageo		Rig Crew: SG/LC
Dynamic Sampling Borehole Log								Sheet 1 of 2	
								Scale: 1:50	
Weather:				Termination: AT INSTURCTED DEPTH				SPT Hammer: DS1/CCG6/CC6 Energy Ratio: 74/72%	
Samples & In Situ Testing				Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation	
0.10	B					TOPSOIL. Recovered as brown silty slightly gravelly fine to medium grained SAND. gravel is fine to coarse sub-rounded to rounded sandstone			
0.20	ES			(0.60)					
0.25	D								
0.45	D								
0.50	ES		40.77	0.60					
0.55	B								
0.90	D			(0.60)		Loose brown slightly silty slightly gravelly fine to medium grained SAND. Gravel is fine to coarse sub-rounded to rounded sandstone	1		
0.95	B								
1.00	ES	SPT(S)N=7 (2, 1/2, 2, 1, 2)	40.17	1.20					
1.20	SPTLS	HVP=20				Soft brown slightly sandy slightly gravelly silty CLAY with occasional sand laminations. Gravel is fine to medium sub-rounded sandstone			
1.50	D								
1.70	ES			(1.00)					
2.00	SPTLS	SPT(S)N=7 (0, 1/1, 2, 2, 2)					2		
2.20	ES		39.17	2.20					
2.30	D			(0.50)		Loose brown slightly silty fine to medium SAND			
			38.67	2.70					
3.00	D	HVP=15		(0.50)		Soft becoming firm brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium sub-rounded sandstone	3		
3.00	SPTLS	SPT(S)N=12 (2, 3/3, 2, 4, 3)	38.17	3.20					
		HVP=45		(0.30)		Yellow weathered SANDSTONE. Recovered as slightly silty fine to medium sand			
3.50	D	SPT(S)N=7 (7, 11/50 for 180mm)	37.87	3.50					
3.50 - 3.83	SPTLS					Very weak occasionally weak yellowish brown fine to medium grained thinly laminated SANDSTONE. Moderately weathered. Discontinuities are very close to medium space, horizontal, clean, rough and tight to open	4		
3.83 - 4.50	84	40	0			SPT (7, 11/15, 17, 18 for 30mm) - 3.50-3.83mbgl NON-INTACT, RECOVERED AS SANDY GRAVEL - 3.90-4.02mbgl NON-INTACT, RECOVERED AS SANDY GRAVEL - 4.10-4.22mbgl NON-INTACT, RECOVERED AS GRAVEL - 4.29-4.33mbgl NO RECOVERY - 4.39-4.50mbgl NON-INTACT, RECOVERED AS GRAVELLY SAND - 4.50-5.26mbgl			
4.50 - 6.00	94	40	29				5		
6.00 - 6.04						NON-INTACT, RECOVERED AS SANDY GRAVEL - 5.78-5.81mbgl NO RECOVERY - 5.91-6.00mbgl SPT (25 for 10mm, 100 for 30mm) - 6.00-6.04mbgl NON-INTACT, RECOVERED AS SANDY GRAVEL - 6.04-6.12mbgl	6		
6.04 - 7.50	96	58	36			NON-INTACT, RECOVERED AS SANDY GRAVEL - 6.32-6.43mbgl NON-INTACT, RECOVERED AS SANDY GRAVEL - 6.70-6.87mbgl	7		
7.50 - 9.00	91	46	29			NO RECOVERY - 7.44-7.50mbgl NON-INTACT, RECOVERED AS SANDY GRAVEL - 7.65-7.74mbgl NON-INTACT, RECOVERED AS SLIGHTLY SANDY GRAVEL - 7.96-8.23mbgl	8		
9.00 - 9.03						NON-INTACT, RECOVERED AS SANDY GRAVEL - 8.30-8.42mbgl NON-INTACT, RECOVERED AS GRAVEL - 8.83-8.87mbgl NO RECOVERY - 8.87-9.00mbgl SPT (25 for 10mm, 100 for 20mm) 9.00-9.03mbgl	9		
9.03 - 10.50	94	90	67			NON-INTACT, RECOVERED AS SLIGHTLY SANDY GRAVEL - 9.80-9.87mbgl			
	TCR	SCR	RQD	Fracture	Water	Continued next sheet			
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit Advanced by dynamic sampling 1.20-3.50mbgl Advanced by rotary coring 3.50-10.50mbgl
Chiselling					Installation				Water Strikes
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)	Strike (m)	Casing (m) Sealed (m) Time (mins) Rose to (m) Remarks
				0.00	9.50	PLAIN		1.50	
				9.50	10.50	SLOTTED			0 Seepage
CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.com									

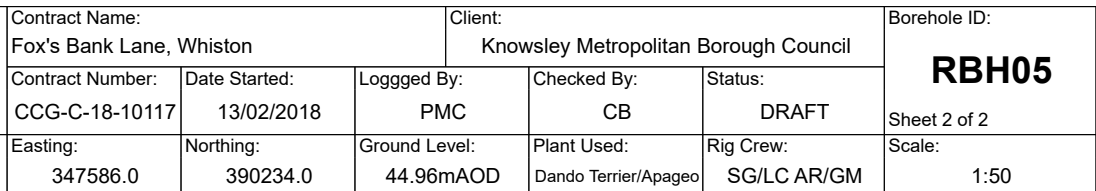
	Contract Name: Fox's Bank Lane, Whiston				Client: Knowsley Metropolitan Borough Council				Borehole ID: RBH04					
	Contract Number: CCG-C-18-10117		Date Started: 14/02/2018		Logged By: PMC		Checked By: CB		Status: DRAFT		Sheet 2 of 2			
	Rotary Core Drilling Log		Easting: 347687.1		Northing: 390145.1		Ground Level: 41.37mAOD		Plant Used: Dando Terrier/Apageo		Rig Crew: SG/LC			
Weather:				Termination: AT INSTURCTED DEPTH				SPT Hammer: DS1/CCG6/CC6 Energy Ratio: 74/72%						
Samples & In Situ Testing						Strata Details						Groundwater		
Depth	TCR	SCR	RQD	Fracture Spacing	Water Added	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description			Water Strike	Backfill/Installation	
				40 200 425		30.87	10.50		CONTINUED CORING IN SAME STRATUM			10		
									NO RECOVERY - 10.47-10.50mbgl SPT (25 for 5mm, 100 for 15mm) - 10.50mbgl End of Borehole at 10.50m					
												11		
												12		
												13		
												14		
												15		
												16		
												17		
												18		
												19		
Start & End of Shift Observations						Borehole Diameter		Casing Diameter		Remarks:				
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit Advanced by dynamic sampling 1.20-3.50mbgl Advanced by rotary coring 3.50-10.50mbgl					
Flush Information						Installation				Water Strikes				
Top (m)	Base (m)	Flush Type	Return	Flush Colour	Top (m)	Base (m)	Type	Dia (mm)	Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
					0.00	9.50	PLAIN		1.50			0		Seepage
					9.50	10.50	SLOTTED		Fracture spacing reported in mm as min, Average and Max values. TCR, SCR and RQD reported in %					
CCGEOTECHNICAL LTD 0151 545 2750 www.ccgteotechnical.com														



Samples & In Situ Testing	Strata Details	Groundwater
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Depth	Sample ID	Test Result				Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description		Water Strike	Backfill Installation					
0.10 0.20 0.25 0.50 0.60 0.65	B ES D ES B D	SPT(S)N=28 (2,2/7,6,7,8)				44.66	(0.30) 0.30		TOPSOIL. Recovered as brown silty fine to medium grained SAND	1							
1.00 1.10 1.15 1.20 1.20 1.50 1.90	ES B D D SPTLS ES D						(0.90)		Loose becoming medium dense (driller's description) brown slightly silty fine to medium grained SAND								
2.00 2.00 - 2.27	SPTLS						SPT(S)50 (7,10/50 for 120mm)							2.00		Very weak occasionally weak yellowish brown fine to medium grained thickly laminated SANDSTONE. Highly weathered. Discontinuities are very close to closely spaced, rough, horizontal with occasional drilling induced sub-vertical and vertical fractures and partly open to wide with sand on fracture faces	2
2.27 - 3.00	100						33	0									
3.00 - 4.50	79						31	22									
4.50 - 4.57																	
4.57 - 6.00	0	0	0														
6.00 - 6.04																	
6.04 - 6.50	0	0	0														
6.50 - 6.53																	
6.53 - 7.00	0	0	0														
7.00 - 7.03																	
7.03 - 7.50	0	0	0														
7.50 - 7.52																	
7.52 - 8.50	100	44	27														
8.50 - 10.00	89	33	7														
	TCR	SCR	RQD	Fracture	Water				Continued next sheet								

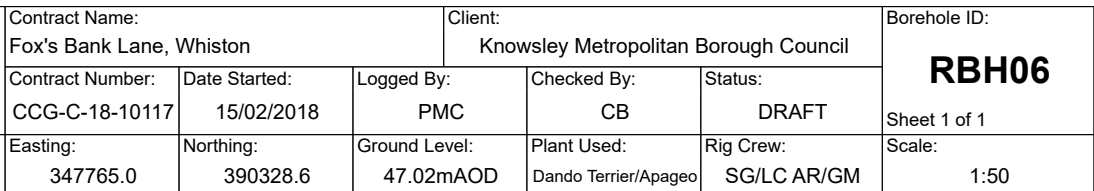
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:					
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit Advanced by dynamic sampling 1.20-2.00mbgl Advanced by rotary coring 2.00-11.50mbgl					
Chiselling					Installation				Water Strikes					
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)	Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	
				0.00	10.50	PLAIN					0		Borehole dry	
				10.50	11.50	SLOTTED								
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Weather:	Termination: AT INSTRUCTED DEPTH	SPT Hammer: DS1/CCG6 Energy Ratio: 74/72%
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[illegible]

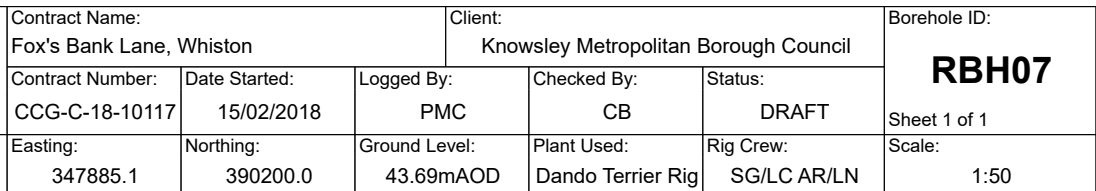
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks: 1 hour hand excavating 1.20mbgl service avoidance pit Advanced by dynamic sampling 1.20-2.00mbgl Advanced by rotary coring 2.00-11.50mbgl
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	
Flush Information					Installation				
Top (m)	Base (m)	Flush Type	Return	Flush Colour	Top (m)	Base (m)	Type	Dia (mm)	
					0.00	10.50	PLAIN		
					10.50	11.50	SLOTTED		
Fracture spacing reported in mm as min, Average and Max values. TCR, SCR and RQD reported in %									
CCGEOTECHNICAL LTD 0151 545 2750 www.ccgteotechnical.com									



Samples & In Situ Testing	Strata Details	Groundwater
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[illegible]

Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	
									1 hour hand excavating 1.20mbgl service avoidance pit Advanced by dynamic sampling 1.20-2.00mbgl Advanced by rotary coring 2.00-8.00mbgl
									Water Strikes
Chiselling					Installation				Strike (m) Casing (m) Sealed (m) Time (mins) Rose to (m) Remarks
From (m)	To (m)	Duration	Remarks		Top (m)	Base (m)	Type	Dia (mm)	
					0.00	1.20	PLAIN		
					1.20	1.80	SLOTTED		Borehole dry
CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.com									

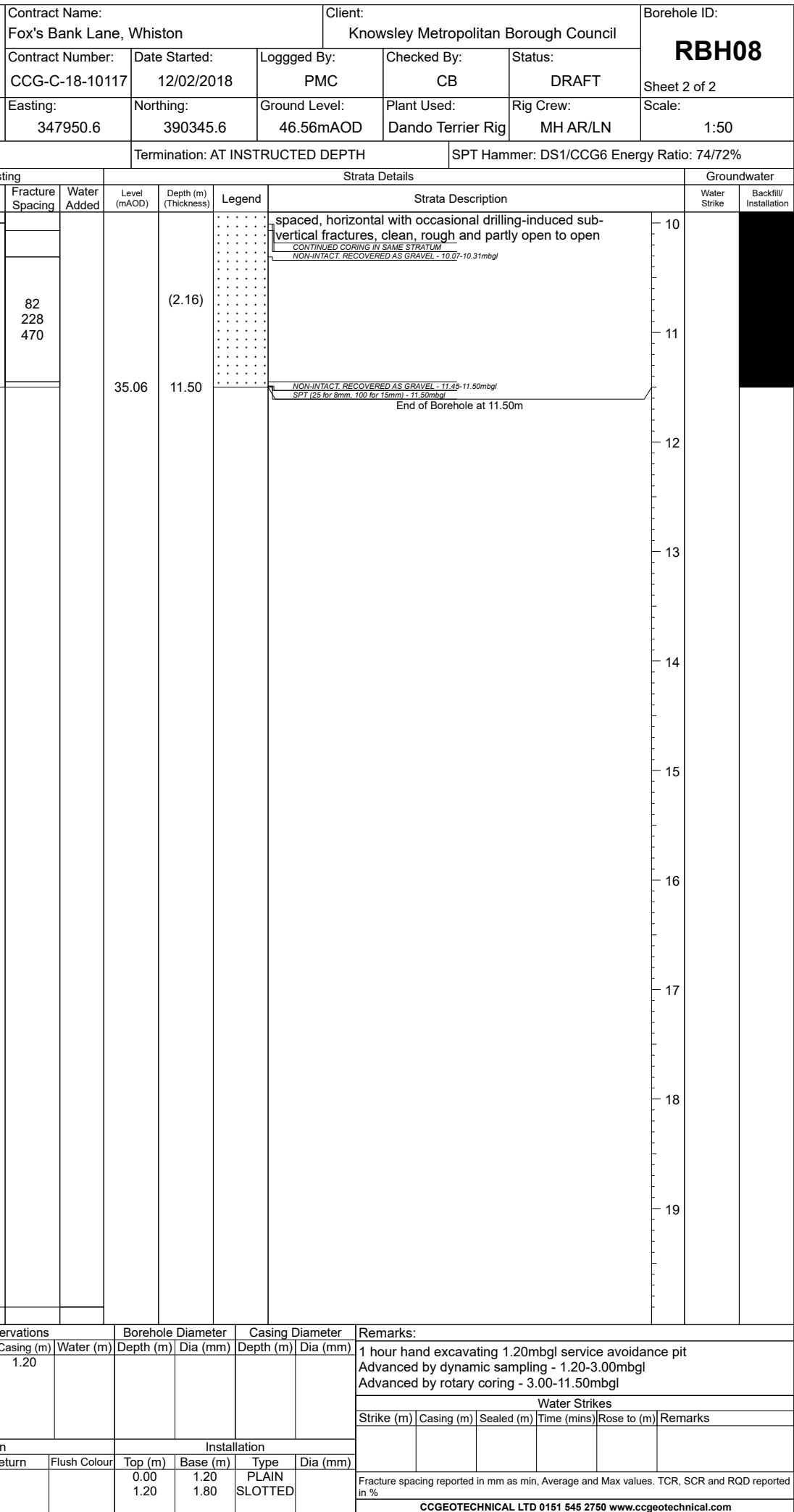


Samples & In Situ Testing	Strata Details	Groundwater
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[illegible]

Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	
									1 hour hand excavating 1.20mbgl service avoidance pit Advanced by dynamic sampling 1.20-1.70mbgl Advanced by rotary coring 1.70-7.70mbgl
									Water Strikes
Chiselling					Installation				Strike (m) Casing (m) Sealed (m) Time (mins) Rose to (m) Remarks
From (m)	To (m)	Duration	Remarks		Top (m)	Base (m)	Type	Dia (mm)	
									0
									Borehole dry
CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.com									

	Contract Name: Fox's Bank Lane, Whiston			Client: Knowsley Metropolitan Borough Council			Borehole ID: RBH08													
	Contract Number: CCG-C-18-10117		Date Started: 12/02/2018		Logged By: PMC		Checked By: CB		Status: DRAFT											
	Easting: 347950.6		Northing: 390345.6		Ground Level: 46.56mAOD		Plant Used: Dando Terrier Rig		Rig Crew: MH AR/LN											
Dynamic Sampling Borehole Log			Weather:			Termination: AT INSTRUCTED DEPTH			SPT Hammer: DS1/CCG6 Energy Ratio: 74/72%											
Samples & In Situ Testing					Strata Details					Groundwater										
Depth	Sample ID	Test Result			Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description			Water Strike	Backfill/ Installation								
0.15 0.20 0.30 0.50 0.60 0.70 0.90 1.00 1.10 1.20 1.40	D ES B ES D B B ES D B	SPT(S)N=11 (3,2/2,3,2,4)			46.16	(0.40) 0.40		Grey very gravelly slightly silty SAND. Medium cobble content. Gravel is fine to coarse angular to sub-angular concrete and brick (MADE GROUND) Loose becoming medium dense (drillers description) brown slightly silty fine to medium grained SAND			1									
1.90 2.00	ES D	SPT(S)N=14 (3,3/4,3,3,4)				(2.60)									Very weak greyish brown occasionally inter laminated with red thickly laminated fine to medium grained SANDSTONE. Highly weathered. Recovered as very gravelly sand SPT (8, 10/ 10, 18, 20, 2 for 5mm) - 3.00-3.38mbgl NO RECOVERY - 3.38-3.63mbgl NON-INFACT. RECOVERED AS VERY GRAVELLY SAND - 3.63-4.50mbgl			2		
2.40	B																			
3.00 3.00 - 3.38	D	SPT(S)N=50 (8,10/50 for 230mm)			43.56	3.00		TENDING TO WEATHERED SANDSTONE Very weak reddish brown thickly laminated fine to medium grained SANDSTONE. Highly weathered. Recovered as very gravelly sand SPT (8, 10/ 10, 18, 20, 2 for 5mm) - 3.00-3.38mbgl NO RECOVERY - 3.38-3.63mbgl NON-INFACT. RECOVERED AS VERY GRAVELLY SAND - 3.63-4.50mbgl			3									
3.38 - 4.50	78	0	0		(2.67)									4						
4.50 - 4.56																				
4.56 - 5.50	100	0	0					SPT (25 for 15mm, 100 for 40mm) - 4.50-4.56mbgl NON-INFACT. RECOVERED AS VERY SANDY GRAVEL - 4.56-5.50mbgl			5									
5.50 - 7.00	100	79	54	31 75 216 369	40.89 (0.33) 40.56									6						
7.00 - 7.04																				
7.04 - 8.50	100	38	32	320 80 40		(2.80)		Brown thickly laminated fine to medium grained SANDSTONE. Highly weathered. Recovered as gravel NON-INFACT. RECOVERED AS GRAVEL - 5.75-5.92mbgl Very weak grey occasionally inter laminated with red generally thickly laminated fine to medium grained SANDSTONE. Moderately weathered. Discontinuities are close to medium spaced, horizontal with occasional drilling-induced sub-vertical fracture, clean, rough and partly open to open SPT (25 for 10mm, 100 for 30mm) - 7.00-7.04mbgl NON-INFACT. RECOVERED AS GRAVELLY SAND - 7.04-7.18mbgl NON-INFACT. RECOVERED AS GRAVEL - 7.50-7.59mbgl NON-INFACT. RECOVERED AS SANDY GRAVEL - 7.67-7.92mbgl NON-INFACT. RECOVERED AS GRAVEL - 8.30-8.50mbgl SPT (25 for 10mm, 100 for 25mm) - 8.50-8.54mbgl NON-INFACT. RECOVERED AS GRAVEL - 8.54-9.26mbgl			7									
8.50 - 8.54																				
8.54 - 10.00	97	59	53	70 270 661	37.76 (0.54) 37.22	8.80 9.34											8			
	TCR	SCR	RQD	Fracture	Water		Continued next sheet													
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:											
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit Advanced by dynamic sampling - 1.20-3.00mbgl Advanced by rotary coring - 3.00-11.50mbgl											
12-02-2018	16:00	1.20	1.20																	
									Water Strikes											
									Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks						
Chiselling					Installation															
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)													
				0.00	1.20	PLAIN														
				1.20	1.80	SLOTTED														
CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.com																				



SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

ARCHWAY ENGINEERING
AINLEYS INDUSTRIAL ESTATE
ELLAND
WEST YORKSHIRE
HX5 9JP

SPT Hammer Ref: CCG6
Test Date: 18/01/2018
Report Date: 18/01/2018
File Name: CCG6.spt
Test Operator: RM

Instrumented Rod Data

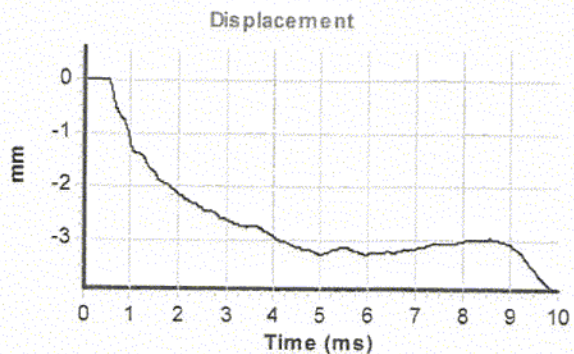
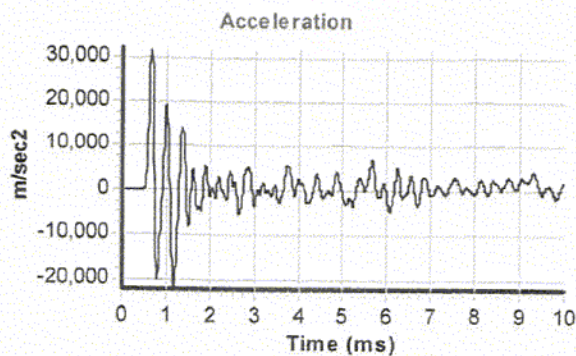
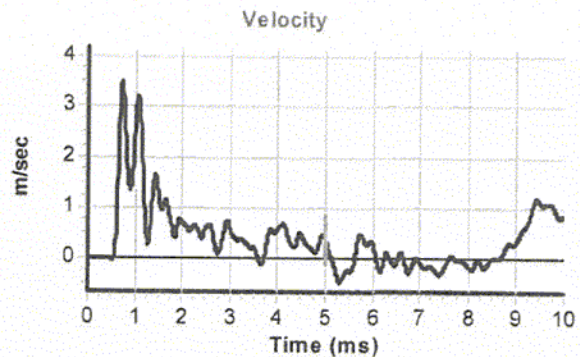
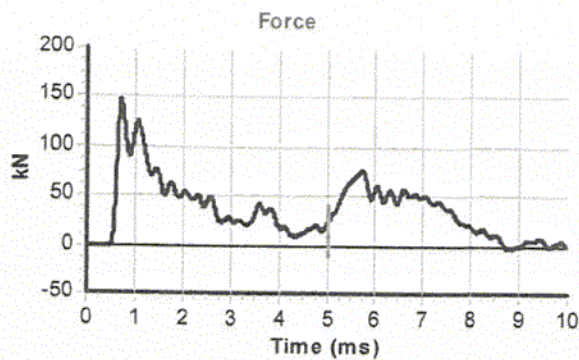
Diameter d_r (mm): 54
Wall Thickness t_r (mm): 6.6
Assumed Modulus E_a (GPa): 200
Accelerometer No.1: 7080
Accelerometer No.2: 11609

SPT Hammer Information

Hammer Mass m (kg): 63.5
Falling Height h (mm): 760
SPT String Length L (m): 10.0

Comments / Location

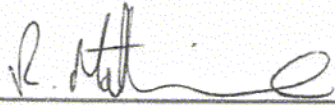
CALIBRATION



Calculations

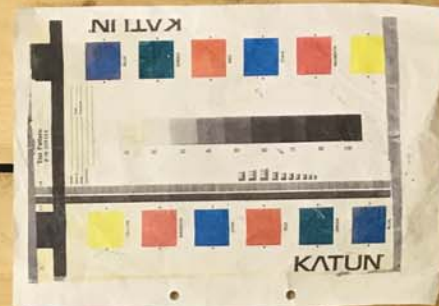
Area of Rod A (mm²): 983
Theoretical Energy E_{theor} (J): 473
Measured Energy E_{meas} (J): 342

Energy Ratio E_r (%): **72**


Signed: R.MATTIMORE
Title: FITTER

The recommended calibration interval is 12 months

REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH01 2.0-5.0mbgl



2.0

3.5

3.0

3.5

4.5

5.0



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH01 5.0-8.0mbgl



5.0

6.5

6.0 SPT

6.5 SPT

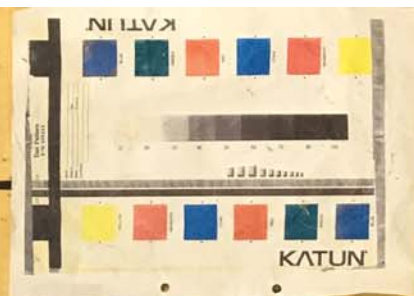
7.0

7.5 SPT

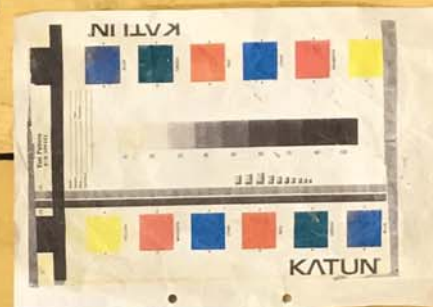
8.0



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH01 8.0-11.0mbgl



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH01 11.0-14.0mbgl



11.0

12.5

12.0

12.5

13.5 SPT

14.0



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH01 14.0-17.0mbgl



14.0

15.5

15.0

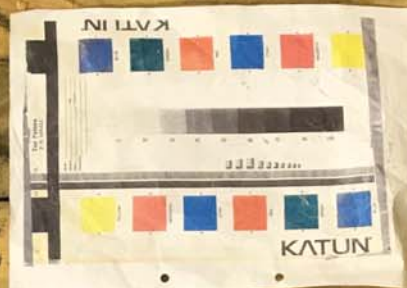
15.5

16.5

17.0



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH01 17.0-20.0mbgl



17.0

18.5

18.0

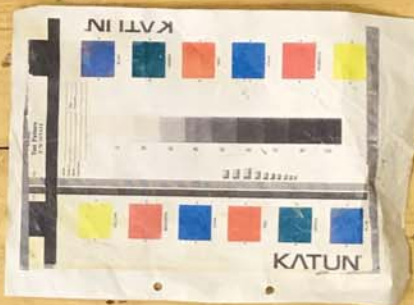
18.5

19.5

20.0



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH01 20.0-23.0mbgl



20.0

21.5

21.0

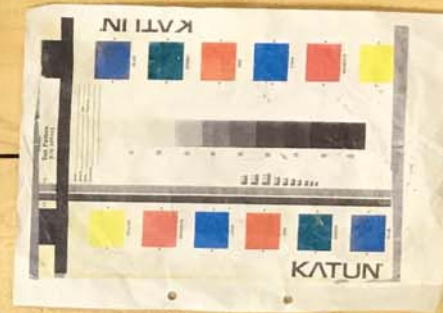
21.5

22.5 SPT

23.0



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH01 23.0-26.0mbgl



23.0

24.5

24.0

24.5

25.5

26.0



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH01 26.0-29.0mbgl



26.0

27.5

27.0

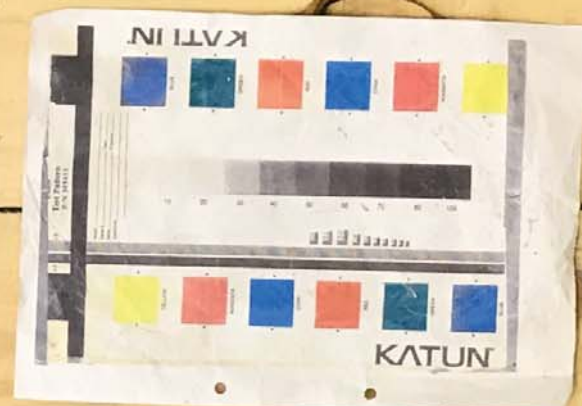
27.5

28.5

29.0



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH01 29.0-30.0mbgl



29.0

30.0



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH02 1.8-4.8mbgl



1.8

3.3

3.3

4.8



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH02 4.8-7.8mbgl



4.8

6.3

6.3

7.8



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH03 1.2-4.2mbgl



1.2

2.7



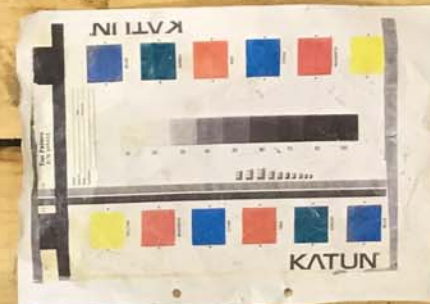
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3.7 SPT

4.2



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH03 4.2-6.7mbgl



4.2

5.7

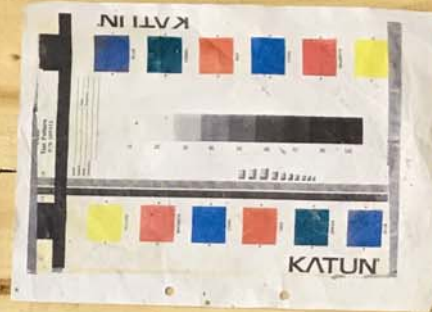
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5.7

6.7



CCG REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH04 3.5-6.0mbgl



3.5

SPT

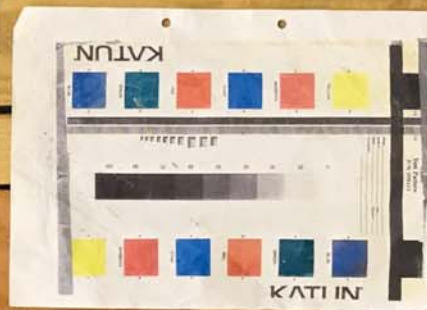
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6.0

4.5



CCG REF: CCG-C-18-10117
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CLIENT: KNOWSLEY MBC
RBH04 6.0-9.0mbgl



6.0

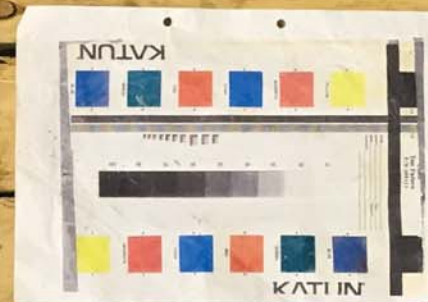
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7.5

9.0



CCG REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH04 9.0-10.5mbgl



9.0

10.5



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH05 2.0-4.5mbgl



2.0

SPT

3.0

3.0

4.5



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH05 7.0-10.0mbgl



7.0

SPT

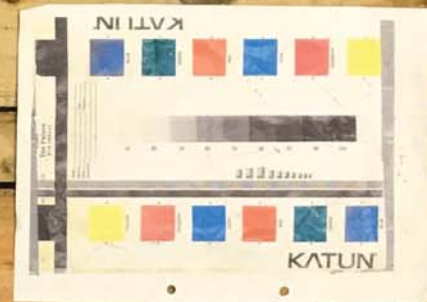
8.5

7.5

10.0



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH05 10.0-11.5mbgl

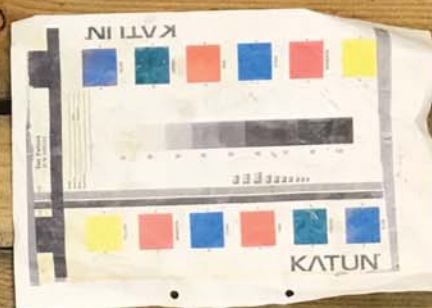


10.0

11.5



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH06 2.0-5.0mbgl



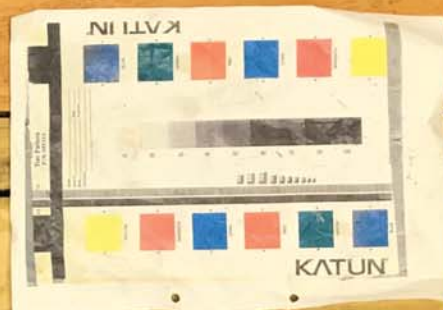
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3.5

3.5

5.0

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SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
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5.0

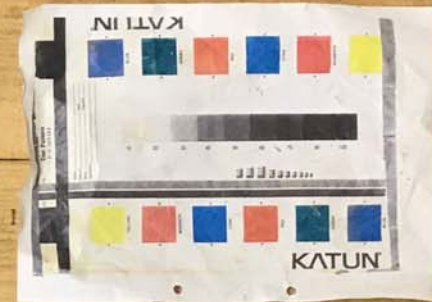
6.5

6.5

8.0



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH07 1.7-4.7mbgl



1.7

3.2

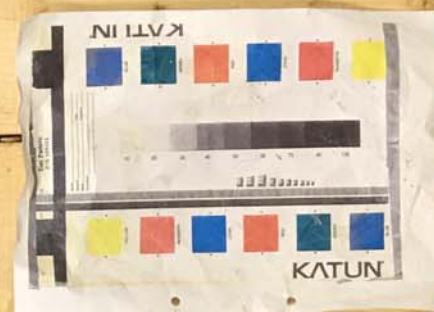
SPT

3.2

SPT

4.7

REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH07 4.7-7.7mbgl



4.7

6.2

6.2

7.7



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH08 3.0-6.0mbgl



3.0

4.5

4.5

5.5

6.0



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH08 6.0-9.0mbgl



6.0

7.5

7.0 SPT

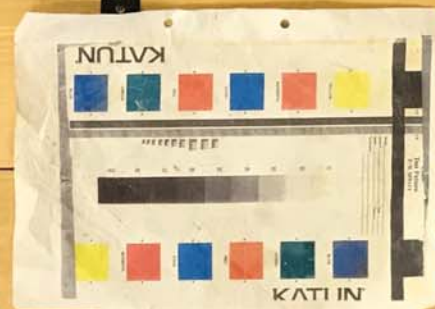
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8.5 SPT

9.0



REF: CCG-C-18-10117
SITE: FOX'S BANK LANE
CLIENT: KNOWSLEY MBC
RBH08 9.0-11.5mbgl



9.0

10.5

10.0

10.5

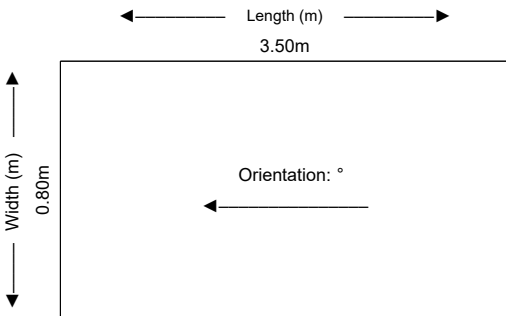
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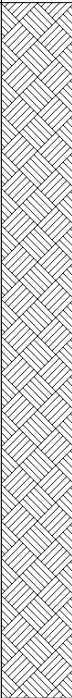
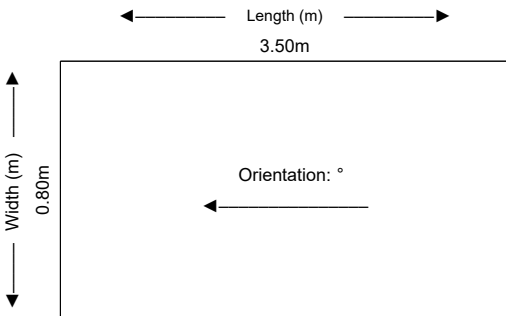


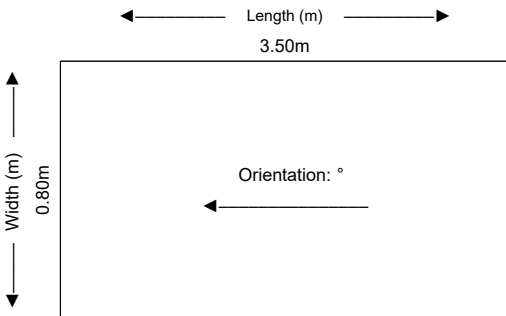


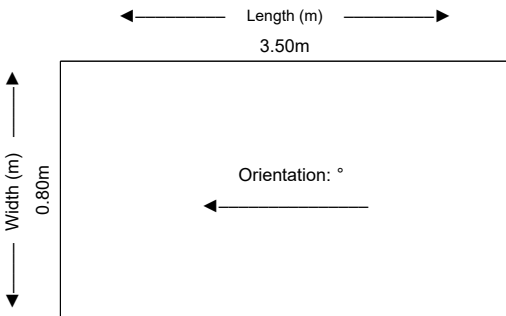
APPENDIX C

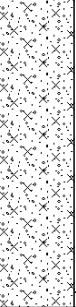
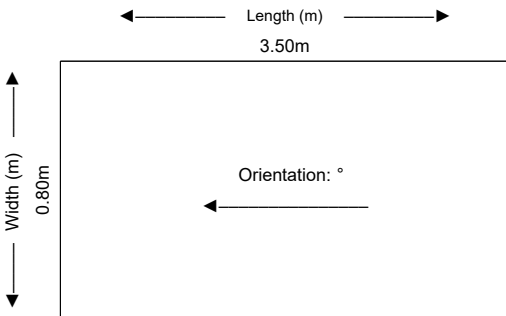
TRIAL PIT LOG SHEETS

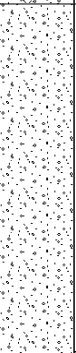
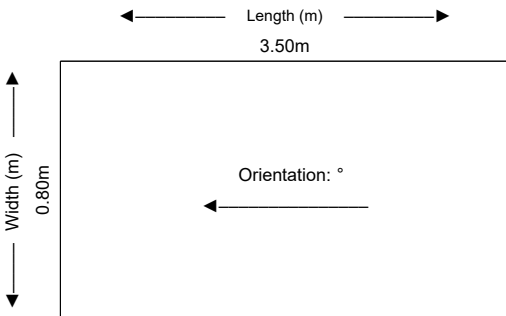
	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP01														
	Contract Number: CCG-C-18-10117	Date Started: 22/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1														
Trial Pit Log	Easting: 347433.3	Northing: 390234.0	Ground Level: 46.03mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25														
	Weather:		Hole Termination: BEDROCK		Stability: Pit walls unstable															
Samples & In Situ Testing			Strata Details				Water	Backfill												
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description														
0.10 0.20 0.25	D ES B		45.73	(0.30)		TOPSOIL. Recovered as dark brown slightly gravelly silty clayey organic SAND. Gravel is fine to medium sub-rounded to sub-angular of mudstone and sandstone	1													
0.50 0.60 0.70	ES D B			0.30		Dark brown slightly silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium sub-rounded sandstone														
1.10 1.20 1.30	ES B D			1.00		Yellow slightly gravelly SAND. Gravel is fine to coarse cemented sandstone. Tending to extremely weak weathered sandstone with depth														
2.20	ES		43.13	(1.90)			2													
2.50	B																			
2.70	D																			
				2.90	UNABLE TO EXCAVATE > 2.90mbgl End of Trial Pit at 2.90m		3													
Dimensions:			General Remarks:																	
Final Depth: 2.90m			13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED E-W																	
																				
Inclination: °																				
			Water Strikes																	
			<table><tr><td>Strike (m)</td><td>Casing (m)</td><td>Sealed (m)</td><td>Time (mins)</td><td>Rose to (m)</td><td>Remarks</td></tr><tr><td></td><td></td><td></td><td>0</td><td></td><td>Trial pit dry</td></tr></table>						Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks				0		Trial pit dry
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks															
			0		Trial pit dry															
			CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.com																	

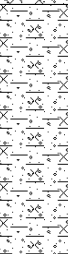
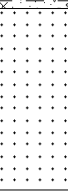
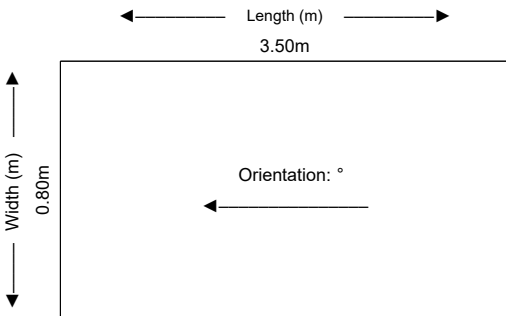
	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP02				
	Contract Number: CCG-C-18-10117	Date Started: 23/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1				
Trial Pit Log	Easting: 347439.0	Northing: 390177.0	Ground Level: 45.96mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25				
	Weather:		Hole Termination: BEDROCK		Stability:					
Samples & In Situ Testing			Strata Details				Water	Backfill		
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description				
0.10 0.20 0.25	D ES B	HVP=30kPa	45.66	(0.30)		TOPSOIL. Recovered as dark brown slightly gravelly silty sandy organic CLAY. Gravel is fine to medium sub-angular to sub-rounded of mudstone and sandstone	1			
0.50 0.60 0.70	ES D B			45.16	(0.50)				Locally soft becoming stiff brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium sub-rounded sandstone with rare gravels of coal	
1.00 1.10 1.20	ES B D					44.66			1.30	
1.50 1.60 1.70	B ES D	44.16	1.80							
2.00 2.20	D B			43.66	2.30					
										
									<u>UNABLE TO EXCAVATE > 2.30mbgl</u>	
					End of Trial Pit at 2.30m				3	
Dimensions:			General Remarks:							
Final Depth: 2.30m			13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED E-W							
										
			Water Strikes							
			Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks		
						0		Trial pit dry		
Inclination: °			CC GEOTECHNICAL LTD 0151 545 2750 www.cogeotechnical.com							

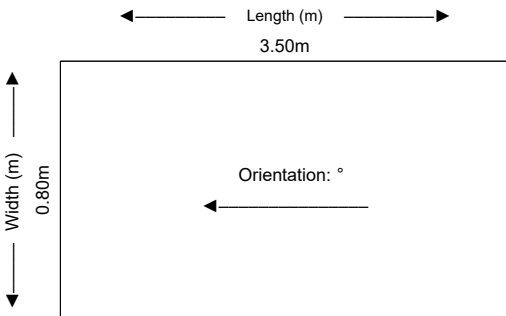
	Contract Name: Fox's Bank Lane, Whiston			Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP03																
	Contract Number: CCG-C-18-10117	Date Started: 23/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1																	
	Easting: 347486.0		Northing: 390136.0	Ground Level: 44.67mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25																
Trial Pit Log			Weather:			Hole Termination: BEDROCK			Stability:														
Samples & In Situ Testing				Strata Details						Water	Backfill												
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description																	
0.10 0.15 0.25	D ES B	HVP=100kPa	44.37	(0.30)		TOPSOIL. Recovered as dark brown slightly gravelly silty sandy organic CLAY. Gravel is fine to medium sub-angular to sub-rounded of mudstone and sandstone				1													
0.40 0.50 0.55	ES B D			0.30		Brown slightly gravelly silty fine to medium grained SAND. Gravel is fine to coarse sub-angular to sub-rounded mudstone, quartz and sandstone																	
0.70 0.80	D ES			0.60		Stiff brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium sub-rounded sandstone, quartz with rare inclusions of mudstone and coal																	
1.00	B			43.57	1.10		Yellow/brown silty slightly gravelly fine to medium grained SAND. Tending to extremely weak weathered sandstone with depth. Gravel is fine to medium sub-rounded sandstone																
1.40 1.50 1.60	ES D B				(0.80)	42.77	1.90		Reddish orange extremely weak weathered SANDSTONE. Recovered as gravelly SAND				2										
2.10 2.20	B B	(0.40)	2.30	UNABLE TO EXCAVATE > 2.30mbgl End of Trial Pit at 2.30m				3															
Dimensions:						General Remarks:																	
Final Depth: 2.30m						13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED N-S																	
																							
Inclination: °																							
						Water Strikes																	
						<table><tr><td>Strike (m)</td><td>Casing (m)</td><td>Sealed (m)</td><td>Time (mins)</td><td>Rose to (m)</td><td>Remarks</td></tr><tr><td></td><td></td><td></td><td>0</td><td></td><td>Trial pit dry</td></tr></table>						Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks				0		Trial pit dry
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks																		
			0		Trial pit dry																		
						CC GEOTECHNICAL LTD 0151 545 2750 www.cogeotechnical.com																	

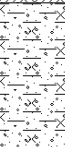
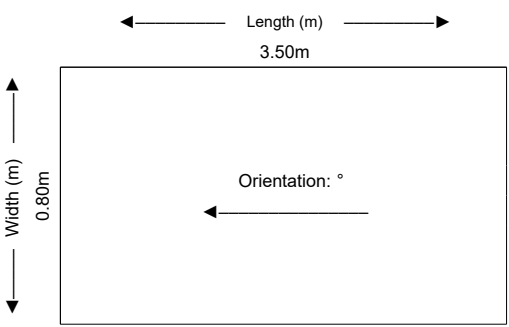
	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP04		
	Contract Number: CCG-C-18-10117	Date Started: 23/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1		
Trial Pit Log	Easting: 347486.0	Northing: 390234.0	Ground Level: 46.18mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25		
	Weather:		Hole Termination: BEDROCK		Stability:			
Samples & In Situ Testing			Strata Details				Water	Backfill
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description		
0.15 0.20 0.25	D ES B		45.88	(0.30)		TOPSOIL. Recovered as dark brown slightly gravelly silty clayey organic SAND. Gravel is fine to medium sub-rounded to sub-angular of mudstone and sandstone		
0.40 0.50 0.55	D ES B			0.30		Brown slightly silty slightly gravelly fine to medium grained SAND. Low cobble content. Gravel is fine to coarse angular to sub-rounded sandstone and mudstone		
				0.60		Orange tending to yellow slightly gravelly fine to medium grained SAND. Gravel is fine to coarse weakly cemented sandstone. Tending to extremely weak weathered sandstone with depth		
0.90 1.00 1.10	D ES B		43.98	(1.60)		UNABLE TO EXCAVATE > 2.20mbgl End of Trial Pit at 2.20m	1	
1.90 2.00 2.10	ES D B						2	
				2.20			3	
Dimensions:			General Remarks:					
Final Depth: 2.20m			13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED N-S					
			Water Strikes					
			Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
Inclination: °						0		Trial pit dry
CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.com								

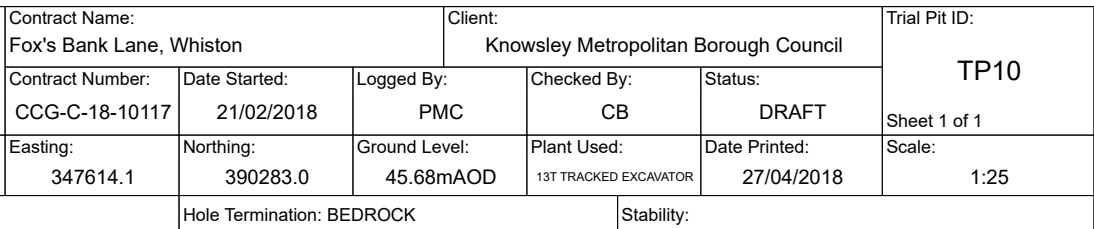
	Contract Name: Fox's Bank Lane, Whiston			Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP05															
	Contract Number: CCG-C-18-10117	Date Started: 22/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1																
	Trial Pit Log						Scale: 1:25															
Easting: 347494.1		Northing: 390283.0		Ground Level: 46.17mAOD		Plant Used: 13T TRACKED EXCAVATOR		Date Printed: 27/04/2018														
Weather:			Hole Termination: BEDROCK			Stability:																
Samples & In Situ Testing			Strata Details						Water	Backfill												
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description																
0.10	B		45.87	(0.30)		TOPSOIL. Recovered as dark brown slightly gravelly silty clayey SAND			1													
0.20	D			0.30		Brown slightly gravelly slightly silty fine to medium grained SAND. Gravel is fine to coarse sub-rounded to sub-angular of sandstone and mudstone																
0.25	ES																					
0.35 - 0.50	D																					
0.40	B			0.60		Orange/yellow silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium angular of weakly cemented sandstone. Tending to extremely weak weathered sandstone with depth																
0.50	ES																					
			45.57	(1.30)					2													
0.90	B																					
1.00	ES																					
1.10	D		44.27	1.90		UNABLE TO EXCAVATE > 1.90mbgl End of Trial Pit at 1.90m			3													
1.80	D																					
1.90	B																					
Dimensions:			General Remarks:																			
Final Depth: 1.90m			13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED N-S																			
																						
Inclination: °																						
			Water Strikes																			
			<table><tr><td>Strike (m)</td><td>Casing (m)</td><td>Sealed (m)</td><td>Time (mins)</td><td>Rose to (m)</td><td>Remarks</td></tr><tr><td></td><td></td><td></td><td>0</td><td></td><td>Trial pit dry</td></tr></table>								Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks				0		Trial pit dry
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks																	
			0		Trial pit dry																	
			CC GEOTECHNICAL LTD 0151 545 2750 www.cogeotechnical.com																			

	Contract Name: Fox's Bank Lane, Whiston			Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP06															
	Contract Number: CCG-C-18-10117	Date Started: 22/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1																
	Trial Pit Log						Scale: 1:25															
Easting: 347535.0		Northing: 390235.0		Ground Level: 46.04mAOD		Plant Used: 13T TRACKED EXCAVATOR		Date Printed: 27/04/2018														
Weather:			Hole Termination: BEDROCK				Stability:															
Samples & In Situ Testing			Strata Details						Water	Backfill												
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description																
0.15 0.20 0.25 0.30 0.40 0.50	D B ES D B ES		45.74	(0.30) 0.30		TOPSOIL. Recovered as dark brown slightly gravelly silty clayey organic SAND. Gravel is fine to medium sub-rounded to sub-angular of mudstone and sandstone			1													
						Brown slightly silty slightly gravelly fine to medium grained SAND. Gravel is fine to coarse sub-angular to sub-rounded mudstone and sandstone																
			45.49	0.55		Orange/brown slightly gravelly SAND. Gravel is fine to coarse of weakly cemented angular sandstone. Tending to extremely weak weathered sandstone with depth																
0.90 1.00 1.20	ES B D			(1.65)					2													
1.80 1.90 2.00	ES D B								3													
Dimensions:					General Remarks:																	
Final Depth: 2.20m					13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED N-S																	
																						
Inclination: °																						
					Water Strikes																	
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Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks																	
			0		Trial pit dry																	
					CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.com																	

	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP07			
	Contract Number: CCG-C-18-10117	Date Started: 22/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1			
Trial Pit Log	Easting: 347536.1	Northing: 390185.1	Ground Level: 44.55mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25			
	Weather:		Hole Termination: BEDROCK		Stability:				
Samples & In Situ Testing			Strata Details				Water	Backfill	
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description			
0.20 0.25 0.30	ES D B	HVP=110kPa	44.15	(0.40)		TOPSOIL. Recovered as dark brown slightly gravelly silty sandy organic CLAY. Gravel is fine to medium sub-angular to sub-rounded of mudstone and sandstone	1		
0.50 0.60 0.70	ES B D			0.40 (0.35)		Brown slightly silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium sub-rounded mudstone and sandstone			
1.00 1.20 1.40	ES D D			43.80	0.75 (0.85)				Stiff brown slightly sandy silty sandy slightly gravelly CLAY. Gravel is fine to medium sub-rounded sandstone
		42.95	1.60 (0.60)			Orange extremely weak weathered SANDSTONE. Recovered as gravelly SAND			
		2.10	B		42.35	2.20	UNABLE TO EXCAVATE > 2.20mbgl End of Trial Pit at 2.20m		
Dimensions:				General Remarks:					
Final Depth: 2.20m				13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED E-W					
				Water Strikes					
				Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
							0		Trial pit dry
Inclination: °				CC GEOTECHNICAL LTD 0151 545 2750 www.cogeotechnical.com					

	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP08			
	Contract Number: CCG-C-18-10117	Date Started: 23/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1			
Trial Pit Log	Easting: 347586.1	Northing: 390136.0	Ground Level: 42.09mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25			
	Weather:		Hole Termination: BEDROCK		Stability:				
Samples & In Situ Testing			Strata Details				Water	Backfill	
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description			
0.20	ES	HVP=110kPa	41.69	(0.40)		TOPSOIL. Recovered as dark brown slightly gravelly silty sandy organic CLAY. Gravel is fine to medium sub-angular to sub-rounded of mudstone and sandstone	1		
0.30	D			41.39	0.40				Brown slightly gravelly slightly silty fine to medium grained SAND. Gravel is fine to medium sub-rounded to rounded mudstone and sandstone
0.35	B								
0.45	D								
0.50	ES								
0.60	B	0.70		Stiff tending firm to stiff brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium sub-rounded mudstone and sandstone	2				
0.80	D								
0.90	B								
1.00	ES								
		39.69				(1.70)		Orange/yellow extremely weak weathered SANDSTONE. Recovered as slightly gravelly SAND	3
1.60	D								
1.80	B								
2.00	ES								
		38.99	3.10		UNABLE TO EXCAVATE > 3.10mbgl End of Trial Pit at 3.10m				
2.70	D								
2.90	B								
Dimensions:			General Remarks:						
Final Depth: 3.10m			13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED N-S						
			Water Strikes						
			Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	
			0.70			0		Minor water seepage	
Inclination: °			CC GEOTECHNICAL LTD 0151 545 2750 www.cogeotechnical.com						

	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP09														
	Contract Number: CCG-C-18-10117	Date Started: 22/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1														
Trial Pit Log	Easting: 347586.0	Northing: 390185.0	Ground Level: 43.22mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25														
	Weather:		Hole Termination: BEDROCK		Stability:															
Samples & In Situ Testing			Strata Details				Water	Backfill												
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description														
0.30	ES	HVP=35kPa	42.72	(0.50)		TOPSOIL. Recovered as dark brown silty sandy slightly gravelly CLAY. Gravel is fine to medium sub-rounded to sub-angular mudstone	1													
0.40	B																			
0.50	D																			
0.50	ES																			
0.60	B																			
0.80	D	HVP=50kPa		(2.10)		Soft becoming firm to stiff brown slightly sandy slightly gravelly silty CLAY with frequent grey sand laminations. Gravel is fine to medium sub-rounded mudstone and sandstone	2													
1.00	ES																			
1.10	B																			
1.20	D	HVP=90kPa																		
1.80	ES	HVP=110kPa																		
2.00	B																			
		HVP=70kPa																		
2.30	D																			
		HVP=55kPa																		
2.70	D																			
2.80	B		40.62	2.60		Orange extremely weak weathered SANDSTONE. Recovered as SAND and GRAVEL	3													
			40.42	2.80		UNABLE TO EXCAVATE > 2.80mbgl End of Trial Pit at 2.80m														
Dimensions:			General Remarks:																	
Final Depth: 2.80m			13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED E-W																	
																				
Inclination: °																				
			Water Strikes																	
			<table><tr><td>Strike (m)</td><td>Casing (m)</td><td>Sealed (m)</td><td>Time (mins)</td><td>Rose to (m)</td><td>Remarks</td></tr><tr><td>2.00</td><td></td><td></td><td>0</td><td></td><td>Minor seepage</td></tr></table>						Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	2.00			0		Minor seepage
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks															
2.00			0		Minor seepage															
			CC GEOTECHNICAL LTD 0151 545 2750 www.cogeotechnical.com																	



Dimensions:

Final Depth: 2.10m

←

Length (m)

→

3.50m

↑

Width (m)

↓

0.80m

Orientation: °

←

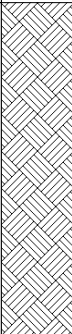
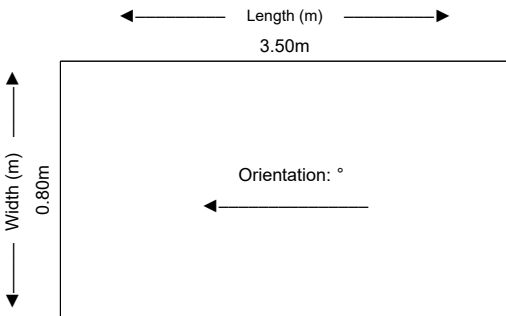
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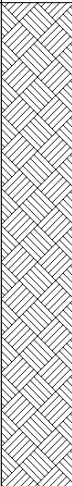
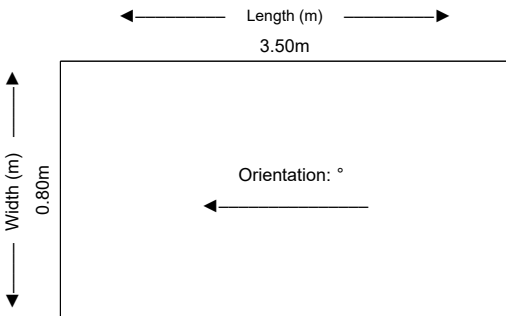
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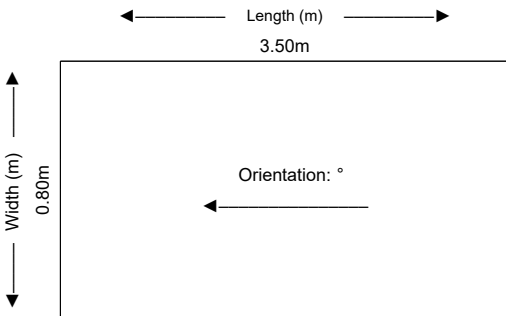
13T TRACKED EXCAVATOR
2FT TOOTHLESS BUCKET
EXCAVATION ORIENTATED N-S

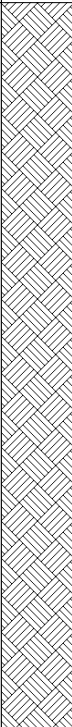
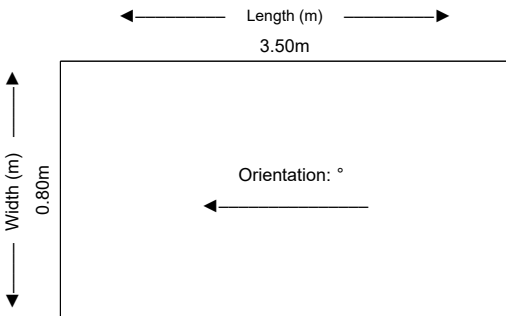
Water Strikes					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
			0		Trial pit dry

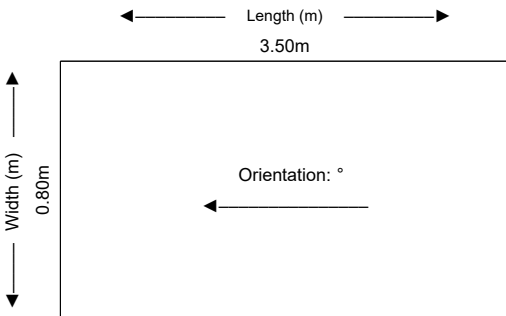
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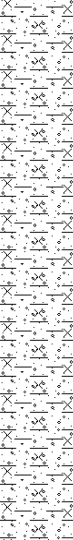
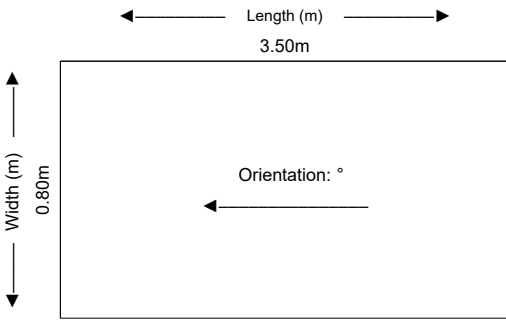
	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP11																				
	Contract Number: CCG-C-18-10117	Date Started: 22/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1																				
Trial Pit Log	Easting: 347567.1	Northing: 390331.0	Ground Level: 47.07mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25																				
	Weather:		Hole Termination: BEDROCK		Stability:																					
Samples & In Situ Testing			Strata Details				Water	Backfill																		
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description																				
0.10	B		46.67	(0.40)		TOPSOIL. Recovered as slightly gravelly silty clayey SAND. Gravel is fine to coarse sub-rounded to sub-angular mudstone and sandstone	1																			
0.20	ES																									
0.30	D																									
0.60	ES		45.97	(0.70)		Orange slightly gravelly fine to coarse grained SAND. Gravel is fine to coarse angular sandstone. Low cobble content. Tending to extremely weak weathered sandstone > 0.60mbgl HARD EXCAVATION > 0.60mbgl	2																			
0.70	D																									
0.90	B																									
				1.10		UNABLE TO EXCAVATE > 1.10mbgl End of Trial Pit at 1.10m	3																			
Dimensions:				General Remarks:																						
Final Depth: 1.10m				13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED E-W																						
																										
Inclination: °																										
<table><tr><td colspan="6">Water Strikes</td></tr><tr><td>Strike (m)</td><td>Casing (m)</td><td>Sealed (m)</td><td>Time (mins)</td><td>Rose to (m)</td><td>Remarks</td></tr><tr><td></td><td></td><td></td><td>0</td><td></td><td>Trial pit dry</td></tr></table>									Water Strikes						Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks				0		Trial pit dry
Water Strikes																										
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks																					
			0		Trial pit dry																					
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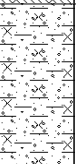
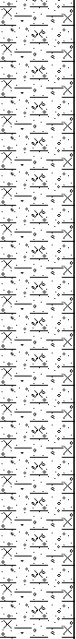
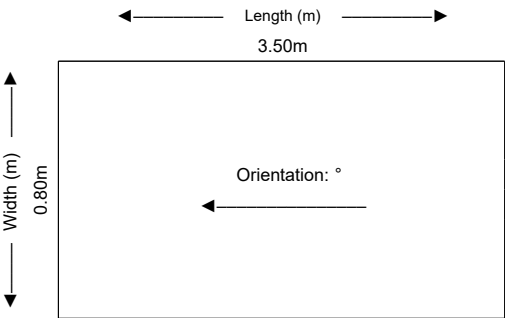
	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP12													
	Contract Number: CCG-C-18-10117	Date Started: 22/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1													
Trial Pit Log	Easting: 347639.1	Northing: 390381.0	Ground Level: 49.33mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25													
	Weather:		Hole Termination: BEDROCK		Stability:														
Samples & In Situ Testing			Strata Details				Water	Backfill											
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description													
0.20	B		48.93	(0.40)		TOPSOIL. Recovered as slightly gravelly silty clayey SAND. Gravel is fine to coarse sub-rounded to sub-angular mudstone and sandstone	1												
0.30	ES			0.40		Brown slightly silty fine to medium grained SAND													
0.35	D			48.73	0.60				Orange/brown silty slightly gravelly fine to coarse grained SAND. Gravel is fine to medium sub-rounded sandstone. Increasingly gravelly > 0.90mbgl and becoming difficult to dig. Tending to extremely weak weathered sandstone										
0.45	B																		
0.50	ES																		
0.55	D		47.73	(1.00)		LIGHT GREY SAND LAMINATIONS > 1.40mbgl UNABLE TO EXCAVATE > 1.60mbgl End of Trial Pit at 1.60m	2												
0.70	D																		
0.80	B																		
1.00	ES																		
1.40	ES																		
1.50	D		47.73	1.60			3												
1.60	B																		
Dimensions:				General Remarks:															
Final Depth: 1.60m				13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED E-W															
																			
Inclination: °																			
				Water Strikes															
				<table><tr><td>Strike (m)</td><td>Casing (m)</td><td>Sealed (m)</td><td>Time (mins)</td><td>Rose to (m)</td><td>Remarks</td></tr><tr><td></td><td></td><td></td><td>0</td><td></td><td>Trial pit dry</td></tr></table>				Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks				0		Trial pit dry
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks														
			0		Trial pit dry														
				CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.com															

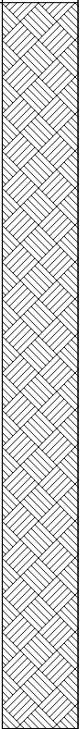
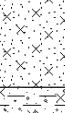
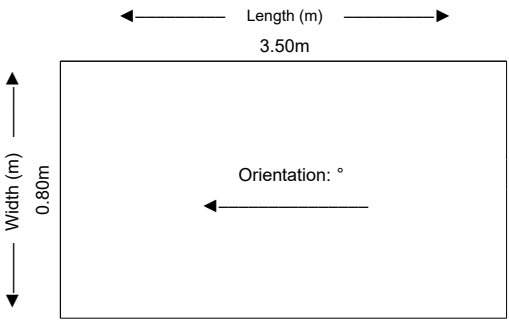
	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP13																				
	Contract Number: CCG-C-18-10117	Date Started: 22/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1																				
Trial Pit Log	Easting: 347664.1	Northing: 390355.0	Ground Level: 47.73mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25																				
	Weather:		Hole Termination: BEDROCK		Stability:																					
Samples & In Situ Testing			Strata Details				Water	Backfill																		
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description																				
0.10 0.15 0.25	ES D B		47.43	(0.30)		TOPSOIL. Recovered as dark brown slightly gravelly silty clayey organic SAND. Gravel is fine to medium sub-rounded to sub-angular of mudstone and sandstone																				
0.40 0.50 0.55	D ES B			0.30		Brown slightly silty fine to medium grained SAND																				
0.90 1.00 1.20	D ES B			47.13	0.60				Orange slightly silty slightly gravelly fine to coarse grained SAND. Gravel is fine to coarse angular weakly cemented sandstone. Increasingly gravelly and tending to extremely weak weathered sandstone with depth																	
1.80 1.90 2.00	ES D B		45.73		2.00		HARD EXCAVATION > 1.00mbgl	1																		
									UNABLE TO EXCAVATE > 2.00mbgl	2																
								End of Trial Pit at 2.00m	3																	
Dimensions:			General Remarks:																							
Final Depth: 2.00m			13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED E-W																							
																										
Inclination: °																										
			<table><tr><th colspan="6">Water Strikes</th></tr><tr><th>Strike (m)</th><th>Casing (m)</th><th>Sealed (m)</th><th>Time (mins)</th><th>Rose to (m)</th><th>Remarks</th></tr><tr><td></td><td></td><td></td><td>0</td><td></td><td>Trial pit dry</td></tr></table>						Water Strikes						Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks				0		Trial pit dry
Water Strikes																										
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks																					
			0		Trial pit dry																					
			CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.com																							

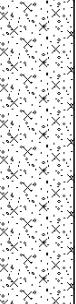
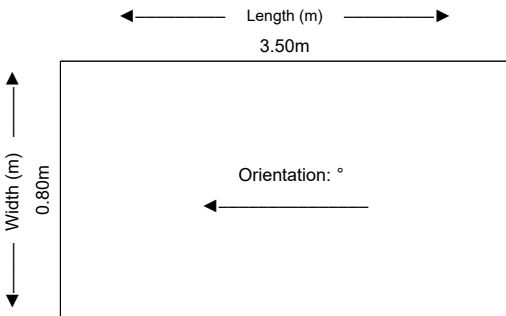
	Contract Name: Fox's Bank Lane, Whiston			Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP14			
	Contract Number: CCG-C-18-10117	Date Started: 21/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1				
	Trial Pit Log						Scale: 1:25			
Easting: 347665.0		Northing: 390306.4		Ground Level: 46.00mAOD		Plant Used: 13T TRACKED EXCAVATOR		Date Printed: 27/04/2018		
Weather:			Hole Termination: BEDROCK				Stability:			
Samples & In Situ Testing			Strata Details						Water	Backfill
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description				
0.10	B		45.70	(0.30)		TOPSOIL. Recovered as dark brown slightly gravelly silty clayey organic SAND. Gravel is fine to medium sub-rounded to sub-angular of mudstone and sandstone			1	
0.20	D			0.30		Dark brown slightly silty fine to medium grained SAND with rare inclusions of gravel. Gravel is fine to medium rounded to sub-rounded mudstone				
0.25	ES									
0.40	D									
0.50	B			45.35	0.65	Orange/brown slightly silty fine to coarse grained SAND				
0.60	ES									
0.90	D		44.30	1.70		Orange/brown extremely weak weathered SANDSTONE. Recovered as SAND and GRAVEL			2	
1.00	B									
1.20	ES									
1.90	D		43.60	2.40		UNABLE TO EXCAVATE > 2.40mbgl End of Trial Pit at 2.40m			3	
2.00	ES									
2.20	B									
Dimensions:			General Remarks:							
Final Depth: 2.40m			13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED E-W							
			Water Strikes							
			Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks		
						0		Trial pit dry		
Inclination: °			CC GEOTECHNICAL LTD 0151 545 2750 www.cogeotechnical.com							

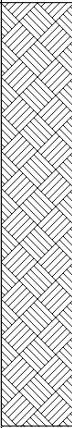
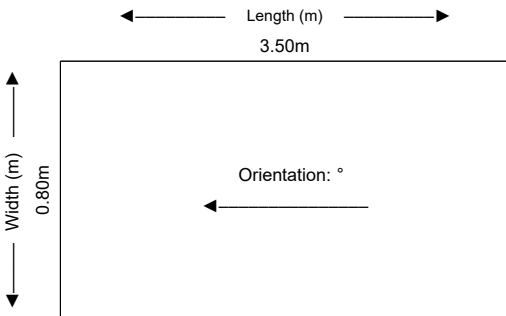
	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP15			
	Contract Number: CCG-C-18-10117	Date Started: 22/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1			
Trial Pit Log		Easting: 347637.0	Northing: 390234.1	Ground Level: 44.26mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25		
Weather:			Hole Termination: BEDROCK			Stability:			
Samples & In Situ Testing				Strata Details			Water	Backfill	
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description			
0.10 0.20 0.25 0.40 0.50 0.60 0.80 0.90 1.00 1.40 1.50 1.60 2.20 2.30	D ES B D ES B D ES B	HVP=110kPa	43.96 43.21	(0.30) 0.30 (0.40) 0.70 (0.35) 1.05	 TOPSOIL. Recovered as dark brown slightly gravelly silty sandy organic CLAY. Gravel is fine to medium sub-angular to sub-rounded of mudstone and sandstone  Brown silty fine to medium grained SAND. Low cobble content. Gravel is fine to coarse sub-angular to sub-rounded sandstone and mudstone  Stiff brown slightly gravelly sandy silty CLAY. Gravel is fine to medium sub-rounded sandstone, quartz and mudstone  Orange silty slightly gravelly fine to coarse grained SAND. Gravel is fine to medium weakly cemented angular sandstone. Tending to extremely weak weathered sandstone with depth	1			
HARD EXCAVATION > 1.70mbgl									
UNABLE TO EXCAVATE > 2.30mbgl									
End of Trial Pit at 2.30m									
2									
3									
Dimensions:									
Final Depth: 2.30m									
									
Inclination: °									
General Remarks:									
13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED N-S									
Water Strikes									
Strike (m)	Casing (m)		Sealed (m)	Time (mins)	Rose to (m)	Remarks			
				0		Trial pit dry			
CC GEOTECHNICAL LTD 0151 545 2750 www.cogeotechnical.com									

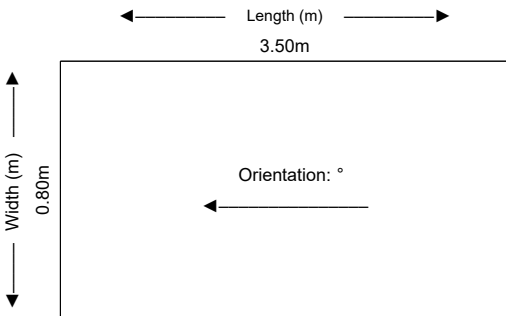
	Contract Name: Fox's Bank Lane, Whiston			Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP16										
	Contract Number: CCG-C-18-10117	Date Started: 22/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1											
	Easting: 347637.0		Northing: 390185.0	Ground Level: 42.65mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25										
Trial Pit Log			Weather:			Hole Termination: BEDROCK			Stability: Unstable								
Samples & In Situ Testing				Strata Details						Water	Backfill						
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description											
0.10 0.20 0.25	D ES B		42.35	(0.30)		TOPSOIL. Recovered as dark brown slightly gravelly silty clayey organic SAND. Gravel is fine to medium sub-rounded to sub-angular of mudstone and sandstone			1								
0.50 0.60 0.70	D ES B			0.30		Orange/brown silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium sub-rounded sandstone											
1.20 1.30 1.40	ES D B	HVP=70kPa		1.10		Firm locally soft to firm brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium sub-angular mudstone											
1.80 1.90	D B	HVP=50kPa	41.55	(1.80)		Yellow extremely weak weathered SANDSTONE. Recovered as sandy cobbly GRAVEL. <u>UNABLE TO EXCAVATE > 3.10mbgl</u> End of Trial Pit at 3.10m			2								
		HVP=45kPa															
3.00 3.10	D B	HVP=50kPa	39.75 39.55	2.90 3.10					3								
Dimensions:												General Remarks:					
Final Depth: 3.10m												13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED N-S					
																	
Inclination: °																	
												Water Strikes					
												Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
												1.10			0		Minor seepage
														CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.com			

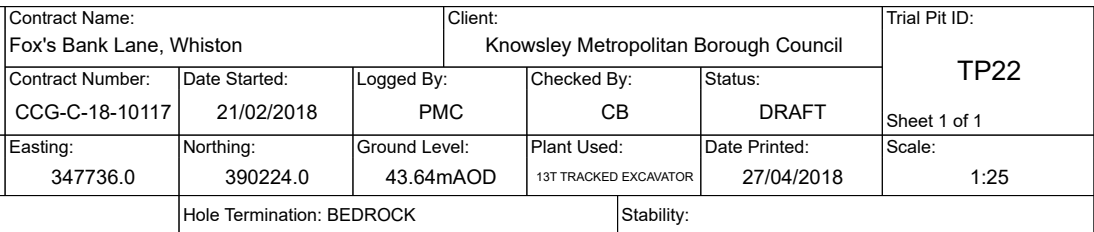
	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP17															
	Contract Number: CCG-C-18-10117	Date Started: 23/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1															
Trial Pit Log	Easting: 347630.6	Northing: 390134.9	Ground Level: 41.25mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25															
	Weather:		Hole Termination: BEDROCK		Stability:																
Samples & In Situ Testing			Strata Details				Water	Backfill													
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description															
0.20 0.30 0.40	D ES B	HVP=100kPa	40.70	0.55		TOPSOIL. Recovered as dark brown slightly gravelly silty clayey organic SAND. Gravel is fine to medium sub-rounded to sub-angular of mudstone and sandstone	1														
0.60 0.70 0.80	ES D B					Stiff locally firm to stiff brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium sub-rounded to sub-angular mudstone, sandstone with inclusions of coal															
1.20 1.30	ES D					Orange extremely weak weathered SANDSTONE. Recovered as slightly gravelly SAND															
1.80	B																				
2.30 2.50 2.80	D ES B																				
3.40 3.50	D B				38.05 37.75	3.20 3.50					UNABLE TO EXCAVATE > 3.50mbgl End of Trial Pit at 3.50m	3									
Dimensions:					General Remarks:																
Final Depth: 3.50m					13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED E-W																
																					
Inclination: °																					
					Water Strikes																
					<table><tr><td>Strike (m)</td><td>Casing (m)</td><td>Sealed (m)</td><td>Time (mins)</td><td>Rose to (m)</td><td>Remarks</td></tr><tr><td>1.40</td><td></td><td></td><td>0</td><td></td><td>Minor seepage</td></tr></table>					Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	1.40			0		Minor seepage
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks																
1.40			0		Minor seepage																
					CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.com																

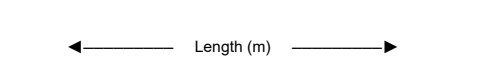
	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP18				
	Contract Number: CCG-C-18-10117	Date Started: 22/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1				
Trial Pit Log	Easting: 347687.1	Northing: 390206.0	Ground Level: 43.17mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25				
	Weather:		Hole Termination: BEDROCK		Stability:					
Samples & In Situ Testing			Strata Details				Water	Backfill		
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description				
0.20	D	HVP=120kPa	42.77	(0.40)		TOPSOIL. Recovered as dark brown slightly gravelly silty sandy organic CLAY. Gravel is fine to medium sub-angular to sub-rounded of mudstone and sandstone	1			
0.30	ES			0.40		Brown slightly silty fine to medium grained SAND				
0.35	B									
0.50	D									
0.60	ES			(0.70)		Stiff brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium sub-rounded mudstone and sandstone				
0.70	B									
1.20	ES		42.07	1.10		Orange/brown silty slightly gravelly fine to medium grained SAND. Low cobble content. Gravel is fine to medium sub-rounded weakly cemented SANDSTONE. Tending to extremely weak weathered sandstone with depth			2	
1.30	D		(0.50)	41.57						1.60
1.40	B									
1.70	D		(0.80)	40.77	2.40	End of Trial Pit at 2.40m				3
1.80	ES									
1.90	B									
2.30	D									
2.40	B									
Dimensions:			General Remarks:							
Final Depth: 2.40m			13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED E-W							
			Water Strikes							
			Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks		
Inclination: °			0 Trial pit dry							
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	Contract Name: Fox's Bank Lane, Whiston			Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP19				
	Contract Number: CCG-C-18-10117	Date Started: 21/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1					
	Easting: 347715.1		Northing: 390307.1	Ground Level: 46.37mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25				
Trial Pit Log			Weather:			Hole Termination: BEDROCK			Stability: Unstable		
Samples & In Situ Testing				Strata Details						Water	Backfill
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description					
0.10	D		46.07	(0.30)		TOPSOIL. Recovered as dark brown slightly gravelly silty clayey organic SAND. Gravel is fine to medium sub-rounded to sub-angular of mudstone and sandstone			1		
0.20	ES			0.30		Brown slightly silty fine to medium grained SAND					
0.25	B			45.72	(0.35)		Orange/brown silty slightly gravelly SAND. Gravel is fine to medium sub-rounded sandstone				
0.40	D		44.47		(1.25)		Orange/brown extremely weak weathered SANDSTONE. Recovered as gravelly SAND			2	
0.50	ES				1.90						
0.60	B			(0.70)							
1.00	ES		43.77	2.60	UNABLE TO EXCAVATE > 2.60mbgl End of Trial Pit at 2.60m			3			
1.20	D										
1.40	B										
2.00	ES										
2.20	D										
2.50	B										
Dimensions:				General Remarks:							
Final Depth: 2.60m				13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED N-S							
				Water Strikes							
				Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks		
							0		Trial pit dry		
Inclination: °				CC GEOTECHNICAL LTD 0151 545 2750 www.cogeotechnical.com							

	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP20															
	Contract Number: CCG-C-18-10117	Date Started: 22/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1															
Trial Pit Log	Easting: 347714.0	Northing: 390355.1	Ground Level: 47.92mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25															
	Weather:		Hole Termination: BEDROCK		Stability:																
Samples & In Situ Testing			Strata Details				Water	Backfill													
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description															
0.15	B		47.57	(0.35)		TOPSOIL. Recovered as dark brown slightly gravelly silty clayey organic SAND with frequent root mater and sparsely vegetated at surface. Gravel is fine to medium sub-rounded to sub-angular of mudstone and sandstone	1														
0.20	ES			47.22	0.35				Brown slightly gravelly silty fine to medium grained SAND. Gravel is fine to medium sub-rounded sandstone												
0.30	D				46.52	(0.35)				Yellow tending to orange slightly gravelly fine to coarse grained SAND. Gravel is fine to coarse angular of weakly cemented sandstone. Increasingly gravelly >1.00mbgl and tending to extremely weak weathered sandstone with depth											
0.40	ES																				
0.50	D																				
0.60	B																				
0.80	ES		46.52	0.70		ORANGE > 1.20mbgl UNABLE TO EXCAVATE > 1.40mbgl End of Trial Pit at 1.40m			2												
0.90	D																				
1.00	B																				
1.20	ES																				
1.30	D		46.52	1.40							3										
1.40	B																				
Dimensions:				General Remarks:																	
Final Depth: 1.40m				13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED N-S																	
																					
Inclination: °																					
				Water Strikes																	
				<table><tr><td>Strike (m)</td><td>Casing (m)</td><td>Sealed (m)</td><td>Time (mins)</td><td>Rose to (m)</td><td>Remarks</td></tr><tr><td></td><td></td><td></td><td>0</td><td></td><td>Trial pit dry</td></tr></table>				Strike (m)	Casing (m)	Sealed (m)			Time (mins)	Rose to (m)	Remarks				0		Trial pit dry
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks																
			0		Trial pit dry																
				CC GEOTECHNICAL LTD 0151 545 2750 www.cogeotechnical.com																	

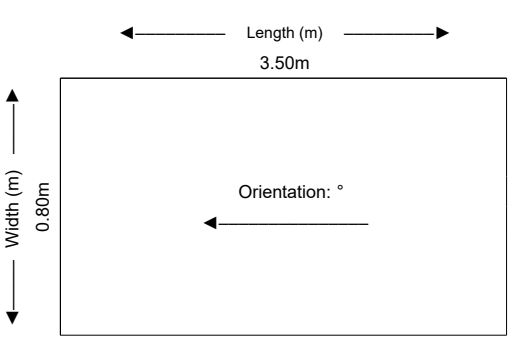
	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP21													
	Contract Number: CCG-C-18-10117	Date Started: 21/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1													
Trial Pit Log		Easting: 347736.0	Northing: 390272.0	Ground Level: 45.45mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25												
Weather:			Hole Termination: BEDROCK			Stability:													
Samples & In Situ Testing			Strata Details				Water	Backfill											
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description													
0.15	D		45.15	(0.30)		TOPSOIL. Recovered as dark brown slightly gravelly silty sandy organic CLAY. Gravel is fine to medium sub-angular to sub-rounded of mudstone and sandstone	1												
0.20	ES			0.30		Dark brown slightly silty slightly gravelly SAND. Low cobble content. Gravel is fine to coarse sub-rounded sandstone													
0.25	B			44.85	(0.30)				Yellow/brown silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium sub-rounded sandstone										
0.35	D																		
0.40	ES																		
0.50	B		0.60																
0.90	ES		44.25	(0.60)		Orange/brown silty slightly gravelly fine to coarse grained SAND. Gravel is fine to medium angular weakly cemented sandstone. Tending to extremely weak weathered sandstone with depth			2										
1.00	D			1.20															
1.10	B			(1.00)															
1.40	D																		
1.50	ES																		
1.60	B		2.20			3													
2.10	D		43.25	2.20				UNABLE TO EXCAVATE > 2.20mbgl End of Trial Pit at 2.20m											
2.20	B																		
Dimensions:				General Remarks:															
Final Depth: 2.20m				13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED N-S															
																			
Inclination: °																			
				Water Strikes															
				<table><tr><td>Strike (m)</td><td>Casing (m)</td><td>Sealed (m)</td><td>Time (mins)</td><td>Rose to (m)</td><td>Remarks</td></tr><tr><td></td><td></td><td></td><td>0</td><td></td><td>Trial pit dry</td></tr></table>				Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks				0		Trial pit dry
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks														
			0		Trial pit dry														
				CC GEOTECHNICAL LTD 0151 545 2750 www.cogeotechnical.com															

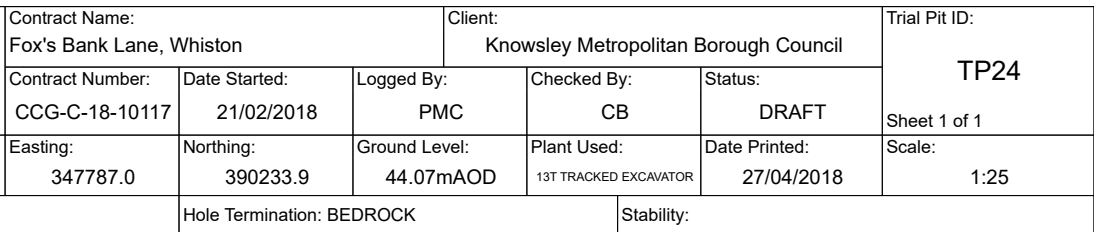


Dimensions: Final Depth: 2.80m 	General Remarks: 13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED N-S
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Water Strikes					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
			0		Trial pit dry

Inclination: °

	Contract Name: Fox's Bank Lane, Whiston			Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP23															
	Contract Number: CCG-C-18-10117	Date Started: 21/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1																
	Trial Pit Log						Scale: 1:25															
Easting: 347741.1		Northing: 390176.1		Ground Level: 42.28mAOD		Plant Used: 13T TRACKED EXCAVATOR		Date Printed: 27/04/2018														
Weather:			Hole Termination: BEDROCK				Stability:															
Samples & In Situ Testing			Strata Details						Water	Backfill												
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description																
						TOPSOIL. Recovered as dark brown slightly gravelly silty clayey organic SAND. Gravel is fine to medium sub-rounded to sub-angular of mudstone and sandstone																
0.75	ES		41.58	0.70																		
0.90	D			(0.40)		Red/brown slightly gravelly silty fine to medium grained SAND. Gravel is fine to coarse sub-angular to sub-rounded sandstone			1													
1.00	B		41.18	1.10		Yellowish brown silty slightly slightly gravelly fine to coarse grained SAND. Gravel is fine to medium angular weakly cemented sandstone. Increasingly gravelly >2.10mbgl. Gravel becoming tabular. Tending to extremely weak weathered sandstone with depth																
1.40	ES																					
1.50	B																					
1.60	D																					
1.90	D			(1.70)					2													
2.00	B																					
2.10	ES					HARD EXCAVATION > 1.80mbgl																
2.50	D																					
2.70	B		39.48	2.80		UNABLE TO EXCAVATE > 2.80mbgl			3													
						End of Trial Pit at 2.80m																
Dimensions:			General Remarks:																			
Final Depth: 2.80m			13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED N-S																			
																						
Inclination: °																						
			Water Strikes																			
			<table><tr><td>Strike (m)</td><td>Casing (m)</td><td>Sealed (m)</td><td>Time (mins)</td><td>Rose to (m)</td><td>Remarks</td></tr><tr><td></td><td></td><td></td><td>0</td><td></td><td>Trial pit dry</td></tr></table>								Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks				0		Trial pit dry
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks																	
			0		Trial pit dry																	
			CC GEOTECHNICAL LTD 0151 545 2750 www.cogeotechnical.com																			



Dimensions:

Final Depth: 2.40m

← Length (m) →

3.50m

↑ Width (m) ↓

0.80m

Orientation: °

←

Inclination: °

General Remarks:

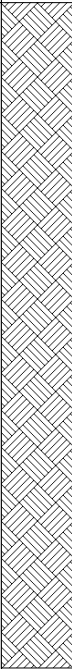
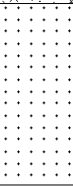
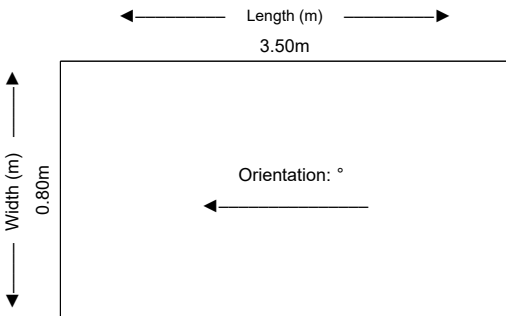
13T TRACKED EXCAVATOR

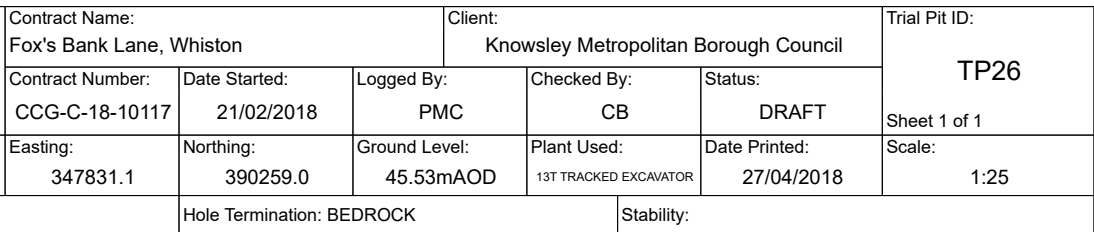
2FT TOOTHLESS BUCKET

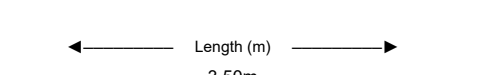
EXCAVATION ORIENTATED E-W

Water Strikes					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
			0		Trial pit dry

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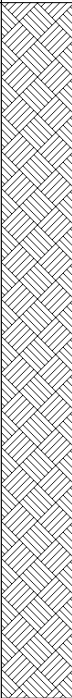
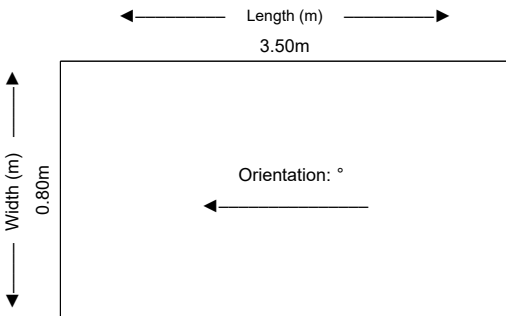
	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP25													
	Contract Number: CCG-C-18-10117	Date Started: 21/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1													
Trial Pit Log	Easting: 347815.1	Northing: 390332.0	Ground Level: 47.29mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25													
	Weather:		Hole Termination: BEDROCK		Stability:														
Samples & In Situ Testing			Strata Details				Water	Backfill											
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description													
0.20	D		46.84	(0.45)		TOPSOIL. Dark brown slightly silty slightly gravelly clayey SAND. Gravel is fine to medium rounded to sub-rounded sandstone and mudstone	1												
0.30	ES																		
0.40	B																		
0.50	D																		
0.60	ES																		
0.70	B			(1.15)		Orange/brown slightly silty gravelly fine to medium grained SAND. Gravel is fine to medium sub-rounded sandstone													
1.20	D		45.69	1.60		Orange/brown extremely weak weathered SANDSTONE. Recovered as SAND and weakly cemented fine to coarse GRAVEL. Gravel is angular occasionally tabular	2												
1.30	ES																		
1.40	B																		
1.80	D		45.09	(0.60)			3												
1.90	ES																		
2.20	B			2.20	UNABLE TO EXCAVATE > 2.20mbgl End of Trial Pit at 2.20m														
Dimensions:				General Remarks:															
Final Depth: 2.20m				13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED E-W															
																			
Inclination: °																			
				Water Strikes															
				<table><tr><td>Strike (m)</td><td>Casing (m)</td><td>Sealed (m)</td><td>Time (mins)</td><td>Rose to (m)</td><td>Remarks</td></tr><tr><td></td><td></td><td></td><td>0</td><td></td><td>Trial pit dry</td></tr></table>				Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks				0		Trial pit dry
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks														
			0		Trial pit dry														
				CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.com															

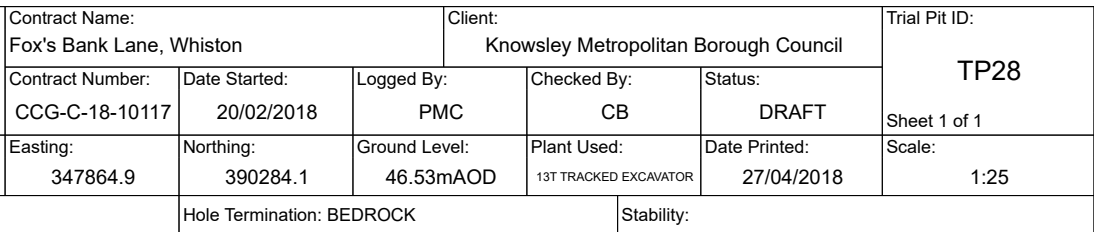


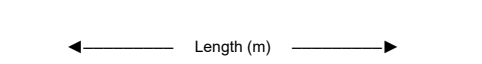
Dimensions: Final Depth: 2.30m  Length (m) 3.50m Width (m) 0.80m Orientation: °	General Remarks: 13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED N-S
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Water Strikes					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
			0		Trial pit dry

Inclination: °

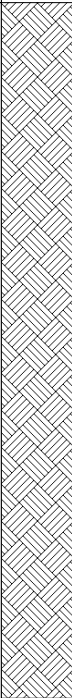
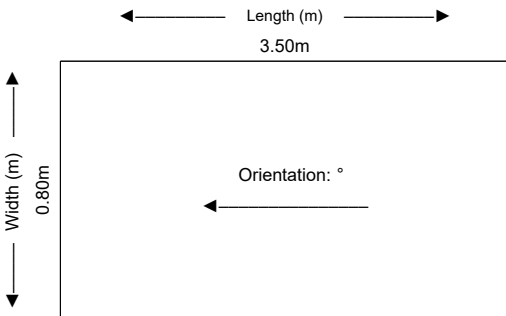
	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP27														
	Contract Number: CCG-C-18-10117	Date Started: 21/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1														
Trial Pit Log		Easting: 347837.0	Northing: 390210.0	Ground Level: 43.60mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25													
Weather:			Hole Termination: BEDROCK			Stability:														
Samples & In Situ Testing			Strata Details				Water	Backfill												
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description														
0.20 0.30 0.40 0.50 0.60 0.70	ES D B ES D B		43.14	0.45 (0.65)	 	TOPSOIL. Recovered as dark brown slightly gravelly silty clayey organic SAND. Gravel is fine to medium sub-rounded to sub-angular of mudstone and sandstone Orange/brown slightly silty fine to medium grained SAND	1													
1.15 1.20 1.30	ES D B		42.50	1.10		Yellow/orange fine to medium grained slightly gravelly SAND. Gravel is fine to coarse angular of weakly cemented sandstone. Tending to extremely weak weathered sandstone with depth														
1.70 1.80 2.00	ES D B			(1.20)			2													
			41.30	2.30	UNABLE TO EXCAVATE > 2.30mbgl End of Trial Pit at 2.30m			3												
Dimensions:			General Remarks:																	
Final Depth: 2.30m			13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED E-W																	
																				
Inclination: °																				
			Water Strikes																	
			<table><tr><td>Strike (m)</td><td>Casing (m)</td><td>Sealed (m)</td><td>Time (mins)</td><td>Rose to (m)</td><td>Remarks</td></tr><tr><td></td><td></td><td></td><td>0</td><td></td><td>Trial pit dry</td></tr></table>						Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks				0		Trial pit dry
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks															
			0		Trial pit dry															
			CC GEOTECHNICAL LTD 0151 545 2750 www.cogeotechnical.com																	

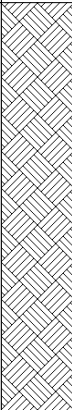
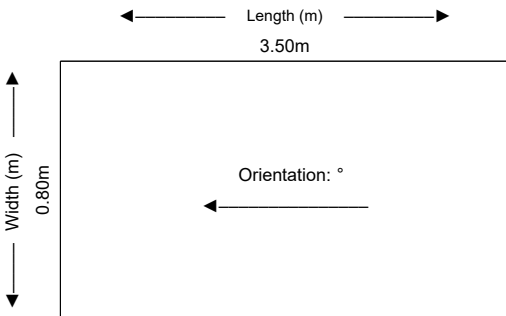


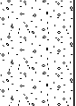
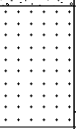
Dimensions: Final Depth: 1.60m 	General Remarks: 13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED E-W
--	---

Water Strikes					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
			0		Trial pit dry

Inclination: °

	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP29														
	Contract Number: CCG-C-18-10117	Date Started: 20/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1														
Trial Pit Log	Easting: 347911.1	Northing: 390332.0	Ground Level: 46.38mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25														
	Weather:		Hole Termination: BEDROCK			Stability:														
Samples & In Situ Testing			Strata Details				Water	Backfill												
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description														
0.10 0.15 0.20	ES D D		46.08	(0.30)		TOPSOIL. Recovered as dark brown slightly gravelly silty clayey organic SAND with rootlets. Gravel is fine to medium sub-rounded to sub-angular of mudstone and sandstone	1													
0.40 0.50 0.60	ES D B			0.30		Orange/brown slightly gravelly silty fine to medium grained SAND. Gravel is fine to coarse sub-rounded sandstone														
				(0.70)																
1.10 1.20 1.30	ES D B		45.38	1.00		Light brown/yellow silty slightly gravelly fine to medium grained SAND. Low cobble content. Gravel is fine to coarse sub-rounded to angular sandstone	2													
				(1.00)																
1.70 1.80	ES D		44.38	2.00		Yellow extremely weak weathered SANDSTONE. Recovered as gravelly fine to coarse grained SAND. Gravel is fine to coarse angular sandstone	3													
2.10 2.20	B D			(0.30)																
			44.08	2.30	UNABLE TO EXCAVATE > 2.30mbgl End of Trial Pit at 2.30m															
Dimensions:				General Remarks:																
Final Depth: 2.30m				13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED N-S																
																				
Inclination: °																				
				Water Strikes																
				<table><tr><td>Strike (m)</td><td>Casing (m)</td><td>Sealed (m)</td><td>Time (mins)</td><td>Rose to (m)</td><td>Remarks</td></tr><tr><td></td><td></td><td></td><td>0</td><td></td><td>Trial pit dry</td></tr></table>					Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks				0		Trial pit dry
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks															
			0		Trial pit dry															
				CC GEOTECHNICAL LTD 0151 545 2750 www.cogeotechnical.com																

	Contract Name: Fox's Bank Lane, Whiston			Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP30				
	Contract Number: CCG-C-18-10117	Date Started: 20/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1					
	Trial Pit Log						Scale: 1:25				
Easting: 347917.0		Northing: 390283.9		Ground Level: 46.89mAOD		Plant Used: 13T TRACKED EXCAVATOR		Date Printed: 27/04/2018			
Weather:			Hole Termination: BEDROCK				Stability:				
Samples & In Situ Testing			Strata Details						Water	Backfill	
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description					
0.10	D		46.54	(0.35)		TOPSOIL. Recovered as dark brown slightly gravelly silty clayey organic SAND with rootlets. Gravel is fine to medium sub-rounded to sub-angular of mudstone and sandstone			1		
0.20	ES			(0.85)		Brown slightly silty slightly gravelly fine to coarse grained SAND. Gravel is fine to coarse angular sandstone. Low cobble and boulder content					
0.30	B										
0.40	D										
0.50	ES										
0.60	B										
1.25	D		45.69	1.20		Orange extremely weak weathered SANDSTONE. Recovered as cobbly gravelly fine to coarse grained SAND			2		
1.30	ES			45.54	1.35	UNABLE TO EXCAVATE > 1.35mbgl End of Trial Pit at 1.35m					
1.35	B										
Dimensions:						General Remarks:					
Final Depth: 1.35m						13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED N-S					
											
Inclination: °											
						Water Strikes					
						Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
									0		Trial pit dry
						CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.com					

	Contract Name: Fox's Bank Lane, Whiston		Client: Knowsley Metropolitan Borough Council			Trial Pit ID: TP31																			
	Contract Number: CCG-C-18-10117	Date Started: 20/02/2018	Logged By: PMC	Checked By: CB	Status: DRAFT	Sheet 1 of 1																			
Trial Pit Log	Easting: 347930.1	Northing: 390246.0	Ground Level: 46.12mAOD	Plant Used: 13T TRACKED EXCAVATOR	Date Printed: 27/04/2018	Scale: 1:25																			
	Weather:		Hole Termination: BEDROCK		Stability:																				
Samples & In Situ Testing			Strata Details				Water	Backfill																	
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description																			
0.20	D					TOPSOIL. Recovered as dark brown slightly gravelly silty clayey organic SAND. Gravel is fine to medium sub-rounded to sub-angular of mudstone and sandstone	1																		
0.30	ES			(0.60)																					
0.40	B																								
			45.52	0.60		Dark grey/black slightly gravelly fine to medium grained SAND. Gravel is fine to coarse sub-rounded to sub-angular sandstone																			
0.70	ES			(0.40)																					
0.80	B																								
0.90	D					Yellow/orange extremely weak weathered SANDSTONE. Recovered as cobbly gravelly fine to coarse grained SAND																			
			45.12	1.00																					
1.20	D			(0.40)																					
1.30	B					UNABLE TO EXCAVATE > 1.40mbgl End of Trial Pit at 1.40m																			
1.40	ES		44.72	1.40																					
Dimensions:				General Remarks:																					
Final Depth: 1.40m				13T TRACKED EXCAVATOR 2FT TOOTHLESS BUCKET EXCAVATION ORIENTATED N-																					
← Length (m) → 3.50m ↑ Width (m) ↓ 0.80m Orientation: ° ←																									
Inclination: °																									
				<table><tr><td colspan="6">Water Strikes</td></tr><tr><td>Strike (m)</td><td>Casing (m)</td><td>Sealed (m)</td><td>Time (mins)</td><td>Rose to (m)</td><td>Remarks</td></tr><tr><td></td><td></td><td></td><td>0</td><td></td><td>Trial pit dry</td></tr></table>				Water Strikes						Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks				0		Trial pit dry
Water Strikes																									
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks																				
			0		Trial pit dry																				
				CC GEOTECHNICAL LTD 0151 545 2750 www.cogeotechnical.com																					



APPENDIX D

TRL DCP TEST SHEETS



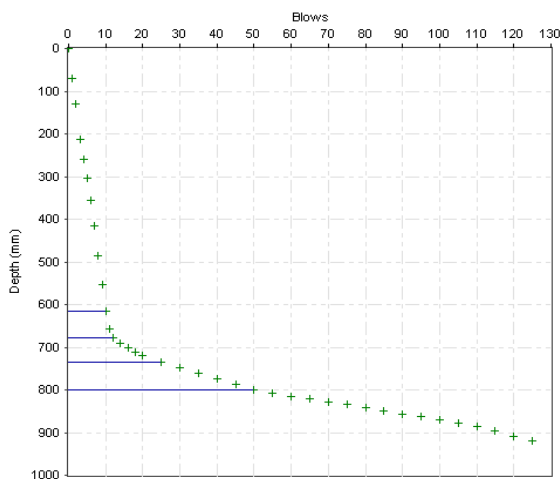
Dynamic Cone Penetrometer Strength Analysis Report

Site: FOX'S BANK LANE
 Location: RBH03
 Cone Angle: 60 degrees
 Zero Error: 90
 Test Date: 12/02/2018

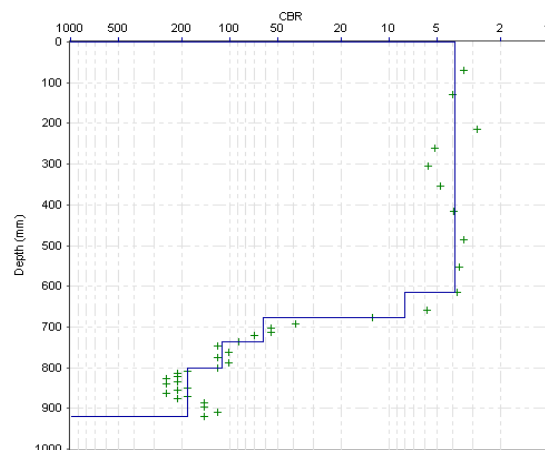
Job Number: CCG-C-18-10117
 Surface Type: -
 Thickness (mm): -

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	90	0	21	5	40	864	2.4
2	1	1	160	70.0	22	5	45	878	2.8
3	1	2	220	60.0	23	5	50	890	2.4
4	1	3	304	84.0	24	5	55	898	1.6
5	1	4	351	47.0	25	5	60	905	1.4
6	1	5	394	43.0	26	5	65	912	1.4
7	1	6	445	51.0	27	5	70	918	1.2
8	1	7	506	61.0	28	5	75	925	1.4
9	1	8	576	70.0	29	5	80	931	1.2
10	1	9	642	66.0	30	5	85	939	1.6
11	1	10	706	64.0	31	5	90	946	1.4
12	1	11	748	42.0	32	5	95	952	1.2
13	1	12	768	20.0	33	5	100	960	1.6
14	2	14	782	7.0	34	5	105	967	1.4
15	2	16	792	5.0	35	5	110	977	2
16	2	18	802	5.0	36	5	115	987	2
17	2	20	810	4.0	37	5	120	999	2.4
18	5	25	826	3.2	38	5	125	1009	2
19	5	30	838	2.4					
20	5	35	852	2.8					

Layer Boundaries: Chainage 3.100



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Position	Strength Coefficient
1	4	616	616		
2	8	62	678		
3	62	58	736		
4	112	64	800		
5	185	119	919		

CBR Derived by TDR equation

$$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \times \text{Log}_{10}(\text{penetration rate})$$

Remarks Surface material description: TOPSOIL

Dynamic Cone Penetrometer Strength Analysis Report

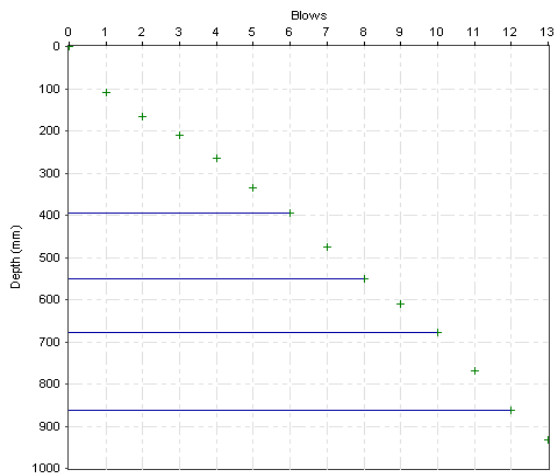
Site: FOX'S BANK LANE
Location: RBH05
Cone Angle: 60 degrees
Zero Error: 185
Test Date: 12/02/2018

Job Number: CCG-C-18-10117
Surface Type: -
Thickness (mm): -

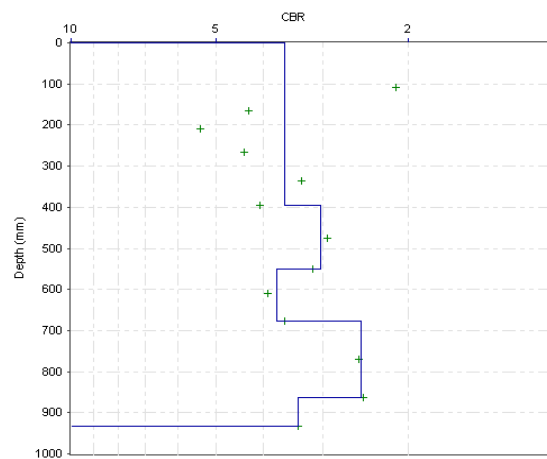
No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	185	0
2	1	1	294	109.0
3	1	2	350	56.0
4	1	3	395	45.0
5	1	4	450	55.0
6	1	5	521	71.0
7	1	6	580	59.0
8	1	7	660	80.0
9	1	8	735	75.0
10	1	9	796	61.0
11	1	10	862	66.0
12	1	11	954	92.0
13	1	12	1048	94.0
14	1	13	1118	70.0

[illegible]

Layer Boundaries: Chainage 5.100



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Position		Strength Coefficient
1	4	395	395			
2	3	155	550			
3	4	127	677			
4	3	186	863			
5	3	70	933			

CBR Derived by TDR equation

$$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \times \text{Log}_{10}(\text{penetration rate})$$

Remarks	Surface material description: TOPSOIL
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Dynamic Cone Penetrometer Strength Analysis Report

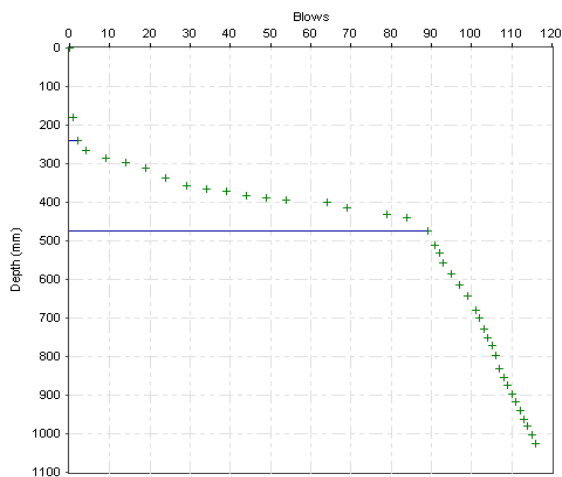
Site: FOX'S BANK LANE
 Location: RBH06
 Cone Angle: 60 degrees
 Zero Error: 70
 Test Date: 12/02/2018

Job Number: CCG-C-18-10117
 Surface Type: -
 Thickness (mm): -

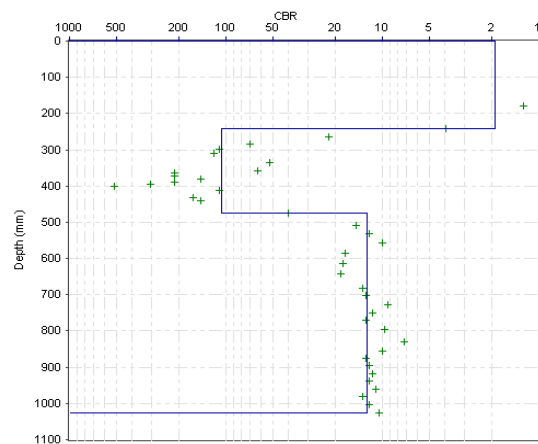
No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	70	0
2	1	1	250	180.0
3	1	2	311	61.0
4	2	4	335	12.0
5	5	9	355	4.0
6	5	14	368	2.6
7	5	19	380	2.4
8	5	24	406	5.2
9	5	29	428	4.4
10	5	34	435	1.4
11	5	39	442	1.4
12	5	44	452	2.0
13	5	49	459	1.4
14	5	54	464	1.0
15	10	64	470	0.6
16	5	69	483	2.6
17	10	79	501	1.8
18	5	84	511	2.0
19	5	89	545	6.8
20	2	91	580	17.5

Layer Boundaries: Chainage 6.100

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
21	1	92	601	21.0
22	1	93	626	25.0
23	2	95	656	15.0
24	2	97	685	14.5
25	2	99	713	14.0
26	2	101	751	19.0
27	1	102	771	20.0
28	1	103	798	27.0
29	1	104	820	22.0
30	1	105	840	20
31	1	106	866	26
32	1	107	900	34
33	1	108	925	25
34	1	109	945	20
35	1	110	966	21
36	1	111	988	22
37	1	112	1009	21
38	1	113	1032	23
39	1	114	1051	19
40	1	115	1072	21
41	1	116	1096	24



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Position	Strength Coefficient
1	2	241	241		
2	106	234	475		
3	12	551	1026		

CBR Derived by TDR equation

$$\log_{10}(\text{CBR}) = 2.48 - 1.057 \times \log_{10}(\text{penetration rate})$$

Remarks Surface material description: TOPSOIL



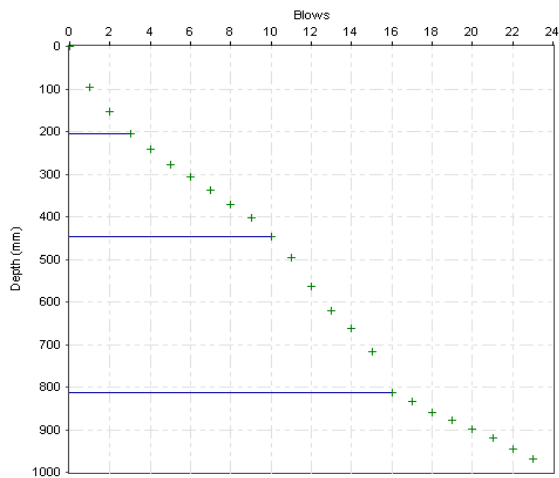
Dynamic Cone Penetrometer Strength Analysis Report

Site: FOX'S BANK LANE
 Location: RBH07
 Cone Angle: 60 degrees
 Zero Error: 75
 Test Date: 12/02/2018

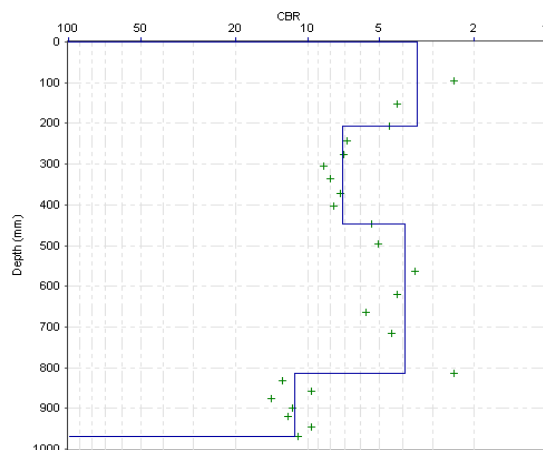
Job Number: CCG-C-18-10117
 Surface Type: -
 Thickness (mm): -

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	75	0	21	1	20	974	22.0
2	1	1	171	96.0	22	1	21	995	21.0
3	1	2	228	57.0	23	1	22	1021	26.0
4	1	3	281	53.0	24	1	23	1044	23.0
5	1	4	317	36.0					
6	1	5	352	35.0					
7	1	6	381	29.0					
8	1	7	412	31.0					
9	1	8	446	34.0					
10	1	9	478	32.0					
11	1	10	523	45.0					
12	1	11	571	48.0					
13	1	12	638	67.0					
14	1	13	695	57.0					
15	1	14	738	43.0					
16	1	15	792	54.0					
17	1	16	888	96.0					
18	1	17	908	20.0					
19	1	18	934	26.0					
20	1	19	952	18.0					

Layer Boundaries: Chainage 7.100



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Position	Strength Coefficient
1	3	206	206		
2	7	242	448		
3	4	365	813		
4	11	156	969		

CBR Derived by TDR equation

$$\log_{10}(\text{CBR}) = 2.48 - 1.057 \times \log_{10}(\text{penetration rate})$$

Remarks Surface material description: TOPSOIL

Dynamic Cone Penetrometer Strength Analysis Report

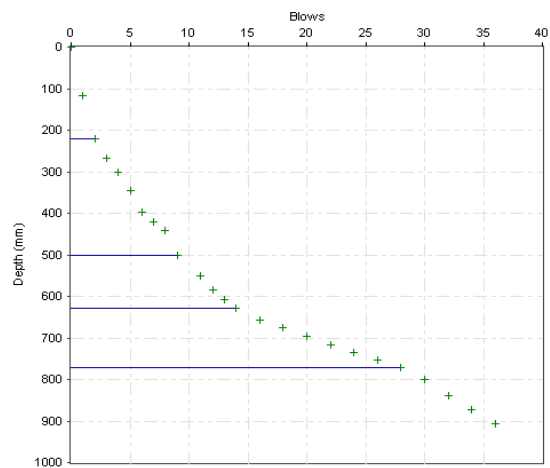
Site: FOX'S BANK LANE
Location: WS02
Cone Angle: 60 degrees
Zero Error: 114
Test Date: 12/02/2018

Job Number: CCG-C-18-10117
Surface Type: -
Thickness (mm): -

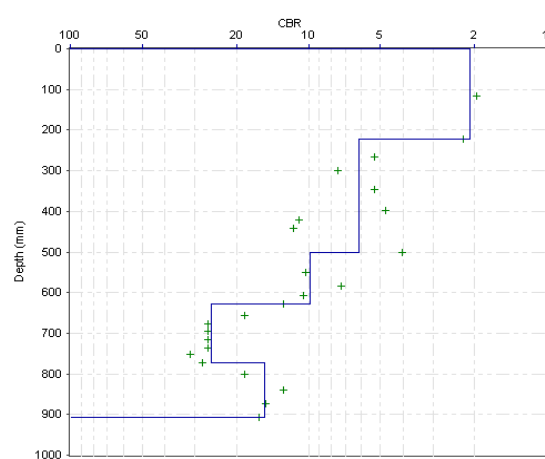
No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	114	0
2	1	1	231	117.0
3	1	2	335	104.0
4	1	3	381	46.0
5	1	4	414	33.0
6	1	5	460	46.0
7	1	6	511	51.0
8	1	7	534	23.0
9	1	8	556	22.0
10	1	9	615	59.0
11	2	11	664	24.5
12	1	12	698	34.0
13	1	13	722	24.0
14	1	14	742	20.0
15	2	16	770	14.0
16	2	18	790	10.0
17	2	20	810	10.0
18	2	22	830	10.0
19	2	24	850	10.0
20	2	26	867	8.5

[illegible]

Layer Boundaries: Chainage 2.000



Layer Boundaries Chart



CBR Chart

Layer Properties

Layer Properties						
No.	CBR value	Thickness	Depth	Position		Strength Coefficient
1	2	221	221			
2	6	280	501			
3	10	127	628			
4	26	144	772			
5	15	134	906			

CBR Derived by TDR equation

$$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \times \text{Log}_{10}(\text{penetration rate})$$

Remarks	Surface material description: TOPSOIL
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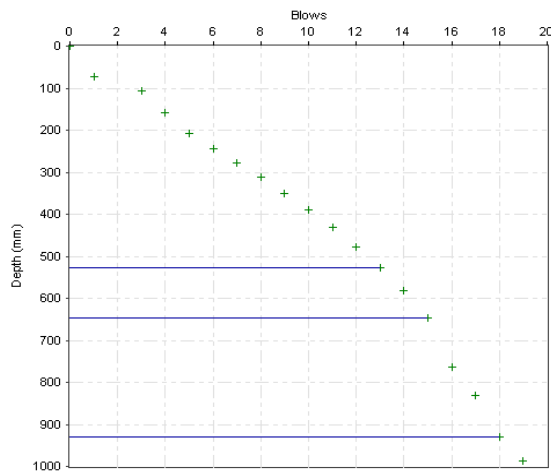
Dynamic Cone Penetrometer Strength Analysis Report

Site: FOX'S BANK LANE
 Location: WS04
 Cone Angle: 60 degrees
 Zero Error: 118
 Test Date: 12/02/2018

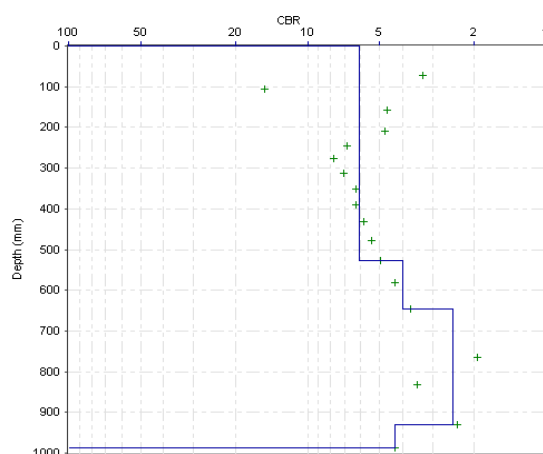
Job Number: CCG-C-18-10117
 Surface Type: -
 Thickness (mm): -

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	118	0					
2	1	1	190	72.0					
3	2	3	224	17.0					
4	1	4	276	52.0					
5	1	5	327	51.0					
6	1	6	363	36.0					
7	1	7	395	32.0					
8	1	8	430	35.0					
9	1	9	469	39.0					
10	1	10	508	39.0					
11	1	11	550	42.0					
12	1	12	595	45.0					
13	1	13	644	49.0					
14	1	14	700	56.0					
15	1	15	764	64.0					
16	1	16	882	118.0					
17	1	17	950	68.0					
18	1	18	1048	98.0					
19	1	19	1104	56.0					

Layer Boundaries: Chainage 4.000



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Position	Strength Coefficient
1	6	526	526		
2	4	120	646		
3	2	284	930		
4	4	56	986		

CBR Derived by TDR equation

$$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \times \text{Log}_{10}(\text{penetration rate})$$

Remarks Surface material description: TOPSOIL



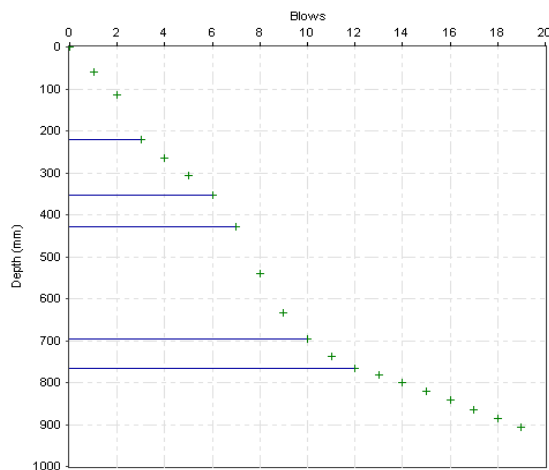
Dynamic Cone Penetrometer Strength Analysis Report

Site: FOX'S BANK LANE
 Location: WS05
 Cone Angle: 60 degrees
 Zero Error: 110
 Test Date: 12/02/2018

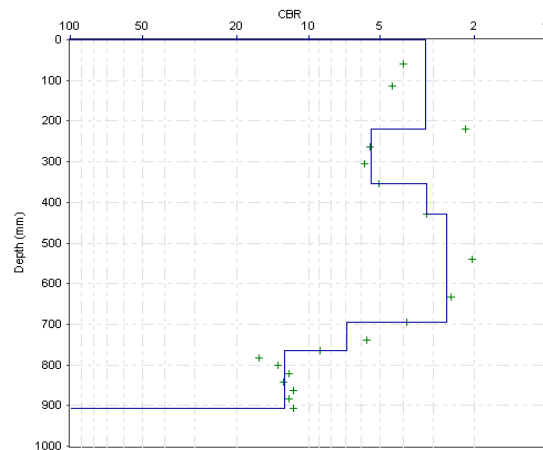
Job Number: CCG-C-18-10117
 Surface Type: -
 Thickness (mm): -

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	110	0					
2	1	1	170	60.0					
3	1	2	224	54.0					
4	1	3	330	106.0					
5	1	4	374	44.0					
6	1	5	416	42.0					
7	1	6	464	48.0					
8	1	7	538	74.0					
9	1	8	650	112.0					
10	1	9	743	93.0					
11	1	10	805	62.0					
12	1	11	848	43.0					
13	1	12	876	28.0					
14	1	13	892	16.0					
15	1	14	911	19.0					
16	1	15	932	21.0					
17	1	16	952	20.0					
18	1	17	974	22.0					
19	1	18	995	21.0					
20	1	19	1017	22.0					

Layer Boundaries: Chainage 5.000



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Position	Strength Coefficient
1	3	220	220		
2	5	134	354		
3	3	74	428		
4	3	267	695		
5	7	71	766		
6	13	141	907		

CBR Derived by TDR equation

$$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \times \text{Log}_{10}(\text{penetration rate})$$

Remarks Surface material description: TOPSOIL



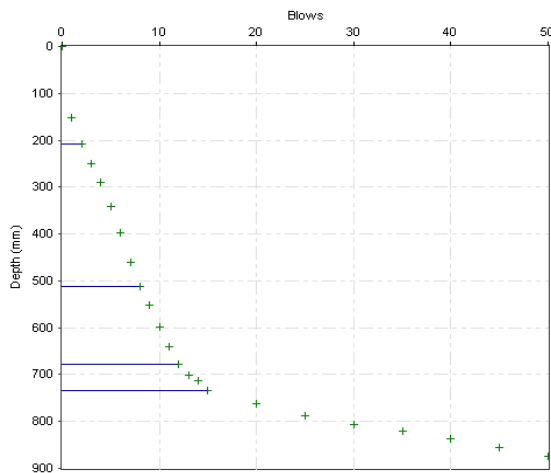
Dynamic Cone Penetrometer Strength Analysis Report

Site: FOX'S BANK LANE
 Location: WS06
 Cone Angle: 60 degrees
 Zero Error: 131
 Test Date: 12/02/2018

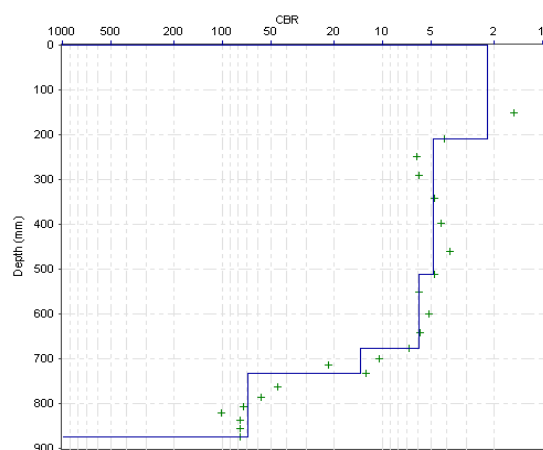
Job Number: CCG-C-18-10117
 Surface Type: -
 Thickness (mm): -

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	131	0	21	5	40	969	3.6
2	1	1	282	151.0	22	5	45	987	3.6
3	1	2	340	58.0	23	5	50	1005	3.6
4	1	3	380	40.0					
5	1	4	421	41.0					
6	1	5	472	51.0					
7	1	6	528	56.0					
8	1	7	591	63.0					
9	1	8	642	51.0					
10	1	9	683	41.0					
11	1	10	730	47.0					
12	1	11	772	42.0					
13	1	12	808	36.0					
14	1	13	832	24.0					
15	1	14	844	12.0					
16	1	15	864	20.0					
17	5	20	894	6.0					
18	5	25	918	4.8					
19	5	30	937	3.8					
20	5	35	951	2.8					

Layer Boundaries: Chainage 6.000



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Position	Strength Coefficient
1	2	209	209		
2	5	302	511		
3	6	166	677		
4	14	56	733		
5	69	141	874		

CBR Derived by TDR equation

$$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \times \text{Log}_{10}(\text{penetration rate})$$

Remarks Surface material description: TOPSOIL



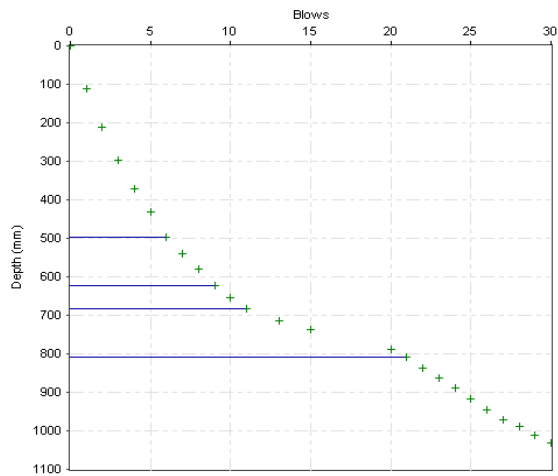
Dynamic Cone Penetrometer Strength Analysis Report

Site: FOX'S BANK LANE
 Location: WS07
 Cone Angle: 60 degrees
 Zero Error: 86
 Test Date: 12/02/2018

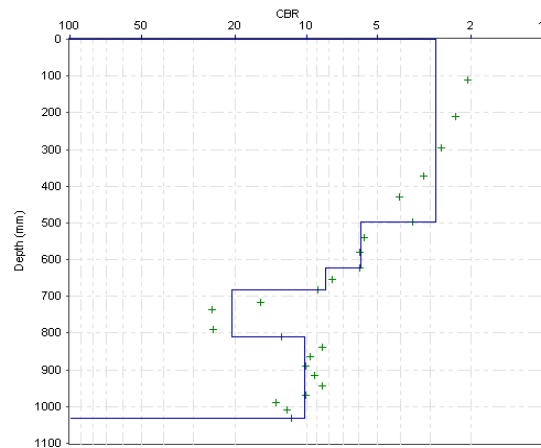
Job Number: CCG-C-18-10117
 Surface Type: -
 Thickness (mm): -

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	86	0	21	1	26	1031	29.0
2	1	1	197	111.0	22	1	27	1056	25.0
3	1	2	296	99.0	23	1	28	1075	19.0
4	1	3	383	87.0	24	1	29	1096	21.0
5	1	4	457	74.0	25	1	30	1118	22.0
6	1	5	516	59.0					
7	1	6	583	67.0					
8	1	7	626	43.0					
9	1	8	667	41.0					
10	1	9	708	41.0					
11	1	10	740	32.0					
12	1	11	768	28.0					
13	2	13	801	16.5					
14	2	15	822	10.5					
15	5	20	875	10.6					
16	1	21	895	20.0					
17	1	22	924	29.0					
18	1	23	950	26.0					
19	1	24	975	25.0					
20	1	25	1002	27.0					

Layer Boundaries: Chainage 7.000



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Position	Strength Coefficient
1	3	497	497		
2	6	125	622		
3	8	60	682		
4	21	127	809		
5	10	223	1032		

CBR Derived by TDR equation

$$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \times \text{Log}_{10}(\text{penetration rate})$$

Remarks Surface material description: TOPSOIL



APPENDIX E

SOIL AND ROCK ENGINEERING TESTS

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LABORATORY REPORT

CONTRACT NUMBER: CCG-C-18-10117

CONTRACT TITLE: FOX'S BANK LANE, WHISTON

CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL
Municipal Buildings, Archway Road, Huyton, L36 9YU

DATE RECEIVED: 07/03/18
DATE COMMENCED: 07/03/18
DATE COMPLETED: 25/03/18
REPORT DATE: 28/03/18

Test Description	Qty
Determination of Moisture Content BS 1377-2:1990 (a)	37
Particle Size Distribution BS 1377-2:1990 (a)	21
Determination of Plastic & Liquid Limits BS 1377-2:1990 (a)	17
Uniaxial Compression Test International Society for Rock Mechanics, The complete ISRM suggested methods for Rock Characterization Testing and Monitoring, 2007 (#)	12
Point Load Strength ISRM Suggested Methods : 2007 (#)	91

Notes: Observations and interpretations are not accredited by UKAS
denotes non-accredited test
a denotes UKAS accredited test
s denotes test undertaken by approved subcontractor

This report is issued in accordance with the requirements of the United Kingdom Accreditation Services and EN ISO/IEC 17025:2005. The results reported herein relate only to the material supplied to the laboratory. This report shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved Signatories: Chris Bolan (Managing Director) – Daniel Kerfoot (Laboratory Manager)

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
RBH01	D	0.65	0.65	18	-	-	-	33	13	20	89	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:3.2,4.4,5)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 RBH01 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
RBH04	D	1.50	1.50	15	-	-	-	22	11	11	89	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:3.2,4.4,5)
RBH04	D	3.00	3.00	16	-	-	-	27	12	15	90	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:3.2,4.4,5)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 RBH04 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
RBH07	B	1.10	1.10	-	-	-	-	-	-	-	-	-	Y	Dark brown silty slightly gravelly fine to medium SAND.Gravel is fine to medium subrounded sandstone. (BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 RBH07 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP01	B	0.70	0.70	-	-	-	-	-	-	-	-	-	Y	Brown silty slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

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(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP01 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP02	D	0.60	0.60	18	-	-	-	33	15	18	87	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:3.2,4.4,5)
TP02	B	1.10	1.10	-	-	-	-	-	-	-	-	-	Y	Brown silty slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP02 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425mm (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP03	D	0.70	0.70	18	-	-	-	29	13	16	94	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:3.2,4.4,5)
TP03	B	1.60	1.60	-	-	-	-	-	-	-	-	-	Y	Yellowish brown silty slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP03 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP05	B	0.90	0.90	-	-	-	-	-	-	-	-	-	Y	Yellowish brown silty slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP05 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425mm (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP06	B	1.00	1.00	-	-	-	-	-	-	-	-	-	Y	Orange silty fine to medium SAND. (BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP06 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP07	D	1.20	1.20	16	-	-	-	34	14	20	89	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:3.2,4.4,5)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP07 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP08	D	0.80	0.80	20	-	-	-	32	14	18	95	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded sandstone and mudstone. (BS1377Pt2:3.2,4.4,5)
TP08	D	1.60	1.60	16	-	-	-	28	13	15	88	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded sandstone and mudstone. (BS1377Pt2:3.2,4.4,5)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP08 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP09	B	0.60	0.60	23	-	-	-	30	15	15	90	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded sandstone and mudstone. (BS1377Pt2:3.2,4.4,5)
TP09	D	1.20	1.20	17	-	-	-	30	14	16	92	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded sandstone and mudstone. (BS1377Pt2:3.2,4.4,5)
TP09	D	2.30	2.30	17	-	-	-	28	13	15	88	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded sandstone and mudstone. (BS1377Pt2:3.2,4.4,5)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP09 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP10	B	1.30	1.30	-	-	-	-	-	-	-	-	-	Y	Orangish brown silty slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP10 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP12	B	0.80	0.80	-	-	-	-	-	-	-	-	-	Y	Orangish brown silty slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP12 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP14	B	0.50	0.50	-	-	-	-	-	-	-	-	-	Y	Brown silty fine to medium SAND. (BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP14 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425mm (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP15	D	0.80	0.80	15	-	-	-	29	14	15	92	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded sandstone, mudstone, quartz. (BS1377Pt2:3.2,4,4,5)
TP15	B	1.60	1.60	-	-	-	-	-	-	-	-	-	Y	Orange silty fine to medium SAND.(BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP15 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP16	B	0.70	0.70	-	-	-	-	-	-	-	-	-	Y	Orangish brown silty slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:9.2)
TP16	D	1.30	1.30	17	-	-	-	26	12	14	93	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subangular mudstone. (BS1377Pt2:3.2,4.4,5)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP16 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425mm (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP17	D	0.70	0.70	22	-	-	-	37	15	22	95	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded to subangular sandstone, mudstone, coal. (BS1377Pt2:3.2,4,4,5)
TP17	D	2.30	2.30	15	-	-	-	27	12	15	84	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded to subangular sandstone, mudstone, coal. (BS1377Pt2:3.2,4,4,5)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP17 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP18	D	1.30	1.30	13	-	-	-	27	13	14	88	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded to subangular mudstone and sandstone. (BS1377Pt2:3.2,4,4,5)
TP18	B	1.90	1.90	-	-	-	-	-	-	-	-	-	Y	Orangish brown silty slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded sandstone.(BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP18 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP19	B	1.40	1.40	-	-	-	-	-	-	-	-	-	Y	Brown silty slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP19 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP20	B	0.60	0.60	-	-	-	-	-	-	-	-	-	Y	Brown silty slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP20 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP22	B	1.10	1.10	-	-	-	-	-	-	-	-	-	Y	Orangish brown silty fine to medium SAND. (BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP22 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP24	B	0.50	0.50	-	-	-	-	-	-	-	-	-	Y	Brown silty slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP24 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP25	B	0.70	0.70	-	-	-	-	-	-	-	-	-	Y	Brown silty slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP25 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP28	B	0.70	0.70	-	-	-	-	-	-	-	-	-	Y	Brown silty slightly gravelly fine to medium SAND. Gravel is fine to coarse subangular tabulated sandstone. (BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP28 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP29	B	0.60	0.60	-	-	-	-	-	-	-	-	-	Y	Brown silty slightly gravelly fine to medium SAND. Gravel is fine to coarse subrounded to subangular sandstone. (BS1377Pt2:9.2)
TP29	B	1.30	1.30	-	-	-	-	-	-	-	-	-	Y	Light brown silty slightly gravelly fine to medium SAND. Gravel is fine to coarse subrounded to subangular sandstone. (BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP29 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
TP31	B	0.80	0.80	-	-	-	-	-	-	-	-	-	Y	Black silty slightly gravelly fine to medium SAND. Gravel is fine to coarse subrounded to subangular sandstone. (BS1377Pt2:9.2)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



10117 TP31 RES.xls

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425m m (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
WS02	WS	1.05	1.05	19	-	-	-	29	13	16	92	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded sandstone and quartz. (BS1377Pt2:3.2,4.4,5)

SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
 CLIENT: KNOWSLEY METROPLITAN BOROUGH COUNCIL

DATE: 28.03.18

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

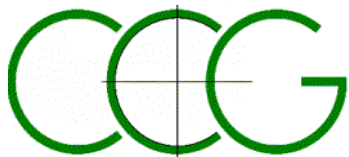
CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



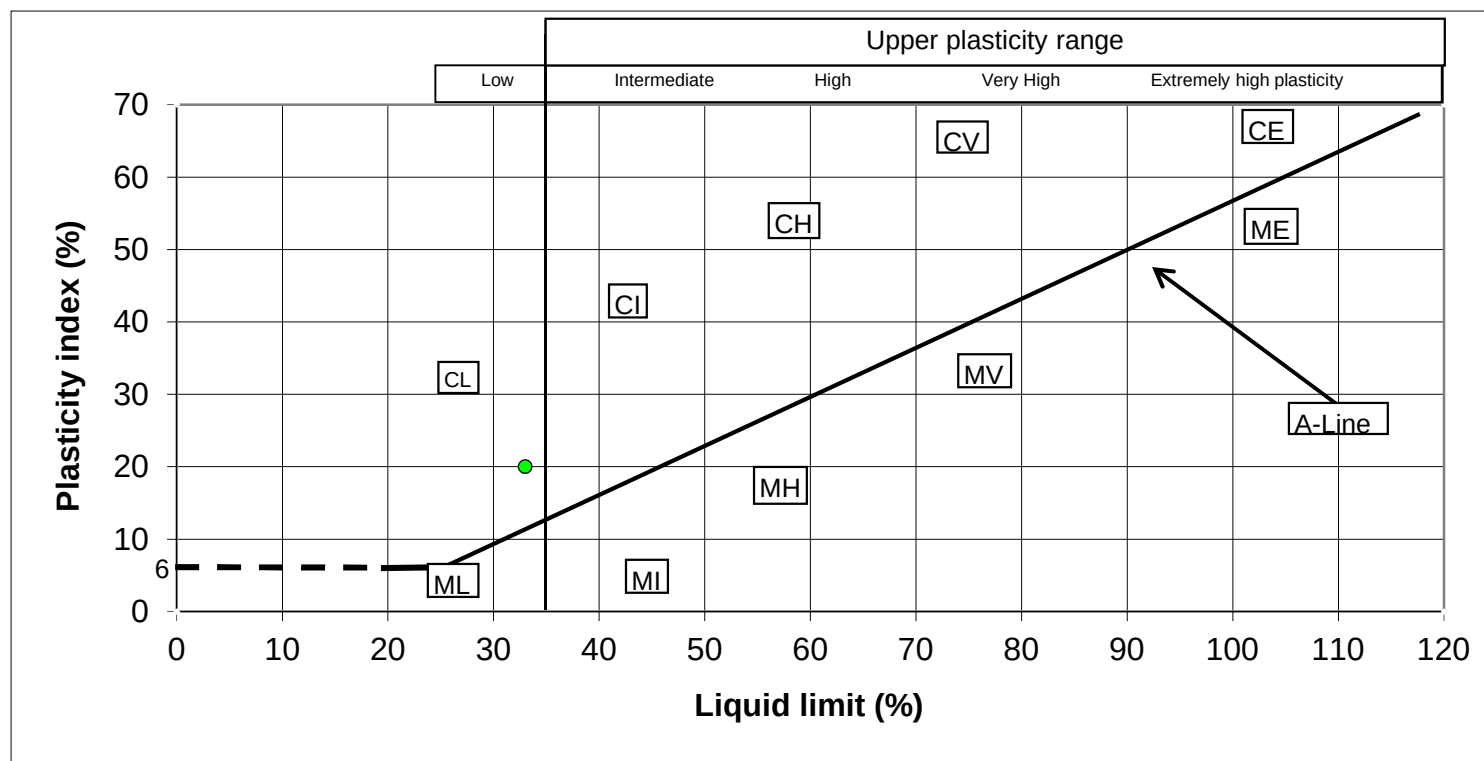
10117 WS02 RES.xls



ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.

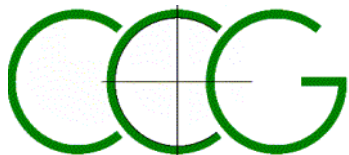


BH	Sample Depth	Liquid limit	Plasticity index
RBH01	0.65	33.0	20.0



APPROVED BY	DK
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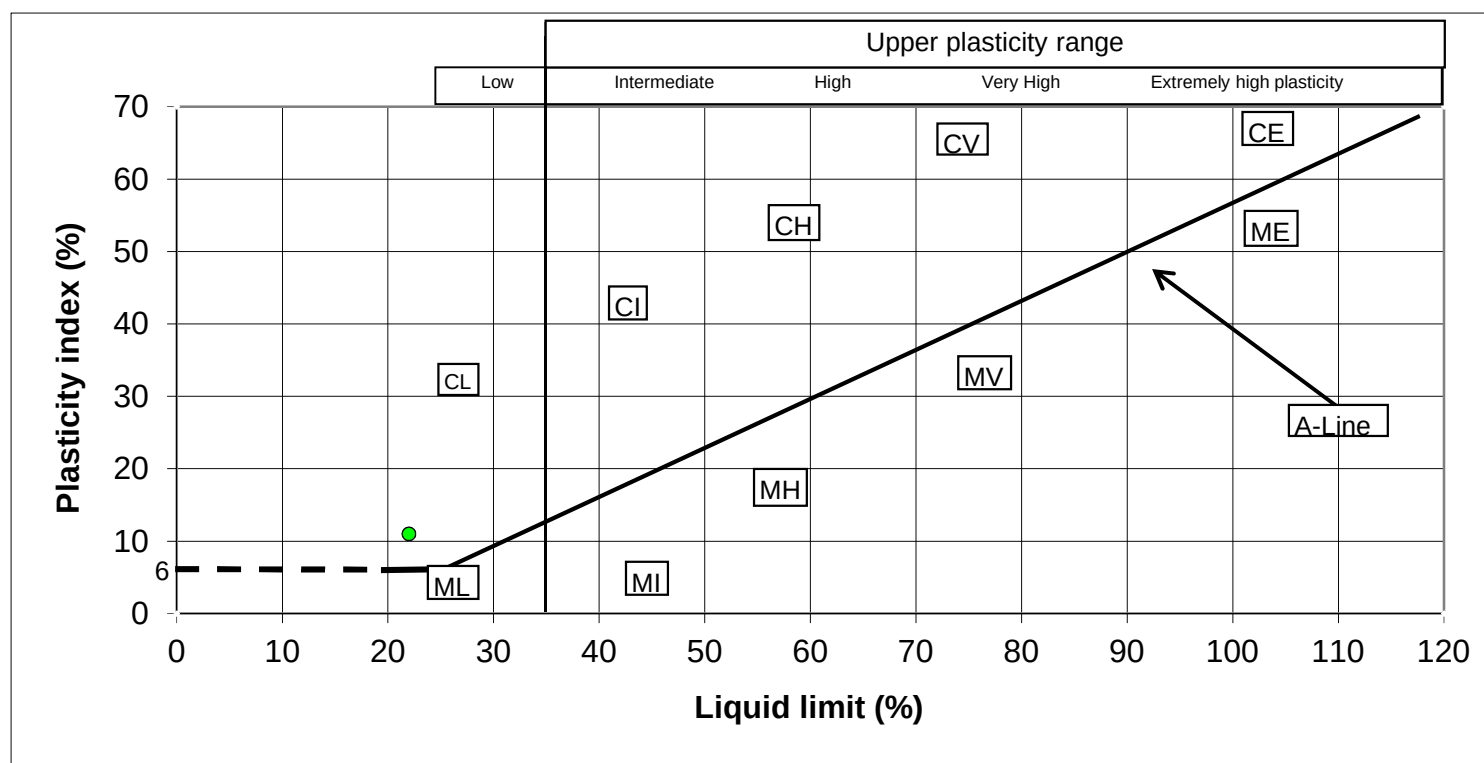
CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL	SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
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ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.



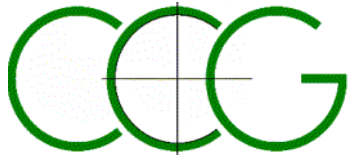
BH	Sample Depth	Liquid limit	Plasticity index
RBH04	1.50	22.0	11.0



APPROVED BY	DK
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CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL	SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
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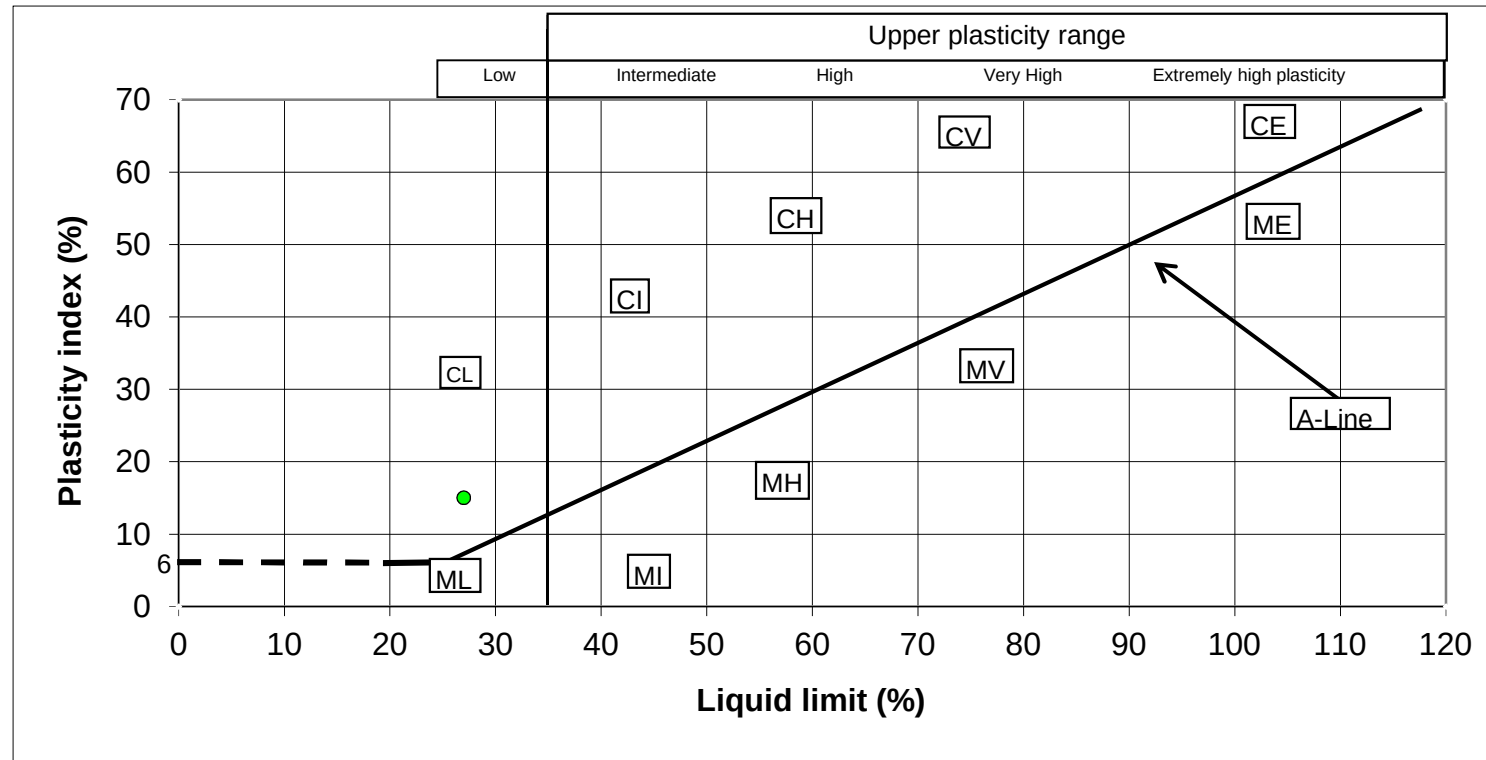
CCG-CMS-FO-204 Issue 2



ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.

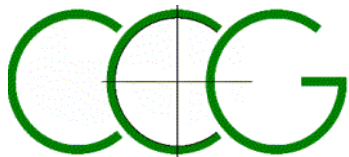


BH	Sample Depth	Liquid limit	Plasticity index
RBH04	3.00	27.0	15.0



APPROVED BY	DK
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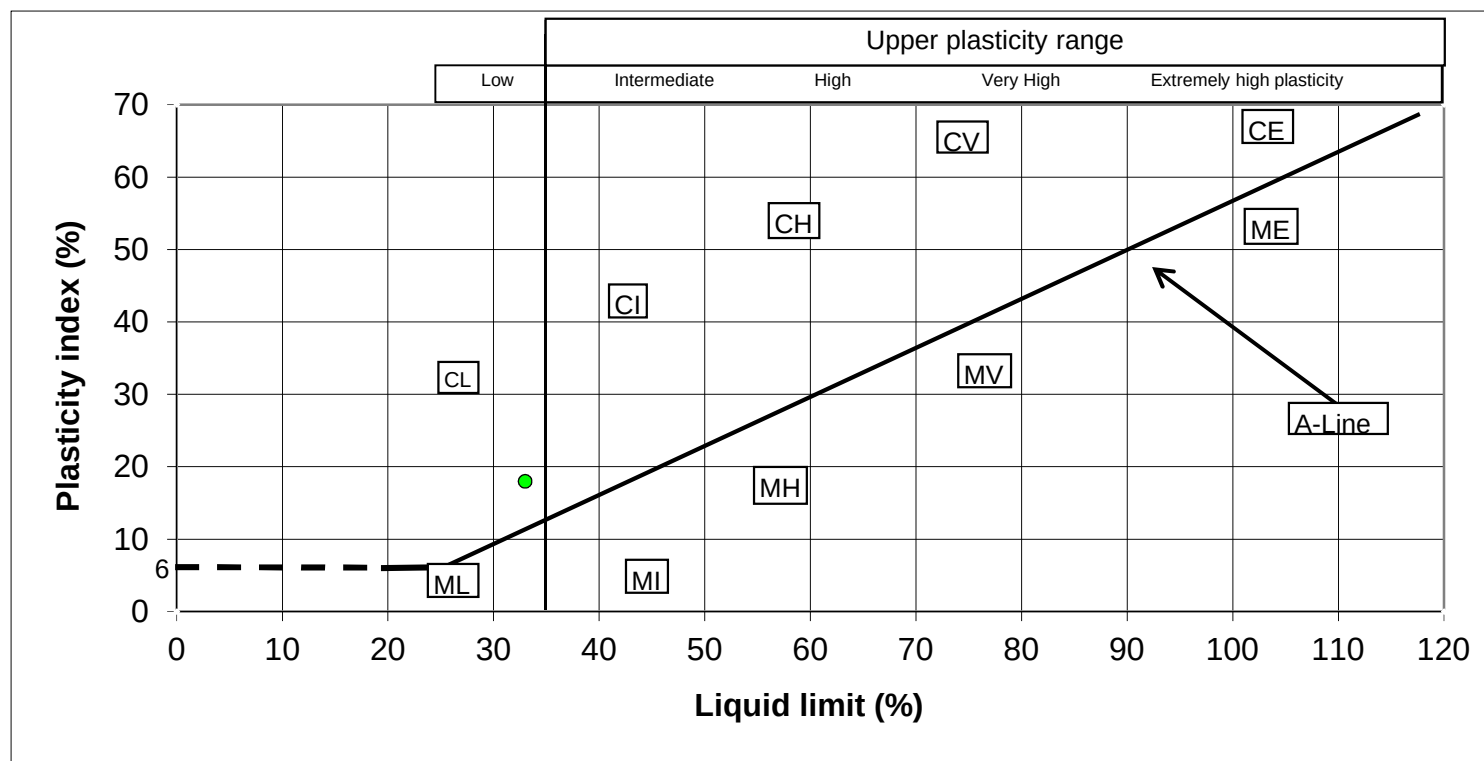
CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL	SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
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ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.

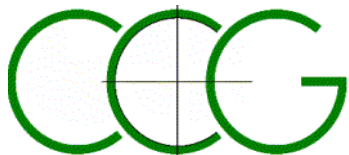


BH	Sample Depth	Liquid limit	Plasticity index
TP02	0.60	33.0	18.0



APPROVED BY	DK
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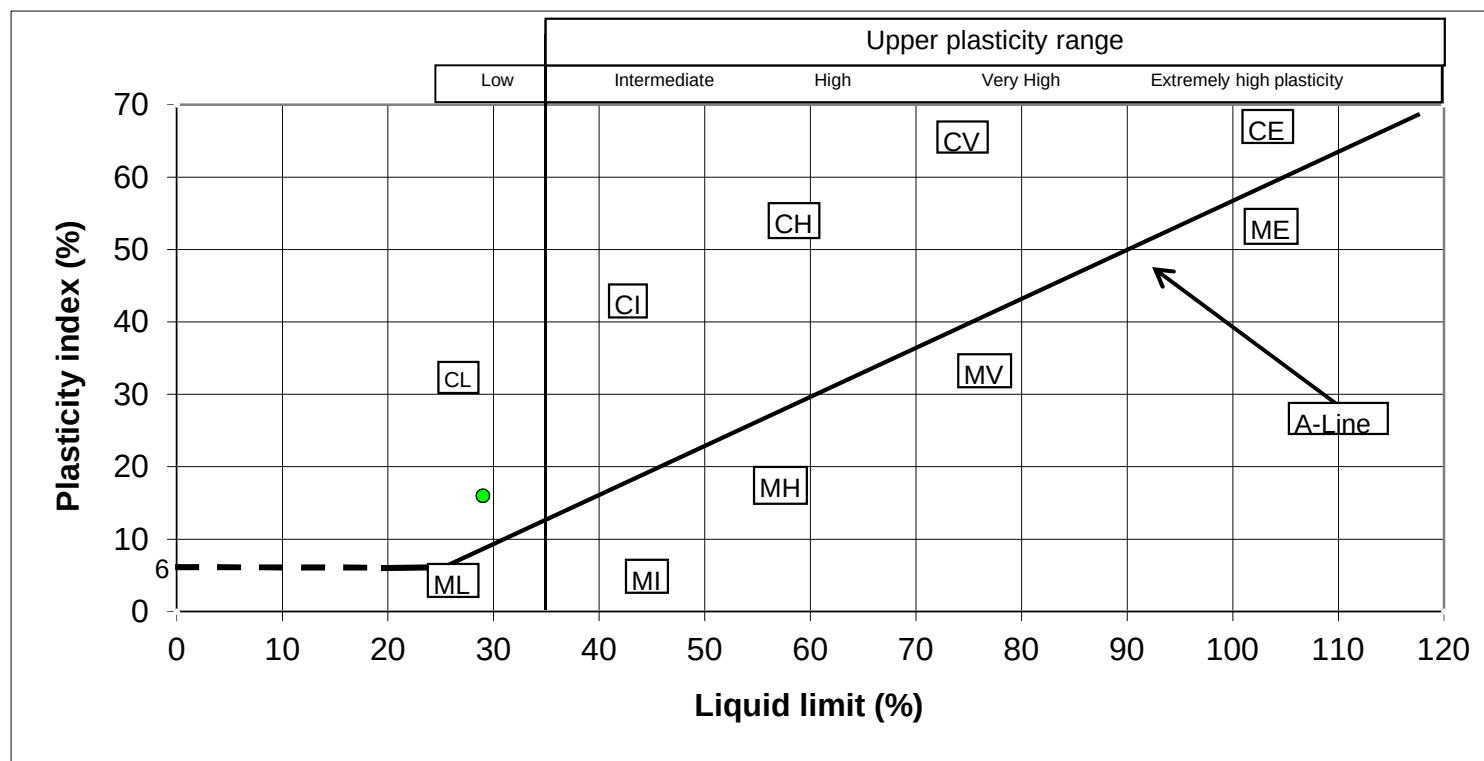
CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL	SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
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ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.



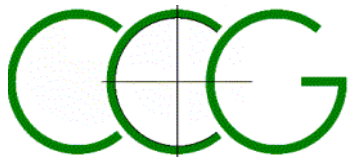
BH	Sample Depth	Liquid limit	Plasticity index
TP03	0.70	29.0	16.0



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CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL	SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
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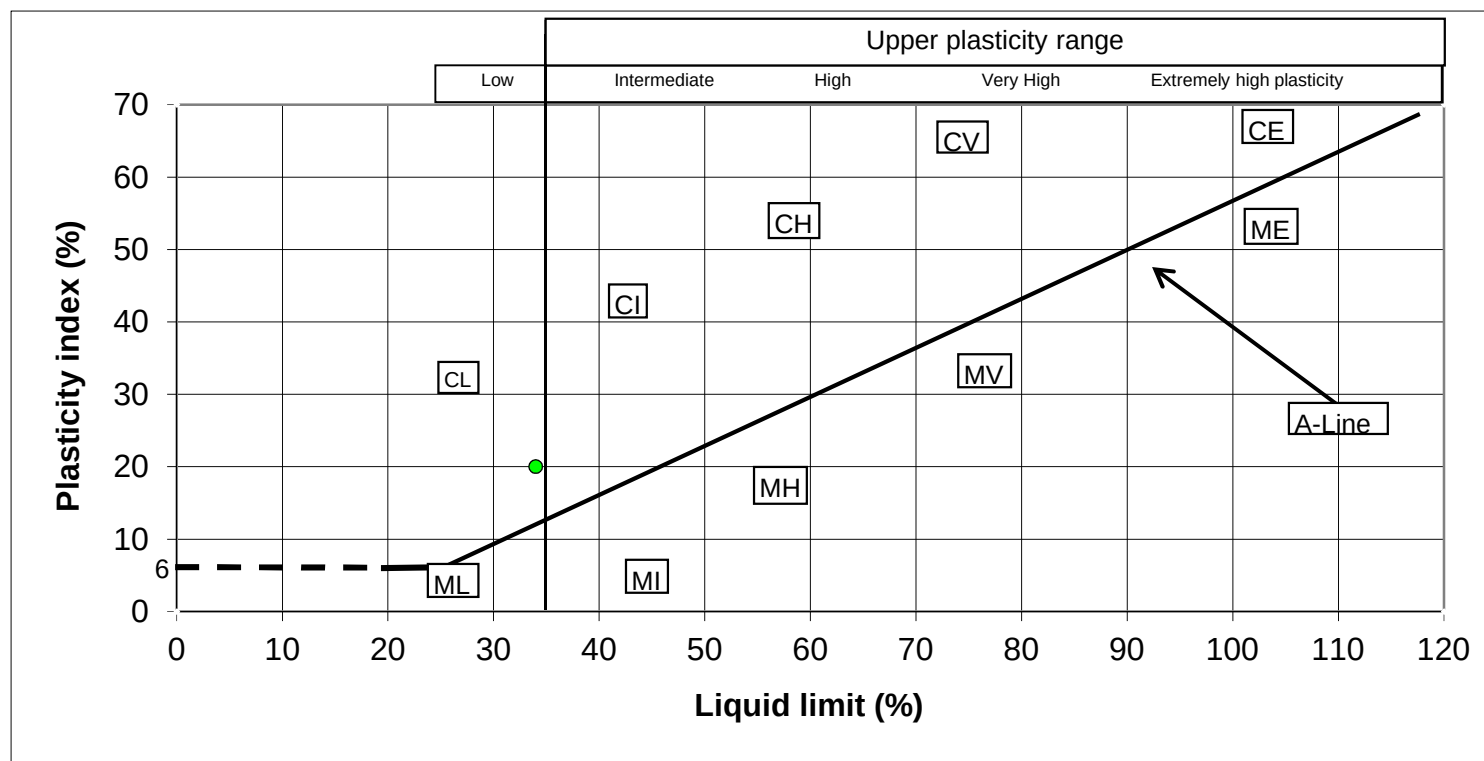
CCG-CMS-FO-204 Issue 2



ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.

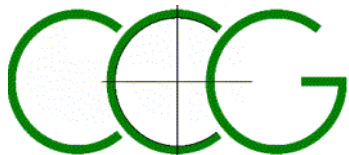


BH	Sample Depth	Liquid limit	Plasticity index
TP07	1.20	34.0	20.0



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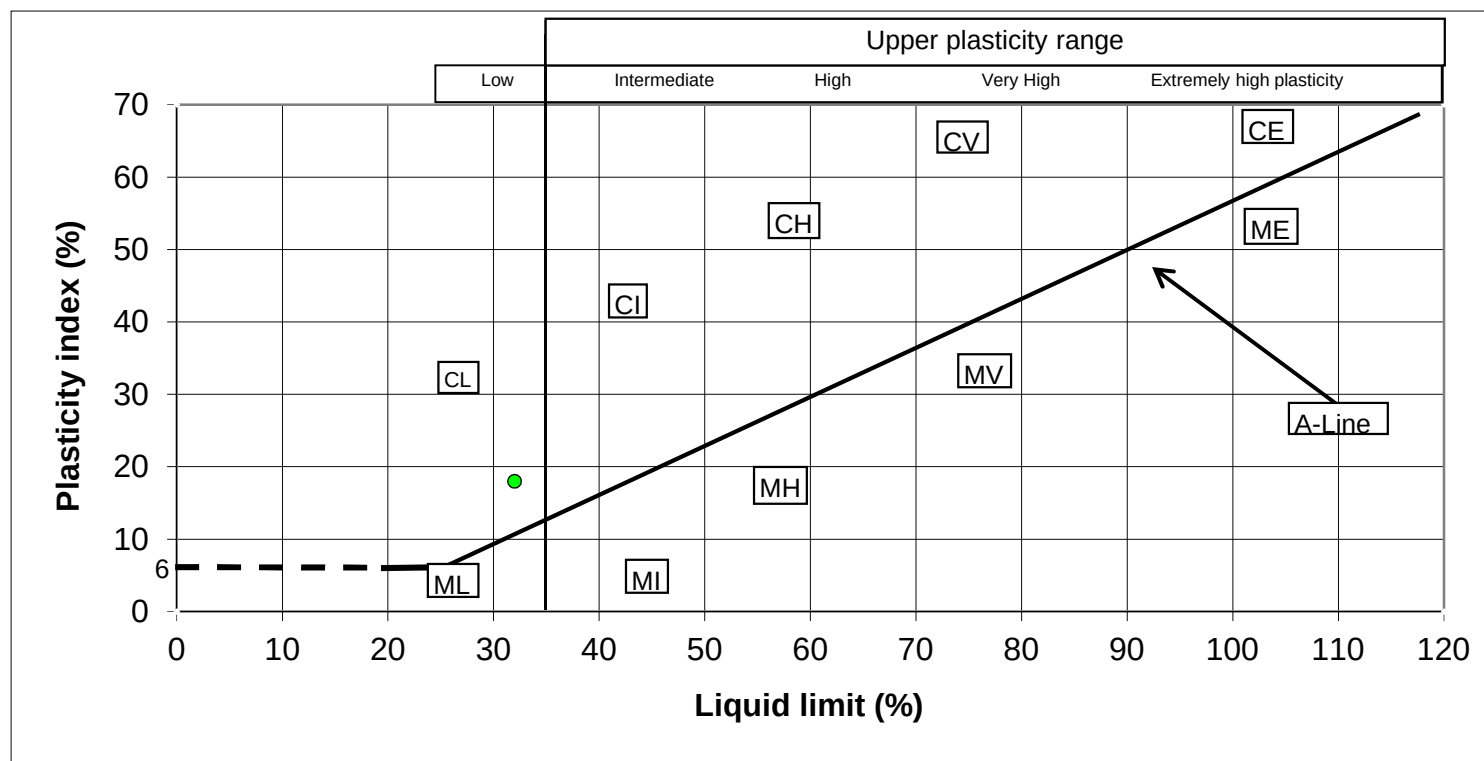
CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL	SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
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ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.



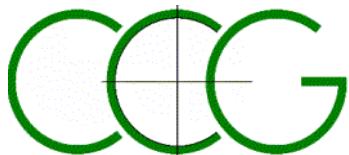
BH	Sample Depth	Liquid limit	Plasticity index
TP08	0.80	32.0	18.0



APPROVED BY	DK
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CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL	SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
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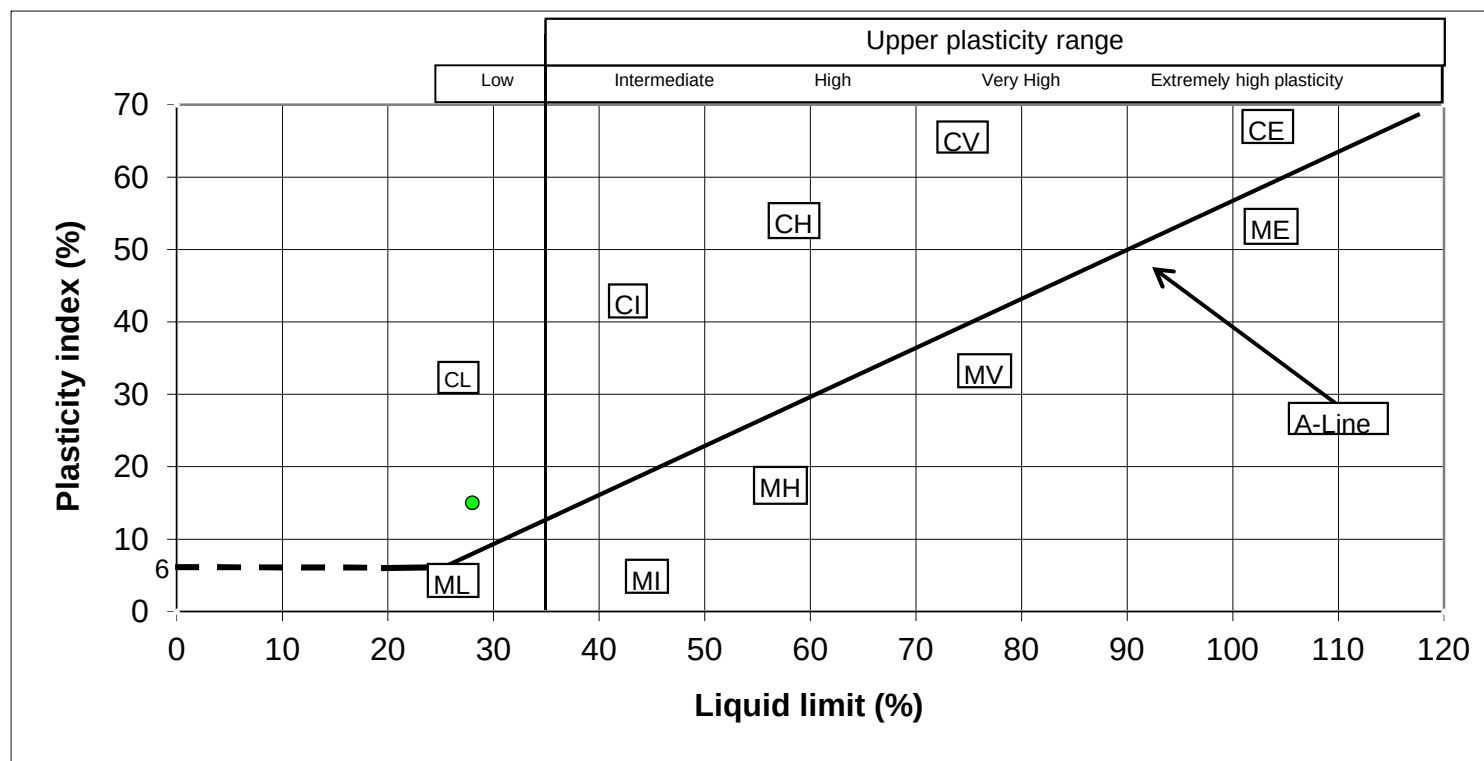
CCG-CMS-FO-204 Issue 2



ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.



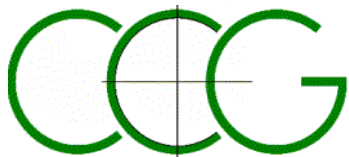
BH	Sample Depth	Liquid limit	Plasticity index
TP08	1.60	28.0	15.0



APPROVED BY	DK
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CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL	SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
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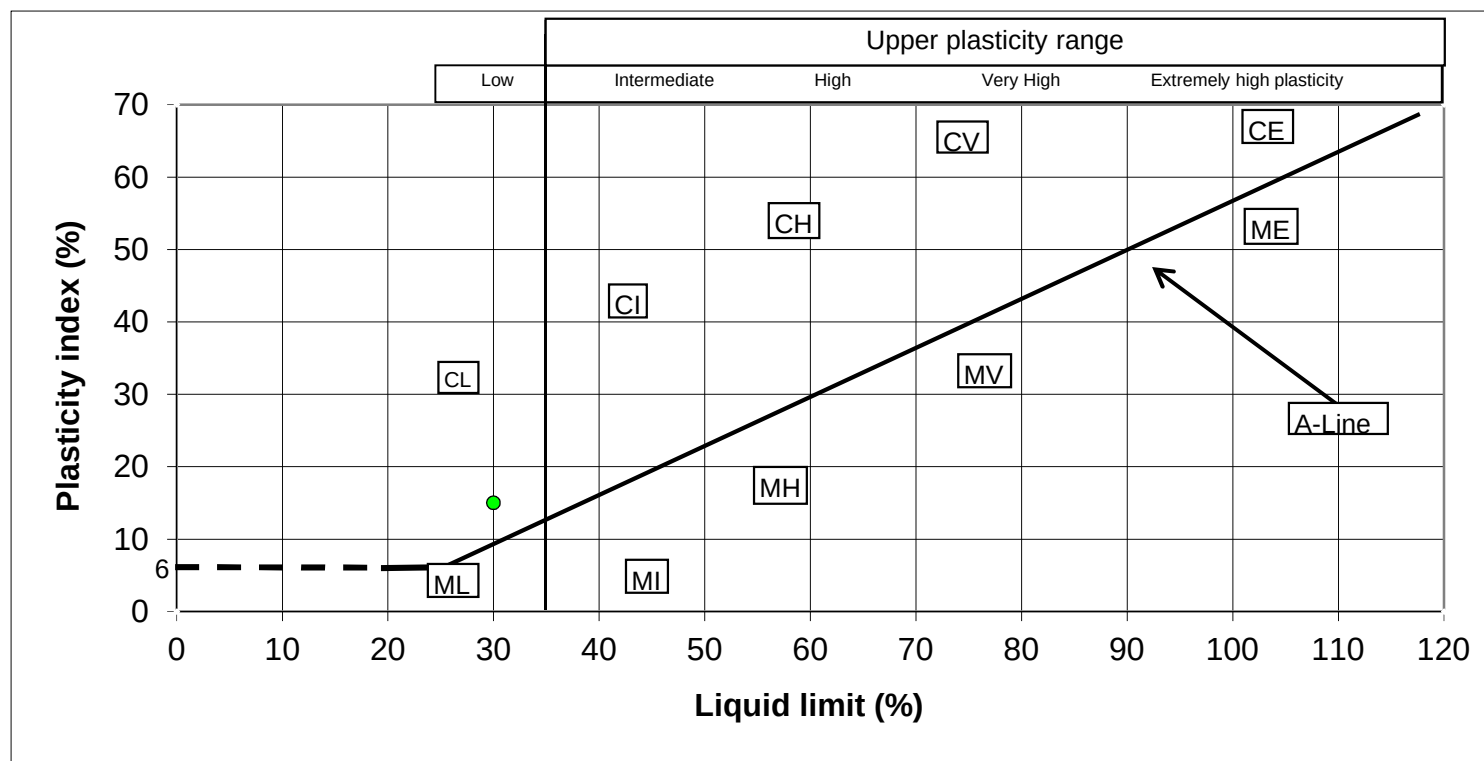
CCG-CMS-FO-204 Issue 2



ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.

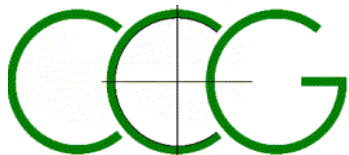


BH	Sample Depth	Liquid limit	Plasticity index
TP09	0.60	30.0	15.0



APPROVED BY	DK
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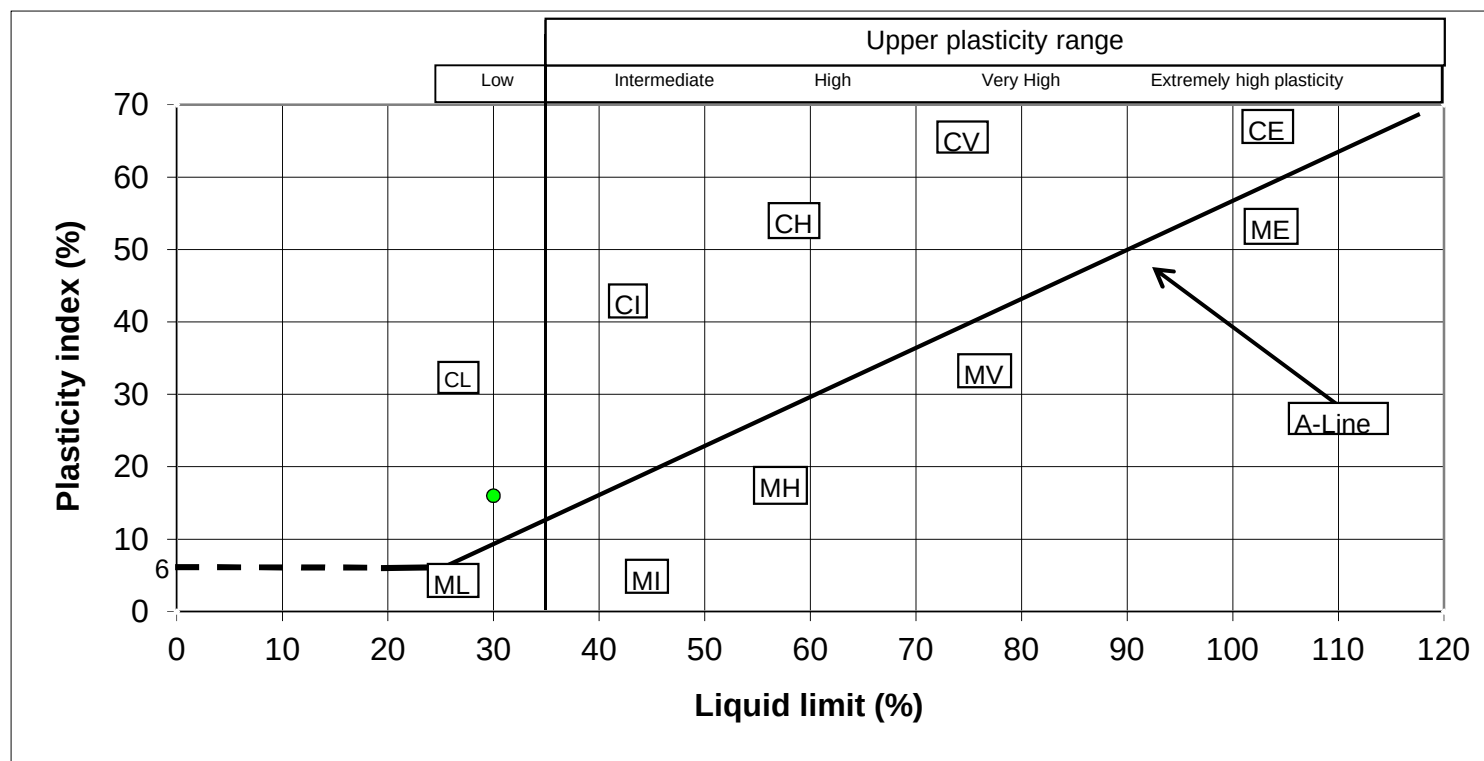
CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL	SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
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ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.



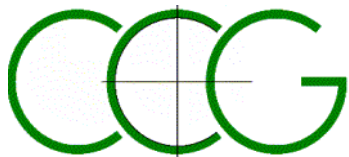
BH	Sample Depth	Liquid limit	Plasticity index
TP09	1.20	30.0	16.0



APPROVED BY	DK
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CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL	SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
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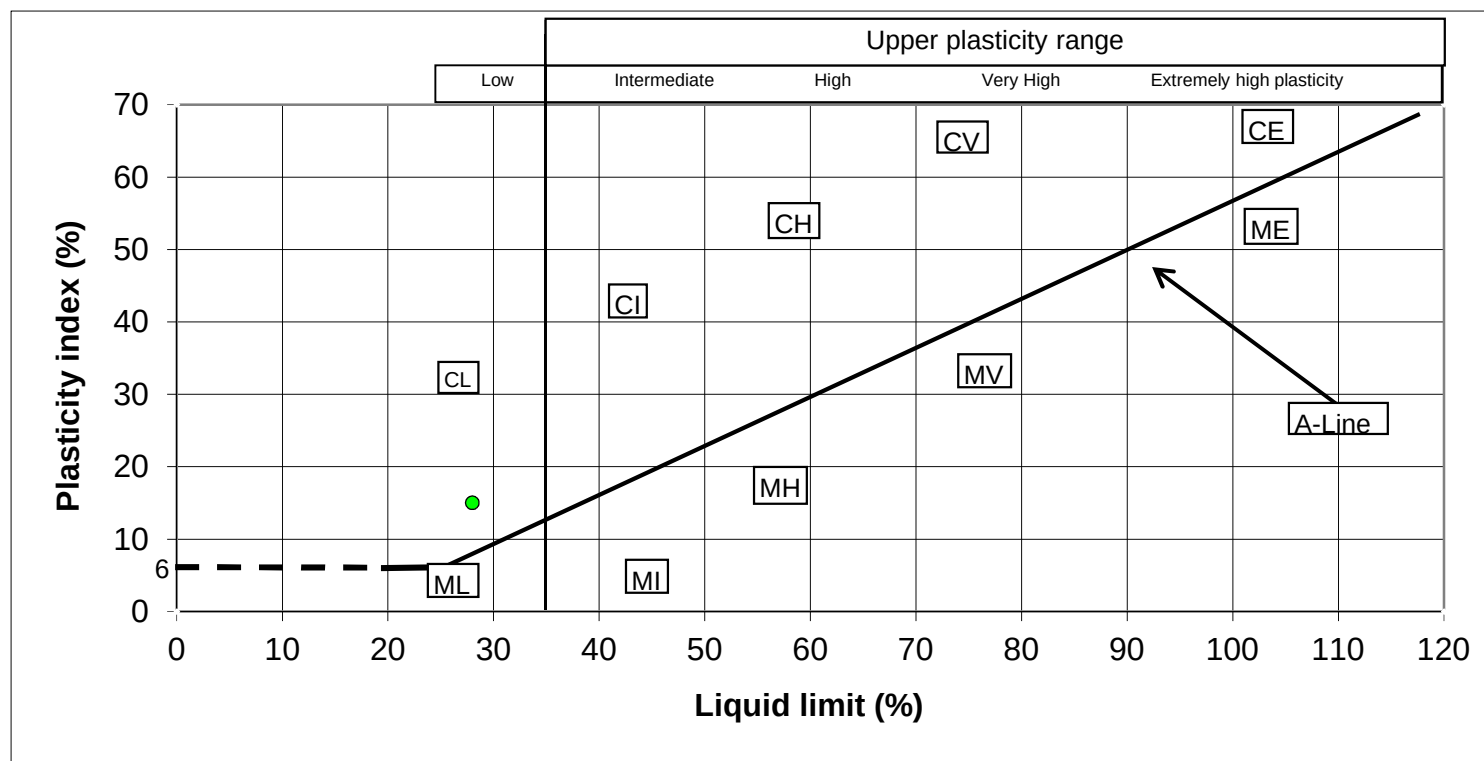
CCG-CMS-FO-204 Issue 2



ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.



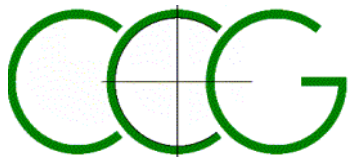
BH	Sample Depth	Liquid limit	Plasticity index
TP09	2.30	28.0	15.0



APPROVED BY	DK
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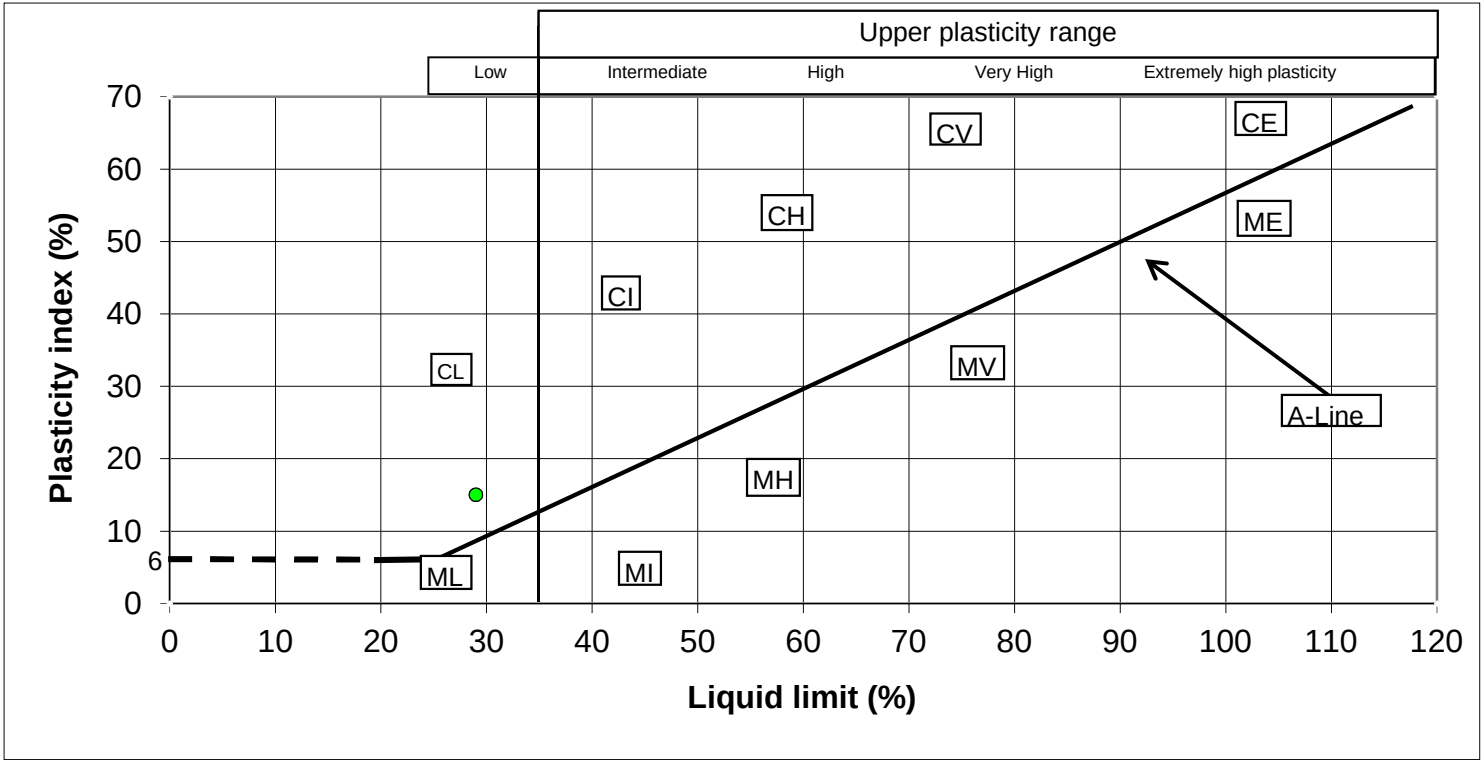
CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL	SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
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CCG-CMS-FO-204 Issue 2



ATTERBERG TEST RESULT SHEET
BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.

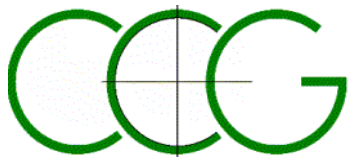


BH	Sample Depth	Liquid limit	Plasticity index
TP15	0.80	29.0	15.0



APPROVED BY	DK
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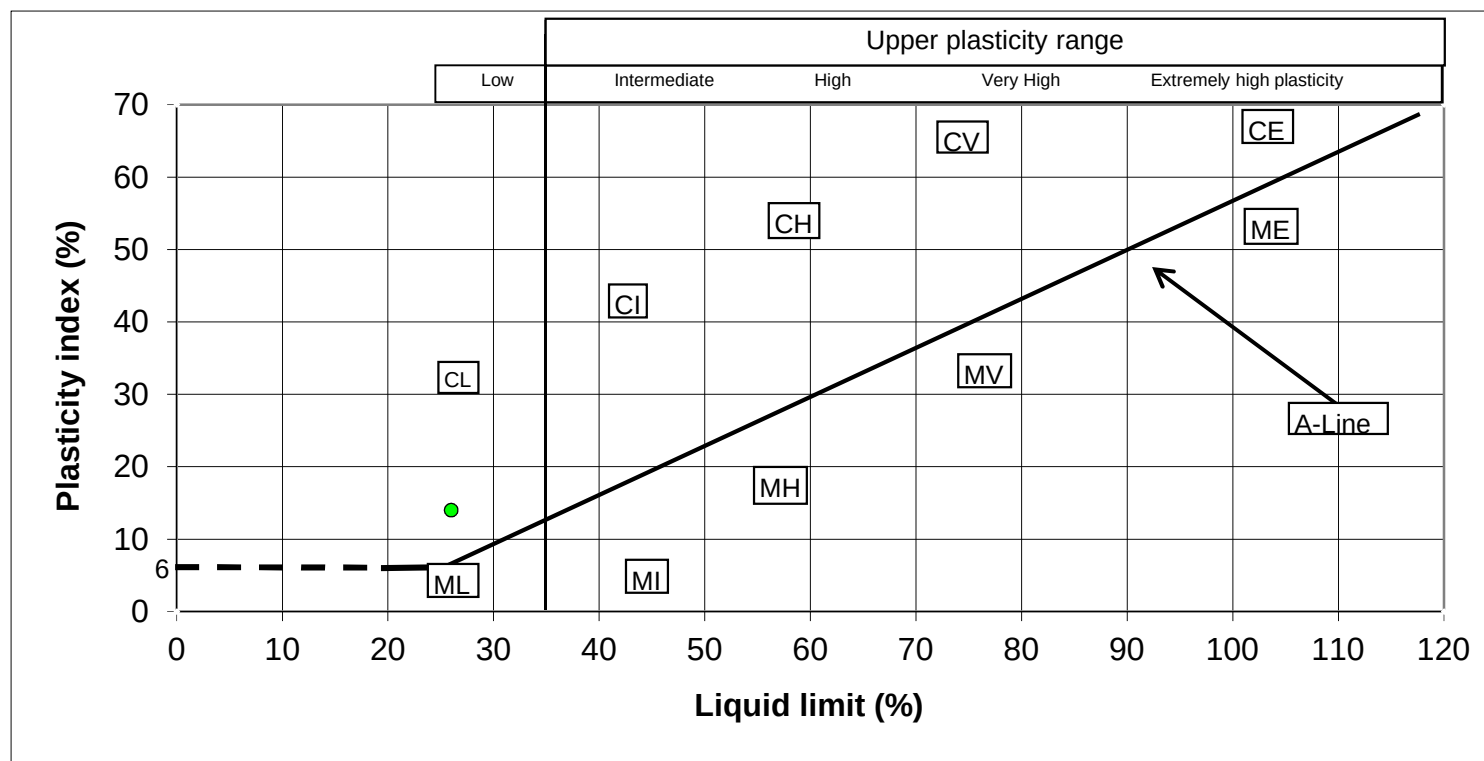
CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL	SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
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ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.



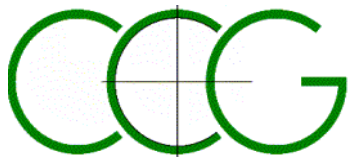
BH	Sample Depth	Liquid limit	Plasticity index
TP16	1.30	26.0	14.0



APPROVED BY	DK
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CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL	SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
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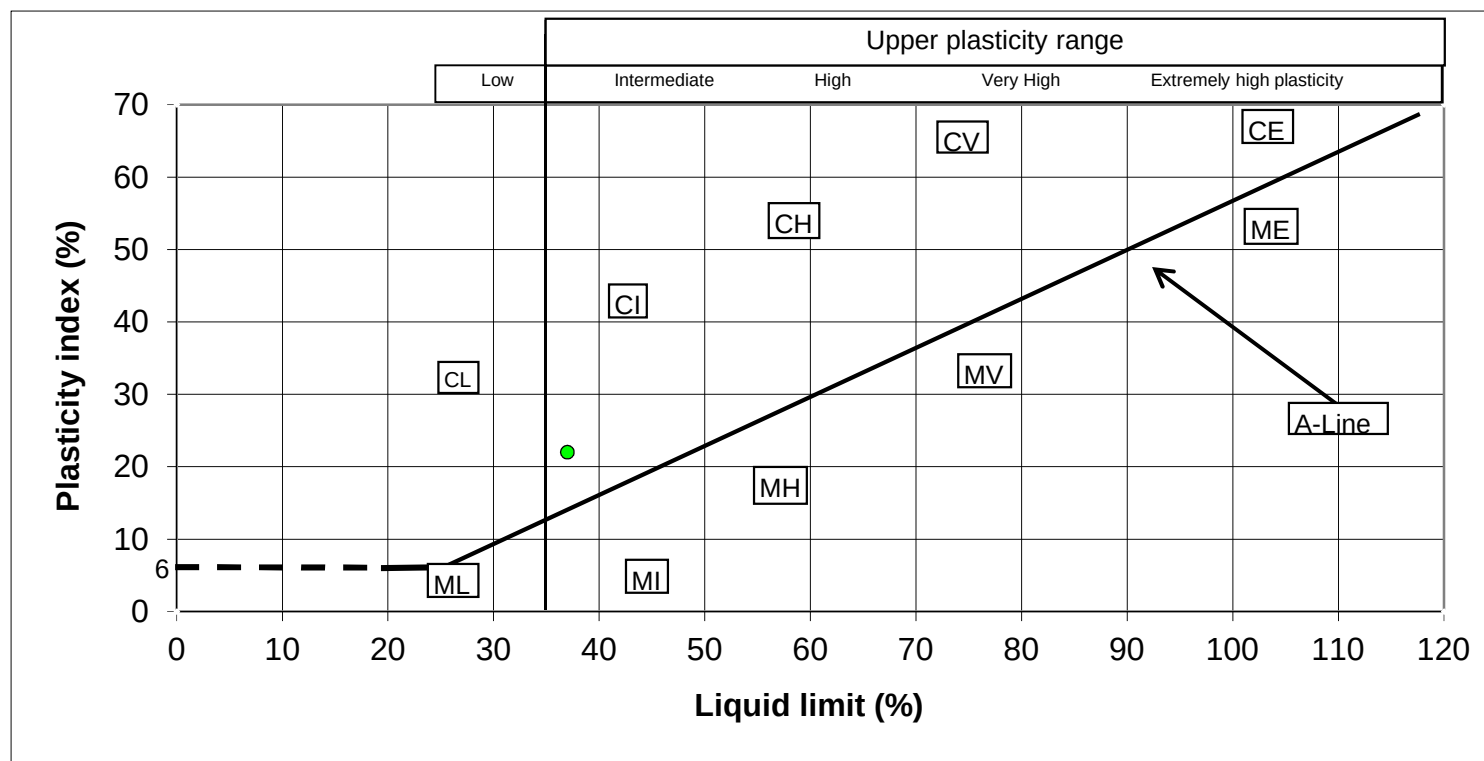
CCG-CMS-FO-204 Issue 2



ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.



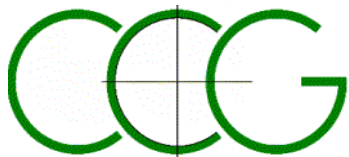
BH	Sample Depth	Liquid limit	Plasticity index
TP17	0.70	37.0	22.0



APPROVED BY	DK
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CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL	SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
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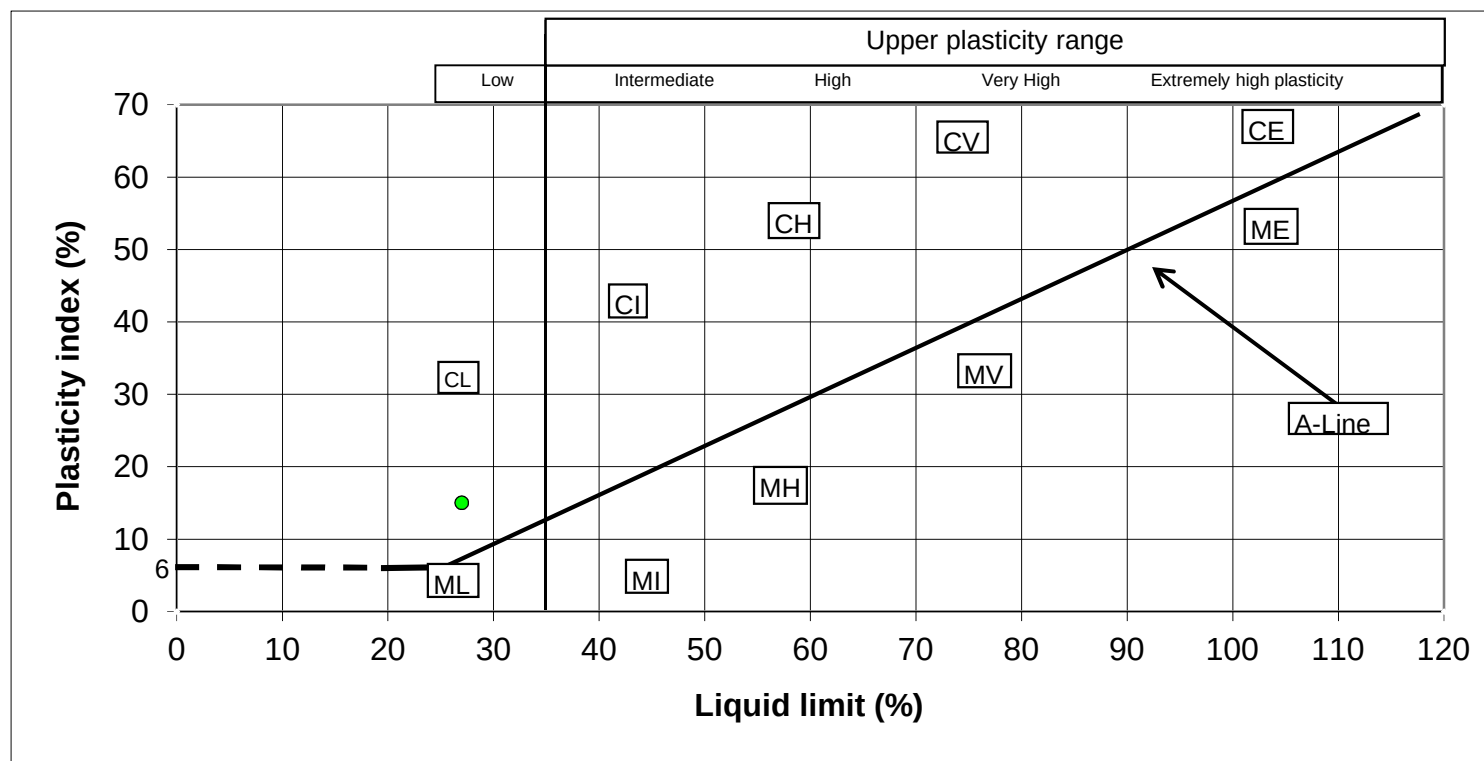
CCG-CMS-FO-204 Issue 2



ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.



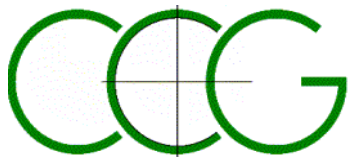
BH	Sample Depth	Liquid limit	Plasticity index
TP17	2.30	27.0	15.0



APPROVED BY	DK
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CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL	SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
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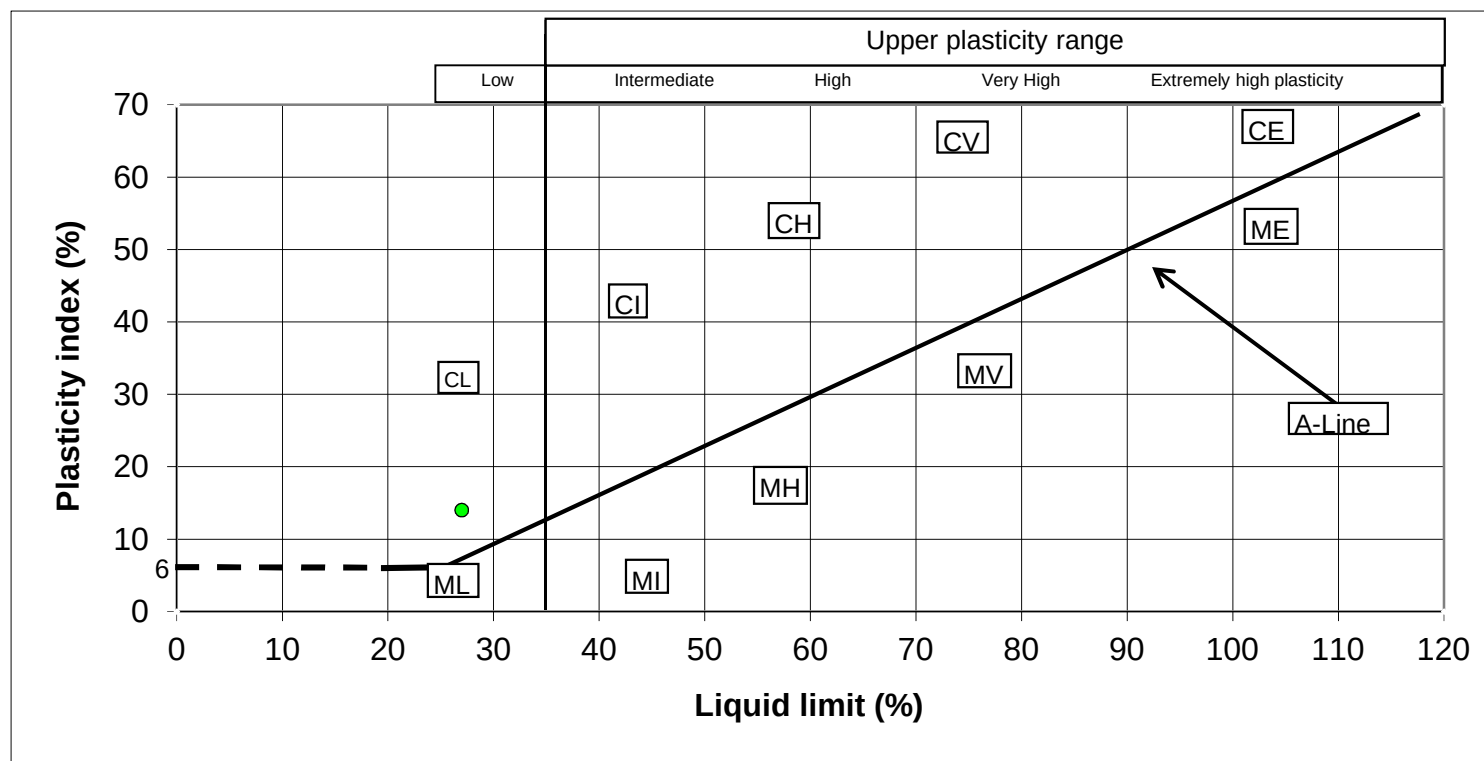
CCG-CMS-FO-204 Issue 2



ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.

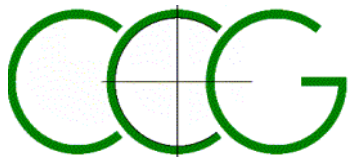


BH	Sample Depth	Liquid limit	Plasticity index
TP18	1.30	27.0	14.0



APPROVED BY	DK
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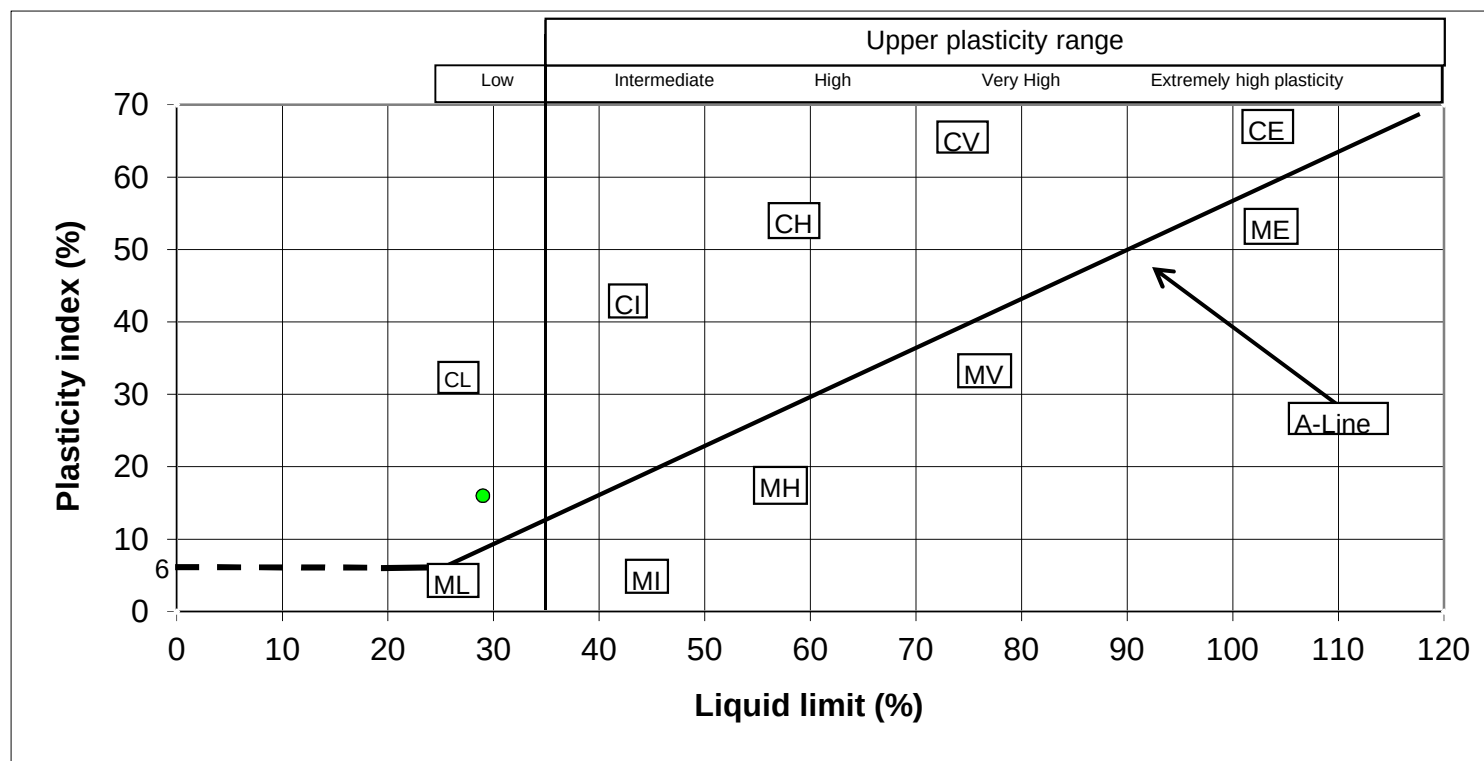
CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL	SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
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ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.



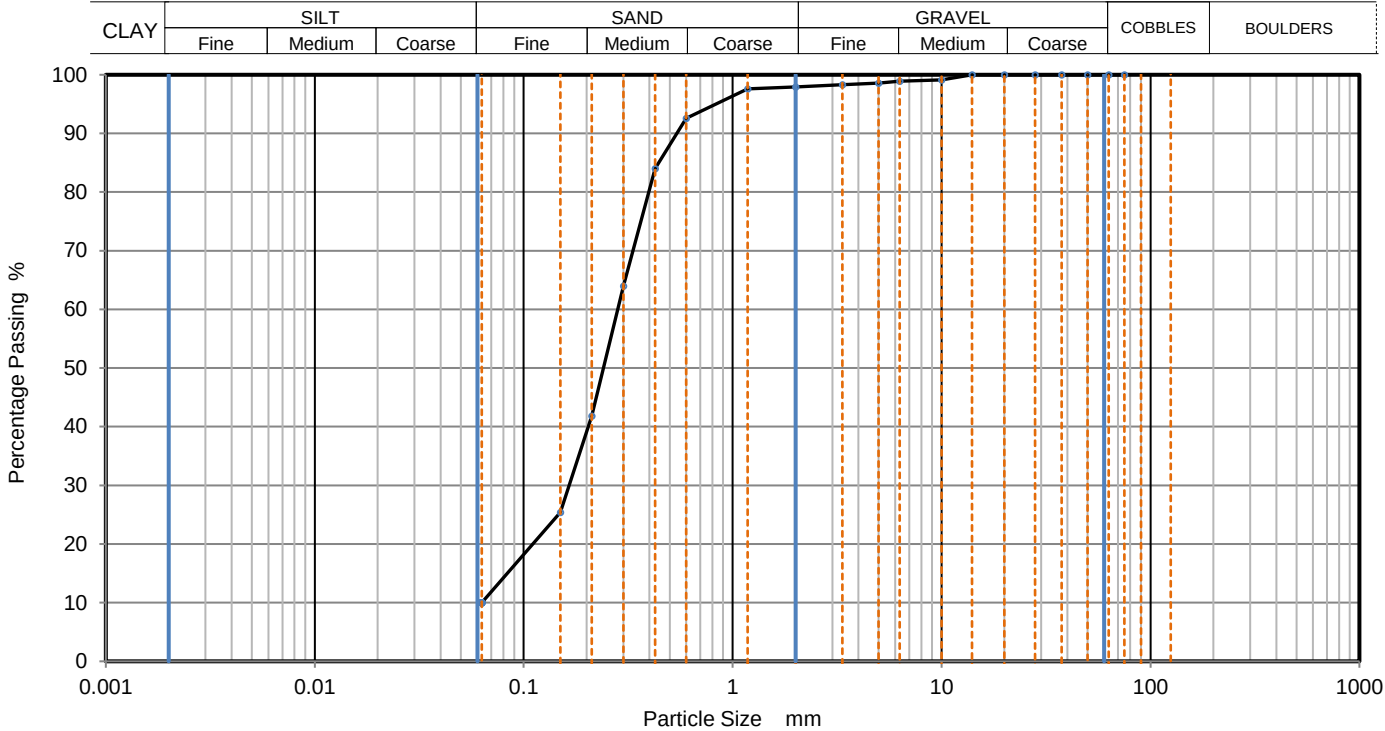
BH	Sample Depth	Liquid limit	Plasticity index
WS02	1.05	29.0	16.0



APPROVED BY	DK
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CLIENT: KNOWSLEY METROPOLITAN BOROUGH COUNCIL	SITE: FOX'S BANK LANE, WHISTON (CCG-C-18-10117)
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 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	RBH07
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Dark brown silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium subrounded sandstone			Depth, m	1.10
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL201803083



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	99		
3.35	98		
2	98		
1.18	98		
0.6	93		
0.425	84		
0.3	64		
0.212	42		
0.15	25		
0.063	10		

Dry Mass of sample, g	
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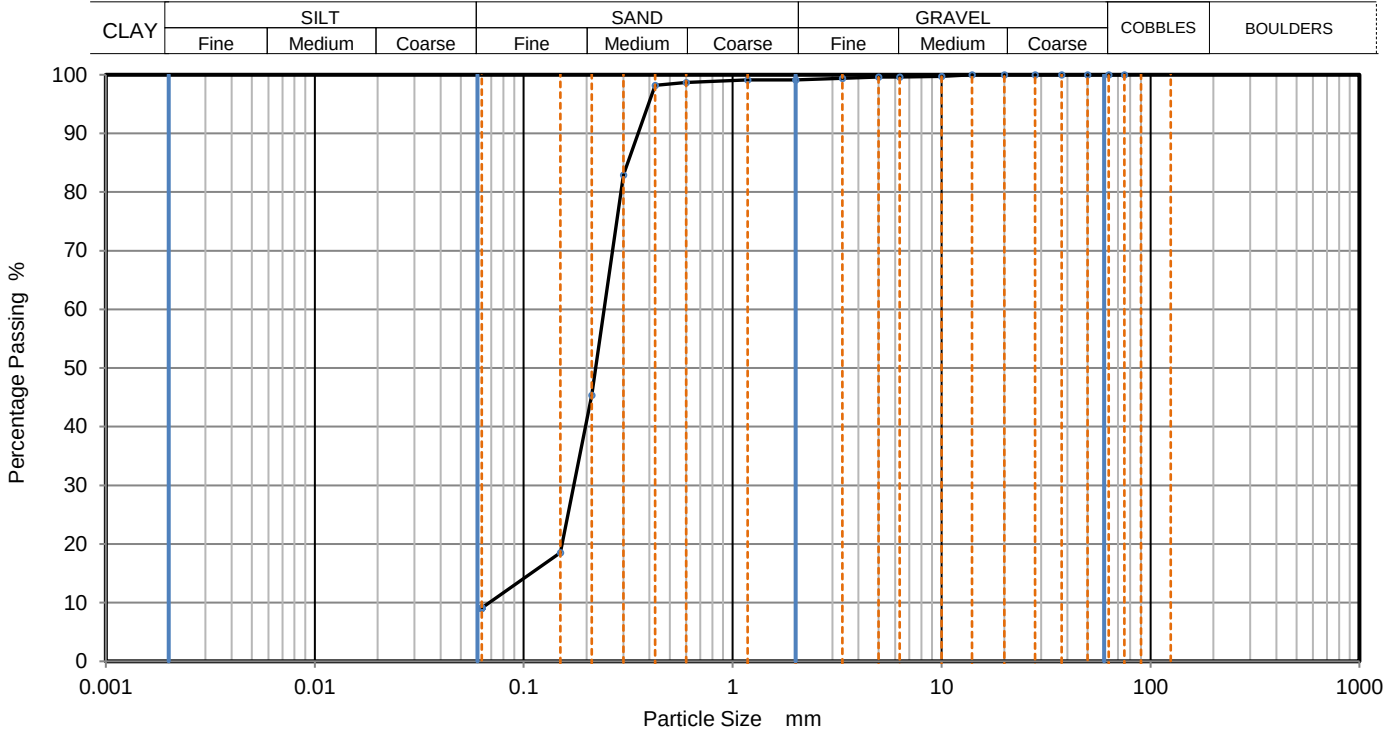
Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	88
Fines <0.063mm	10

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	Approved	Sheet printed	Fig 1 Sheet
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 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP01
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Brown silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium subrounded sandstone			Depth, m	0.70
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL201803084



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	99		
1.18	99		
0.6	99		
0.425	98		
0.3	83		
0.212	45		
0.15	19		
0.063	9		

Dry Mass of sample, g	
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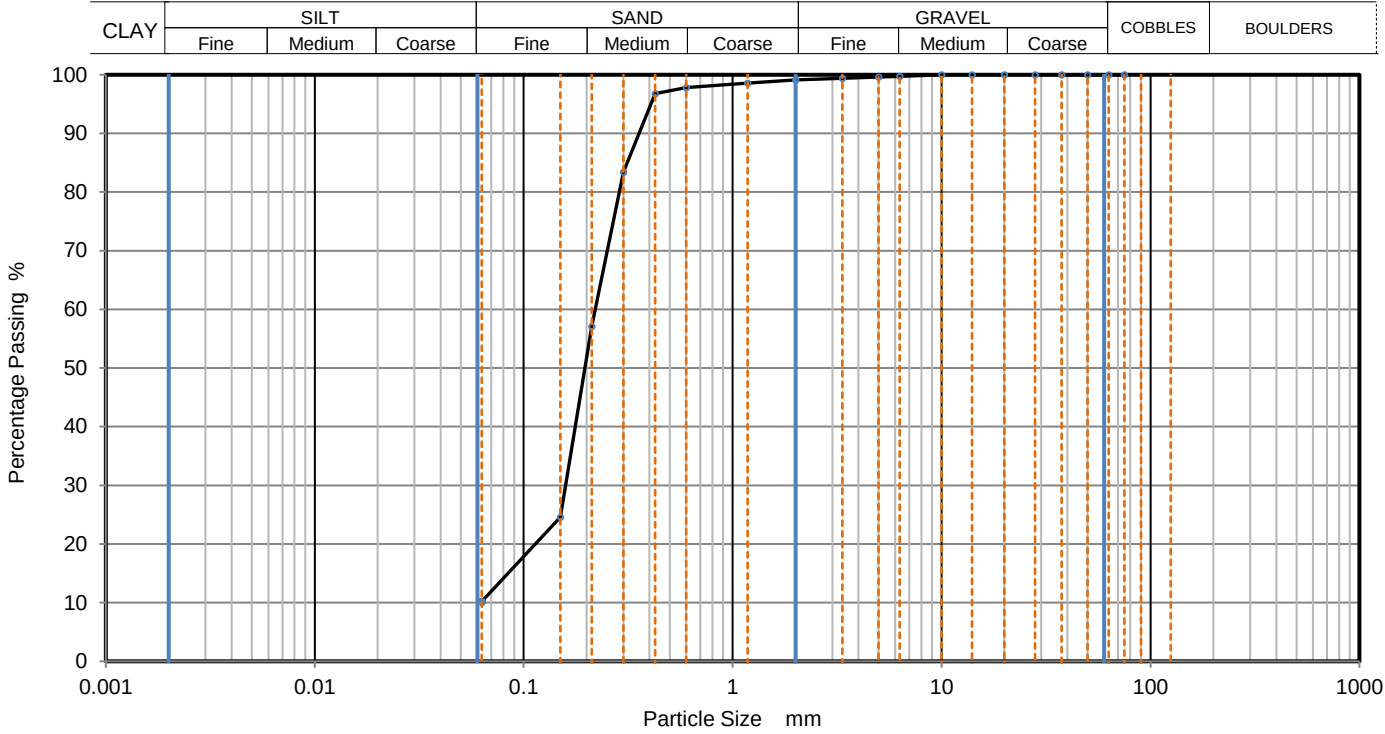
Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	90
Fines <0.063mm	9

Grading Analysis	
D100 mm	
D60 mm	0.243
D30 mm	0.174
D10 mm	0.0684
Uniformity Coefficient	3.5
Curvature Coefficient	1.8

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	Approved	Sheet printed	Fig 1 Sheet
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 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP02
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Light brown silty slightly gravelly fine to medium grained SAND. Gravel is fine subrounded sandstone			Depth, m	1.10
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL201803086



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	99		
1.18	99		
0.6	98		
0.425	97		
0.3	83		
0.212	57		
0.15	25		
0.063	10		

Dry Mass of sample, g	
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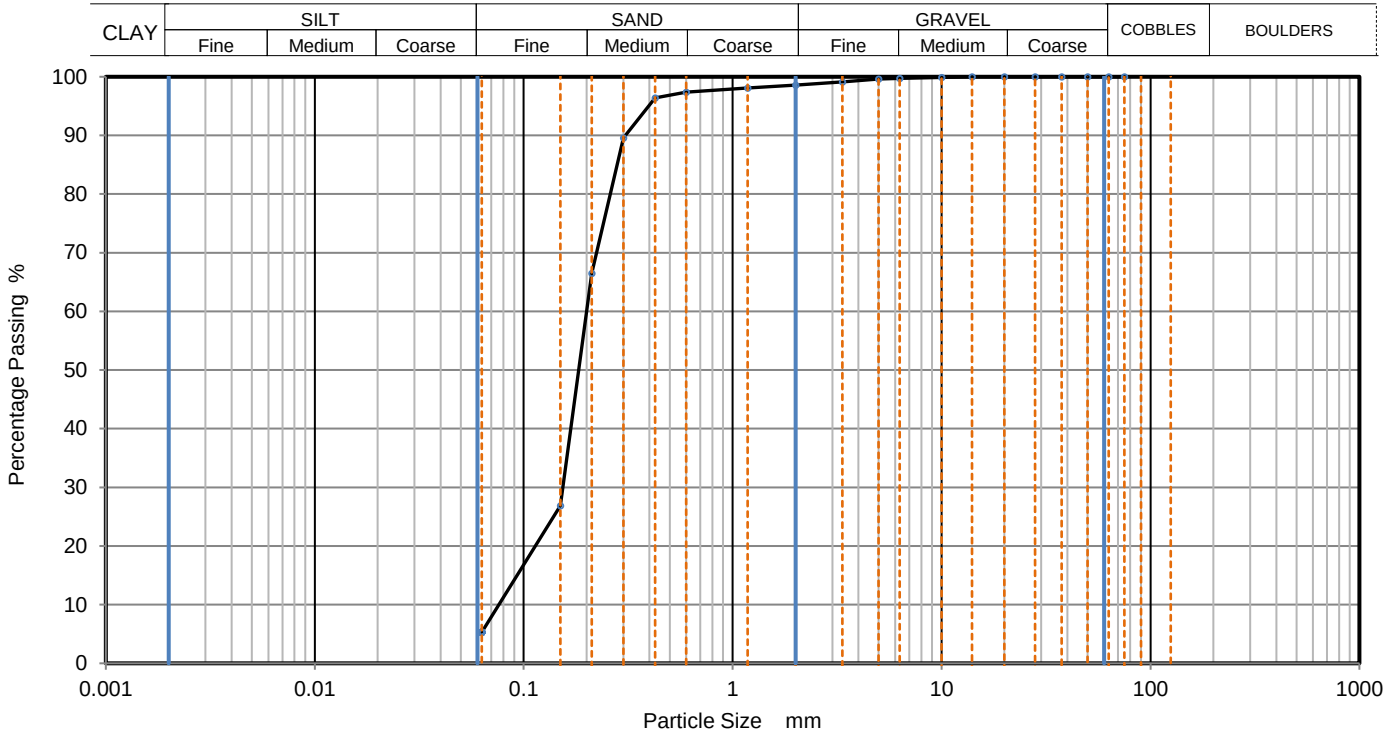
Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	89
Fines <0.063mm	10

Grading Analysis	
D100 mm	
D60 mm	0.22
D30 mm	0.159
D10 mm	
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	Approved	Sheet printed	Fig 1 Sheet
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 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP03
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Yellowish brown silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium subrounded sandstone			Depth, m	1.60
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL201803085



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	99		
1.18	98		
0.6	97		
0.425	96		
0.3	90		
0.212	67		
0.15	27		
0.063	5		

Dry Mass of sample, g

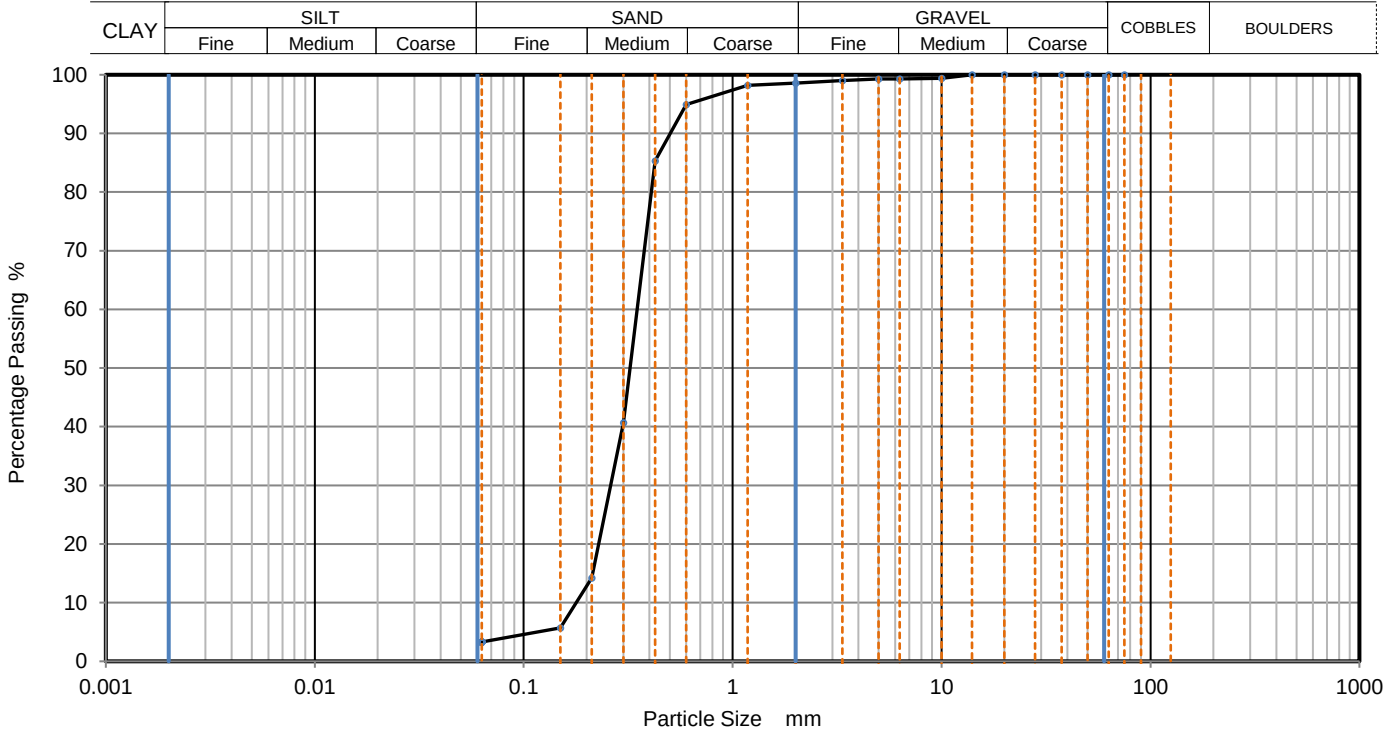
Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	93
Fines <0.063mm	5

Grading Analysis	
D100 mm	
D60 mm	0.2
D30 mm	0.154
D10 mm	0.0761
Uniformity Coefficient	2.6
Curvature Coefficient	1.6

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	Approved	Sheet printed	Fig 1 Sheet
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 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP05
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Yellowish brown slightly silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium subrounded sandstone			Depth, m	0.90
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL201803089



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	99		
3.35	99		
2	99		
1.18	98		
0.6	95		
0.425	85		
0.3	41		
0.212	14		
0.15	6		
0.063	3		

Dry Mass of sample, g	
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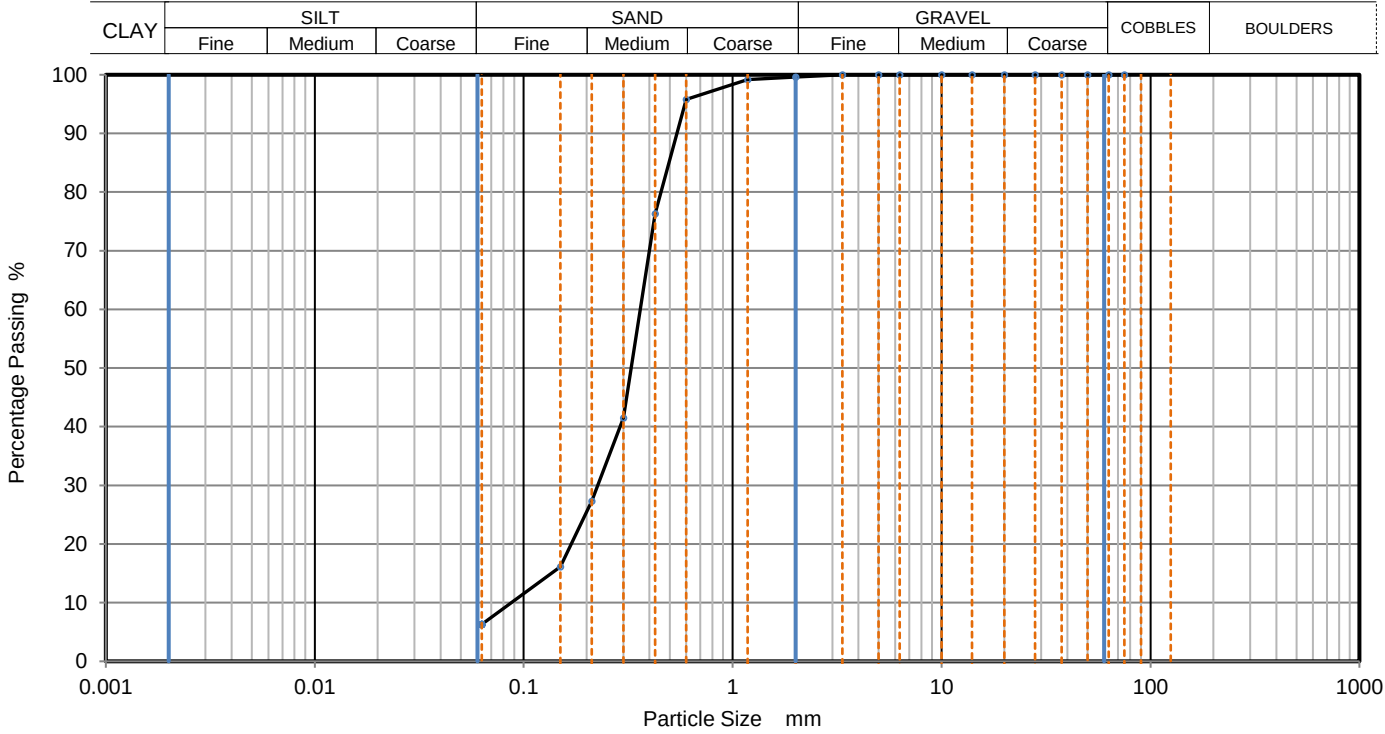
Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	95
Fines <0.063mm	3

Grading Analysis	
D100 mm	
D60 mm	0.349
D30 mm	0.261
D10 mm	0.179
Uniformity Coefficient	2
Curvature Coefficient	1.1

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	Approved	Sheet printed	Fig 1 Sheet
JE	DK	DK	26/03/2018 11:32	

 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP06
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Orange silty fine to medium grained SAND			Depth, m	1.00
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL201803088



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	99		
0.6	96		
0.425	76		
0.3	42		
0.212	27		
0.15	16		
0.063	6		

Dry Mass of sample, g	
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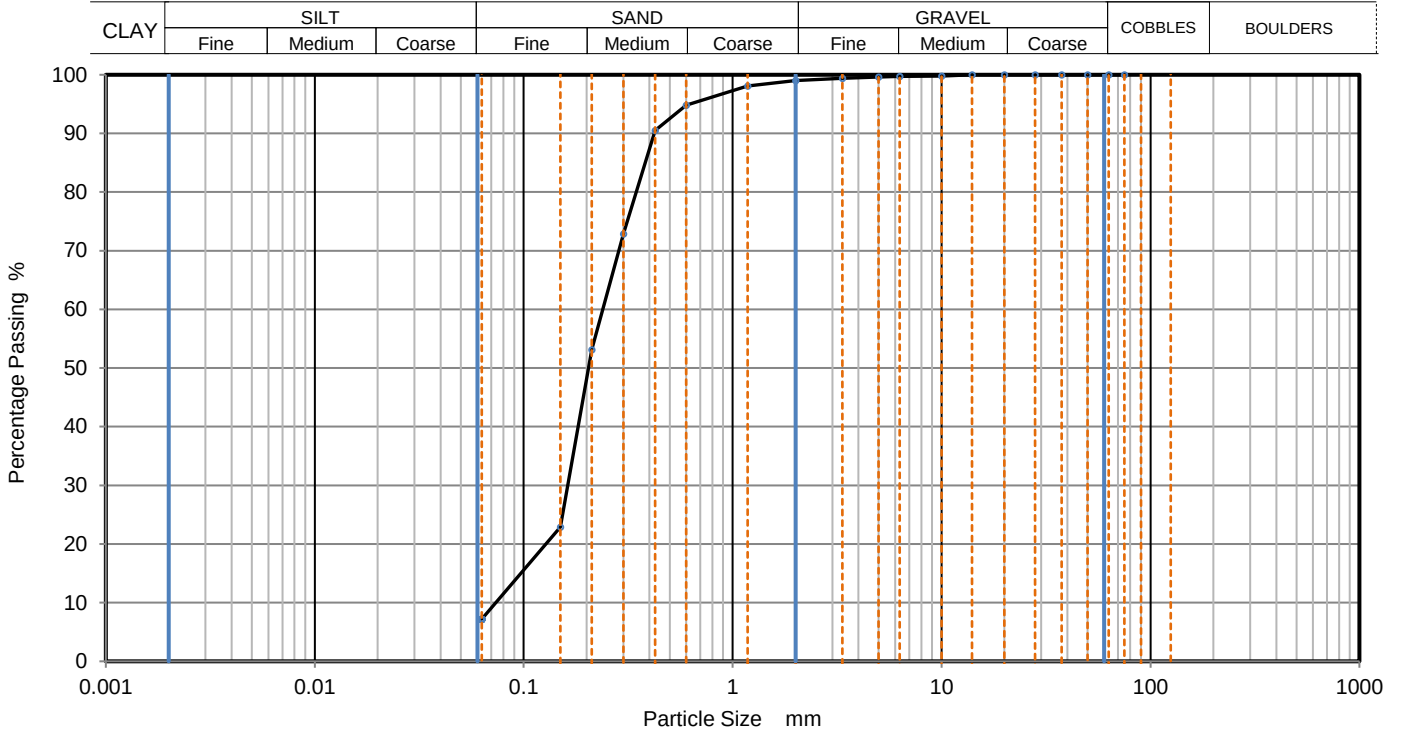
Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	93
Fines <0.063mm	6

Grading Analysis	
D100	mm
D60	mm 0.361
D30	mm 0.227
D10	mm 0.0874
Uniformity Coefficient	4.1
Curvature Coefficient	1.6

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	Approved	Sheet printed	Fig 1
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 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP10
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Orangish brown silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium subrounded sandstone			Depth, m	1.30
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL2018030811



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	99		
1.18	98		
0.6	95		
0.425	91		
0.3	73		
0.212	53		
0.15	23		
0.063	7		

Dry Mass of sample, g

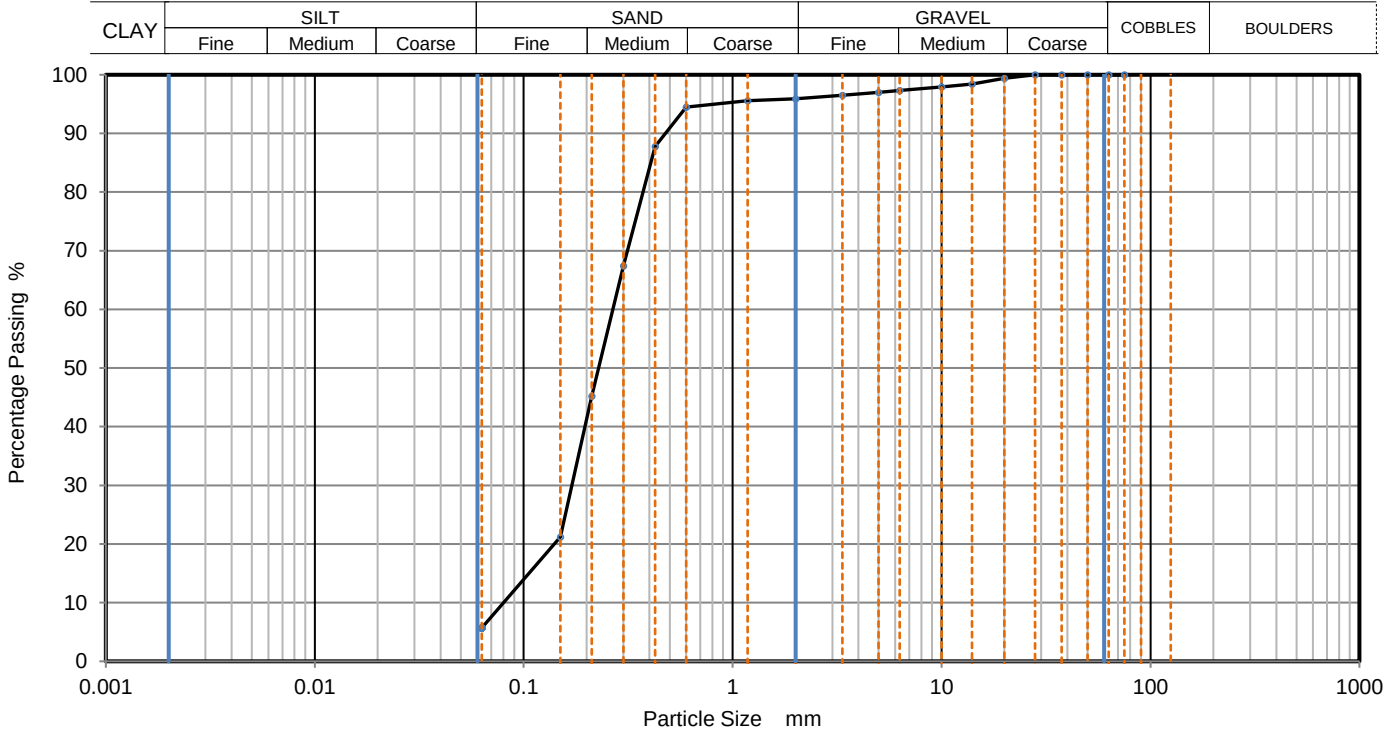
Sample Proportions		% dry mass
Very coarse		0
Gravel		1
Sand		92
Fines <0.063mm		7

Grading Analysis		
D100	mm	
D60	mm	0.239
D30	mm	0.163
D10	mm	0.0736
Uniformity Coefficient		3.3
Curvature Coefficient		1.5

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	Approved	Sheet printed	Fig 1
JE	DK	DK	26/03/2018 11:32	Sheet

 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP12
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Orangish brown silty slightly gravelly fine to medium grained SAND. Gravel is fine to coarse subrounded sandstone			Depth, m	0.80
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL2018030812



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	99		
14	98		
10	98		
6.3	97		
5	97		
3.35	97		
2	96		
1.18	96		
0.6	95		
0.425	88		
0.3	67		
0.212	45		
0.15	21		
0.063	6		

Dry Mass of sample, g	
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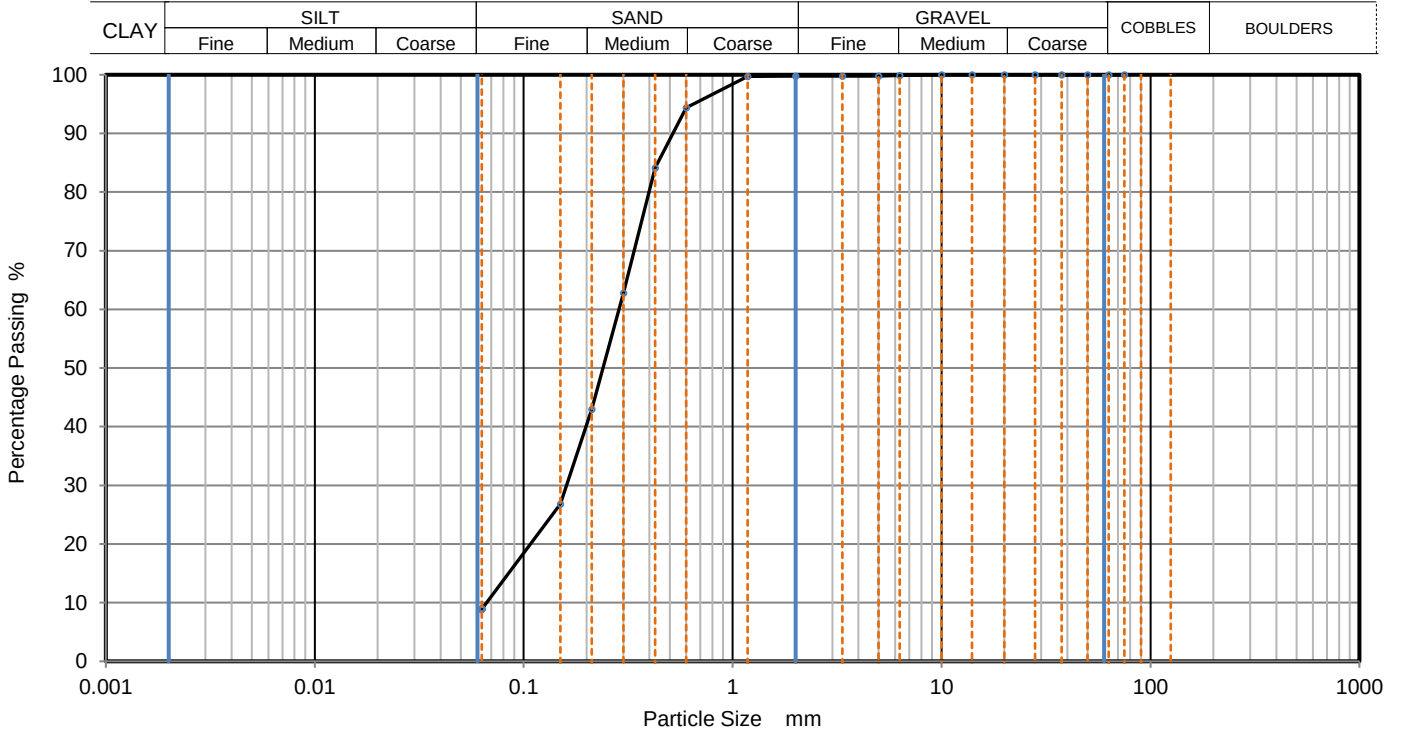
Sample Proportions	% dry mass
Very coarse	0
Gravel	4
Sand	90
Fines <0.063mm	6

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	Approved	Sheet printed	Fig 1
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 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP14
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Brown silty fine to medium grained SAND			Depth, m	0.50
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL2018030810



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	94		
0.425	84		
0.3	63		
0.212	43		
0.15	27		
0.063	9		

Dry Mass of sample, g	
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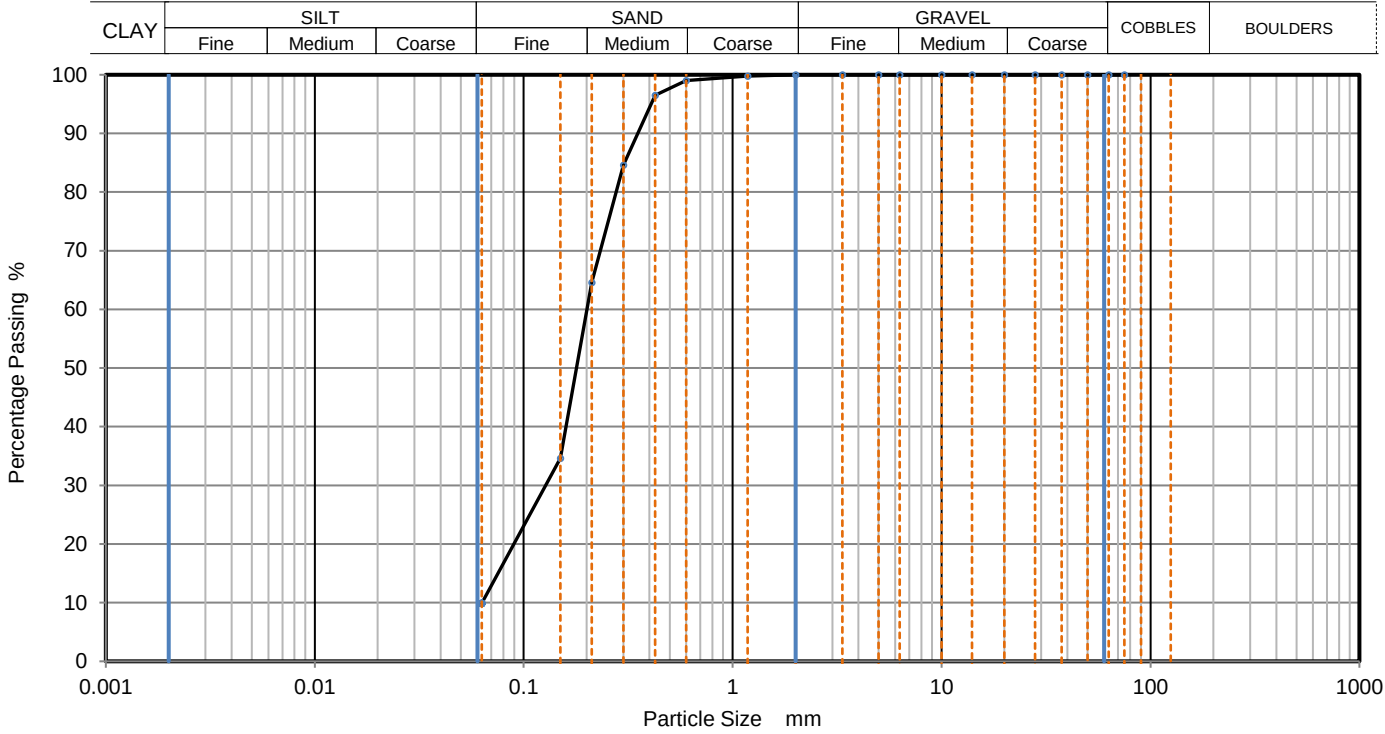
Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	91
Fines <0.063mm	9

Grading Analysis	
D100 mm	
D60 mm	0.286
D30 mm	0.161
D10 mm	0.0665
Uniformity Coefficient	4.3
Curvature Coefficient	1.4

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	Approved	Sheet printed	Fig 1 Sheet
JE	DK	DK	26/03/2018 11:32	

 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP15
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Orange silty fine to medium grained SAND			Depth, m	1.60
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL2018030816



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	99		
0.425	97		
0.3	85		
0.212	65		
0.15	35		
0.063	10		

Dry Mass of sample, g	
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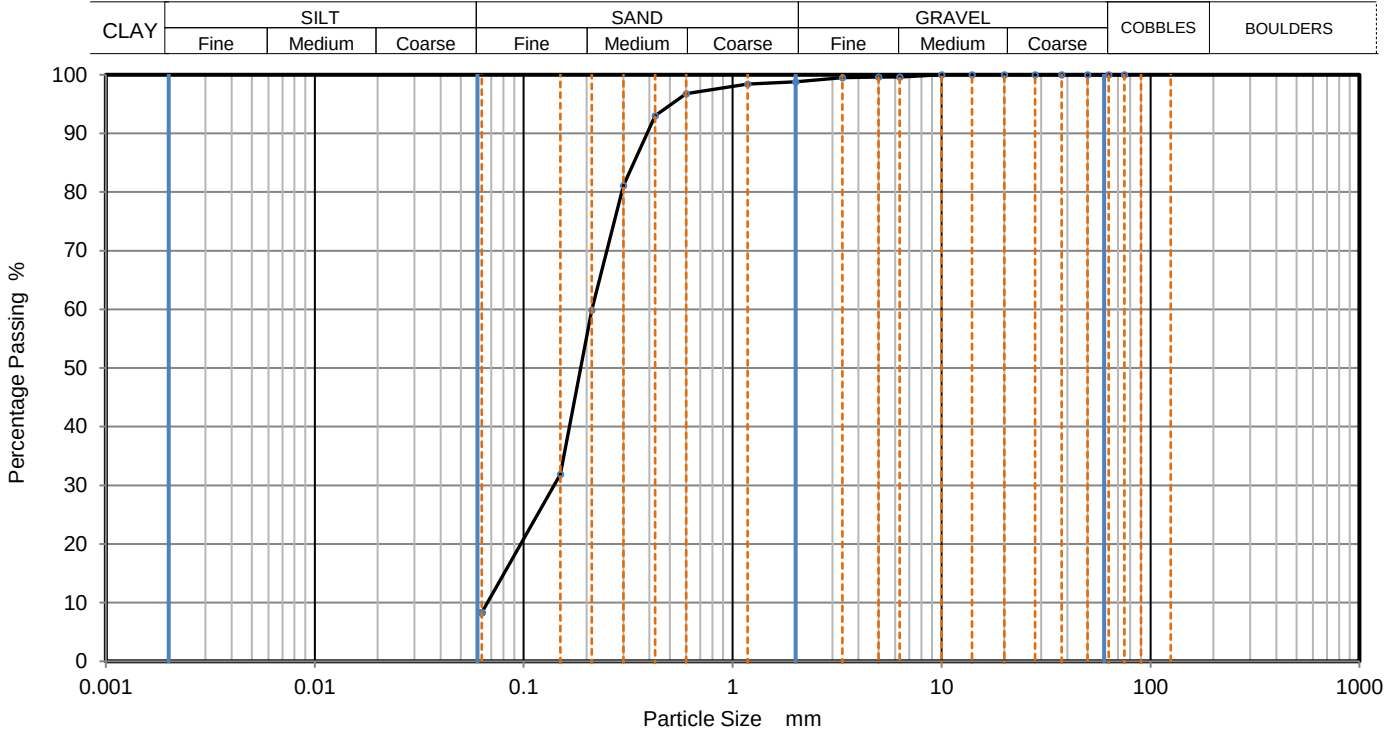
Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	90
Fines <0.063mm	10

Grading Analysis	
D100 mm	
D60 mm	0.201
D30 mm	0.127
D10 mm	0.0633
Uniformity Coefficient	3.2
Curvature Coefficient	1.3

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	Approved	Sheet printed	Fig 1 Sheet
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 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP16
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Orangish brown silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium subrounded sandstone			Depth, m	0.70
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL2018030814



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	98		
0.6	97		
0.425	93		
0.3	81		
0.212	60		
0.15	32		
0.063	8		

Dry Mass of sample, g	
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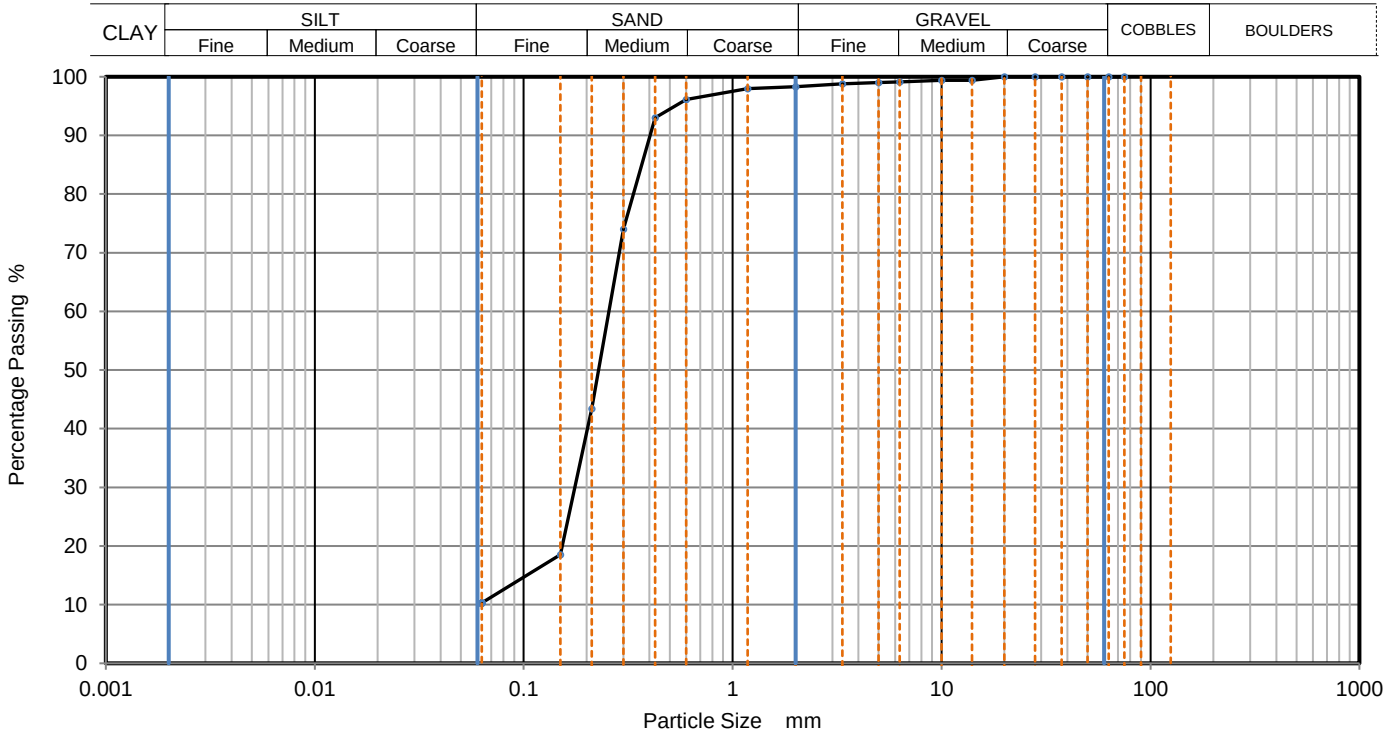
Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	91
Fines <0.063mm	8

Grading Analysis	
D100 mm	
D60 mm	0.212
D30 mm	0.14
D10 mm	0.0671
Uniformity Coefficient	3.2
Curvature Coefficient	1.4

Remarks
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Operator	Checked	Approved	Sheet printed	Fig 1 Sheet
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 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP18
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Orangish brown silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium subrounded sandstone			Depth, m	1.90
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL2018030813



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	99		
6.3	99		
5	99		
3.35	99		
2	98		
1.18	98		
0.6	96		
0.425	93		
0.3	74		
0.212	43		
0.15	19		
0.063	10		

Dry Mass of sample, g	
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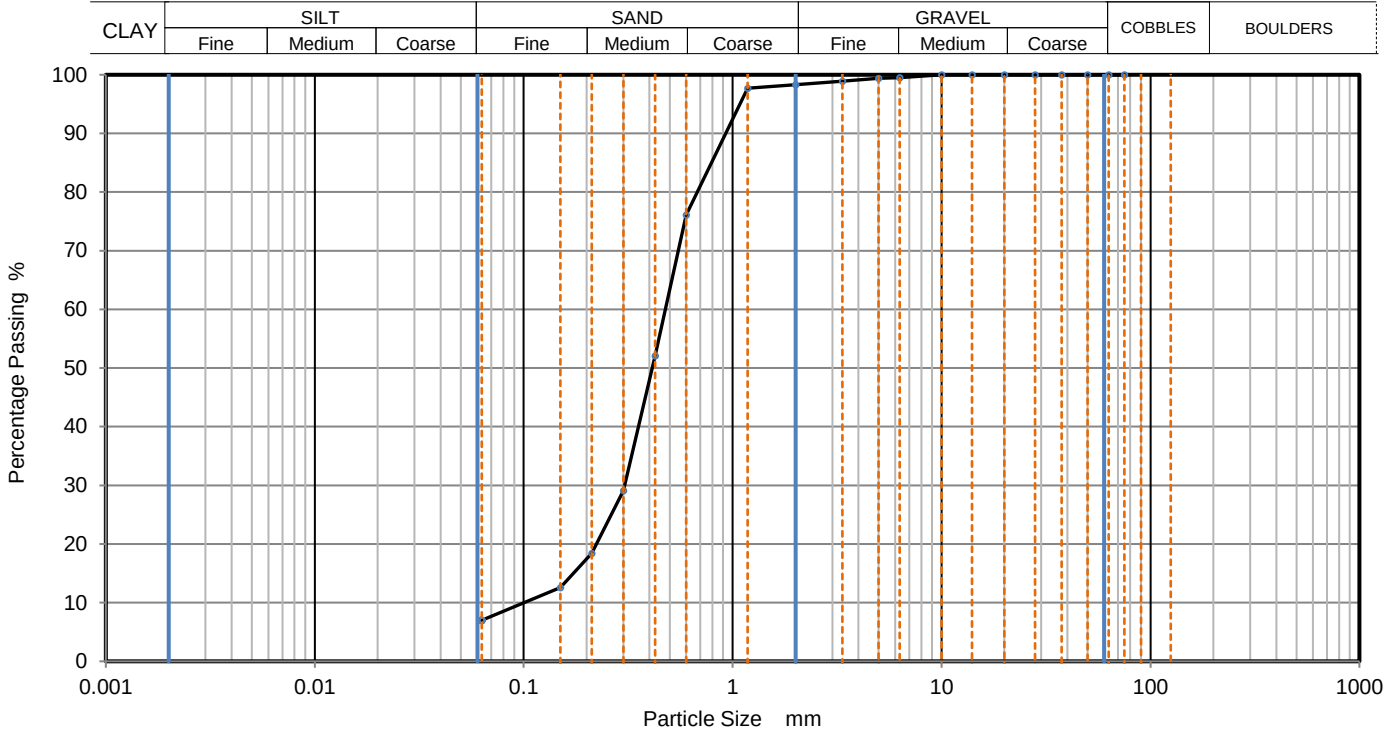
Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	88
Fines <0.063mm	10

Grading Analysis	
D100 mm	
D60 mm	0.256
D30 mm	0.176
D10 mm	
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS1377 unless noted below

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 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP19
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Brown silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium subrounded sandstone			Depth, m	1.40
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.3			KeyLAB ID	CCGL2018030815



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
3.35	99		
2	98		
1.18	98		
0.6	76		
0.425	52		
0.3	29		
0.212	18		
0.15	13		
0.063	7		

Dry Mass of sample, g	
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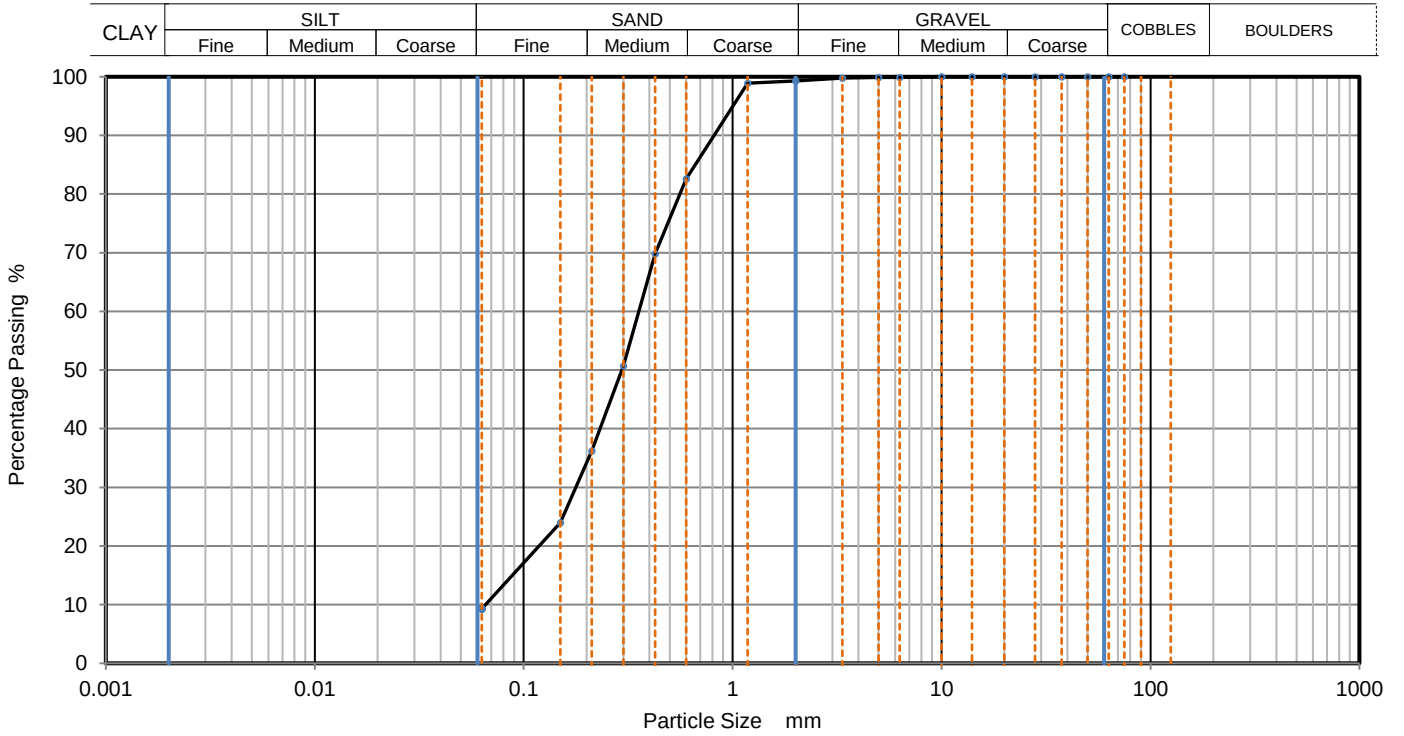
Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	91
Fines <0.063mm	7

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS1377 unless noted below

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 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP20
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Brown silty slightly gravelly fine to medium grained SAND. Gravel is fine subrounded sandstone			Depth, m	0.60
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL2018030817



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	99		
0.6	83		
0.425	70		
0.3	51		
0.212	36		
0.15	24		
0.063	9		

Dry Mass of sample, g	
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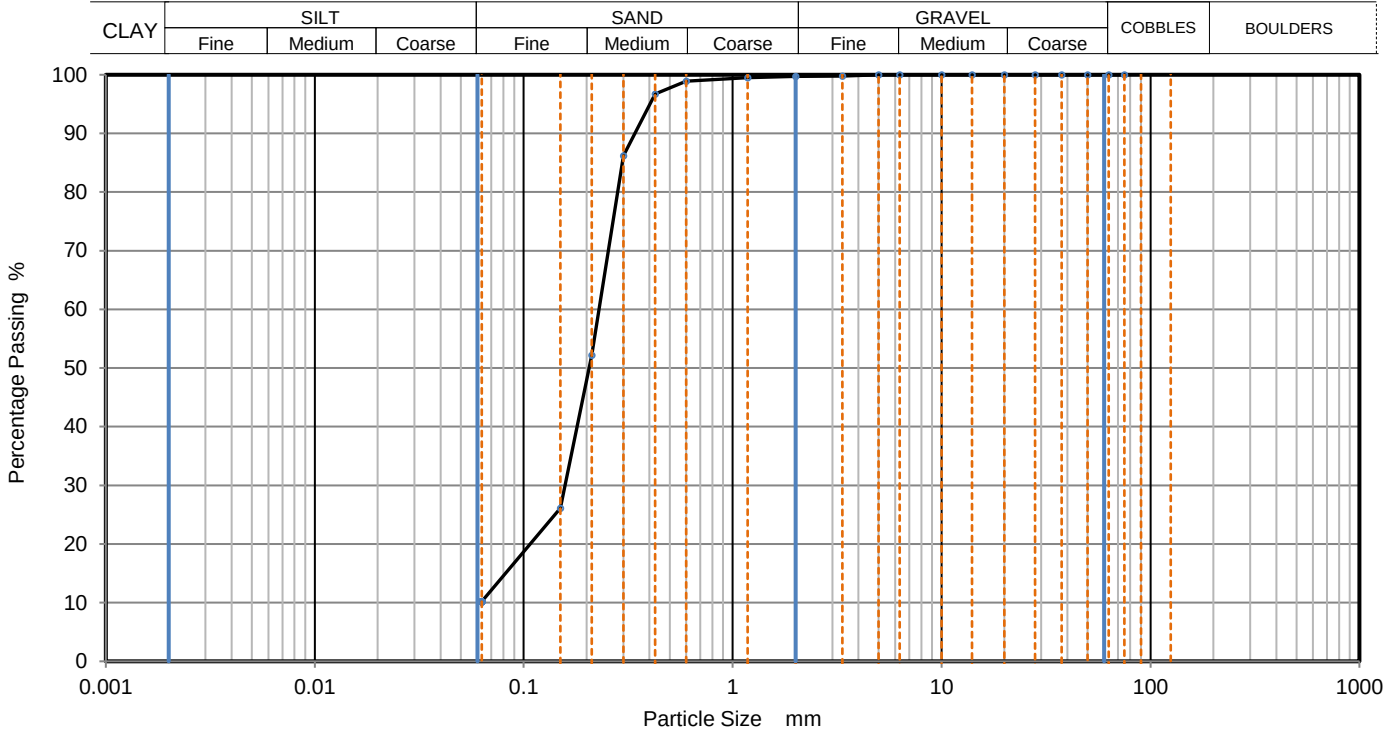
Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	90
Fines <0.063mm	9

Grading Analysis		
D100	mm	
D60	mm	0.356
D30	mm	0.178
D10	mm	0.0658
Uniformity Coefficient		5.4
Curvature Coefficient		1.4

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	Approved	Sheet printed	Fig 1
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 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP22
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Orangish brown silty fine to medium grained SAND			Depth, m	1.10
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL2018030818



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	99		
0.425	97		
0.3	86		
0.212	52		
0.15	26		
0.063	10		

Dry Mass of sample, g	
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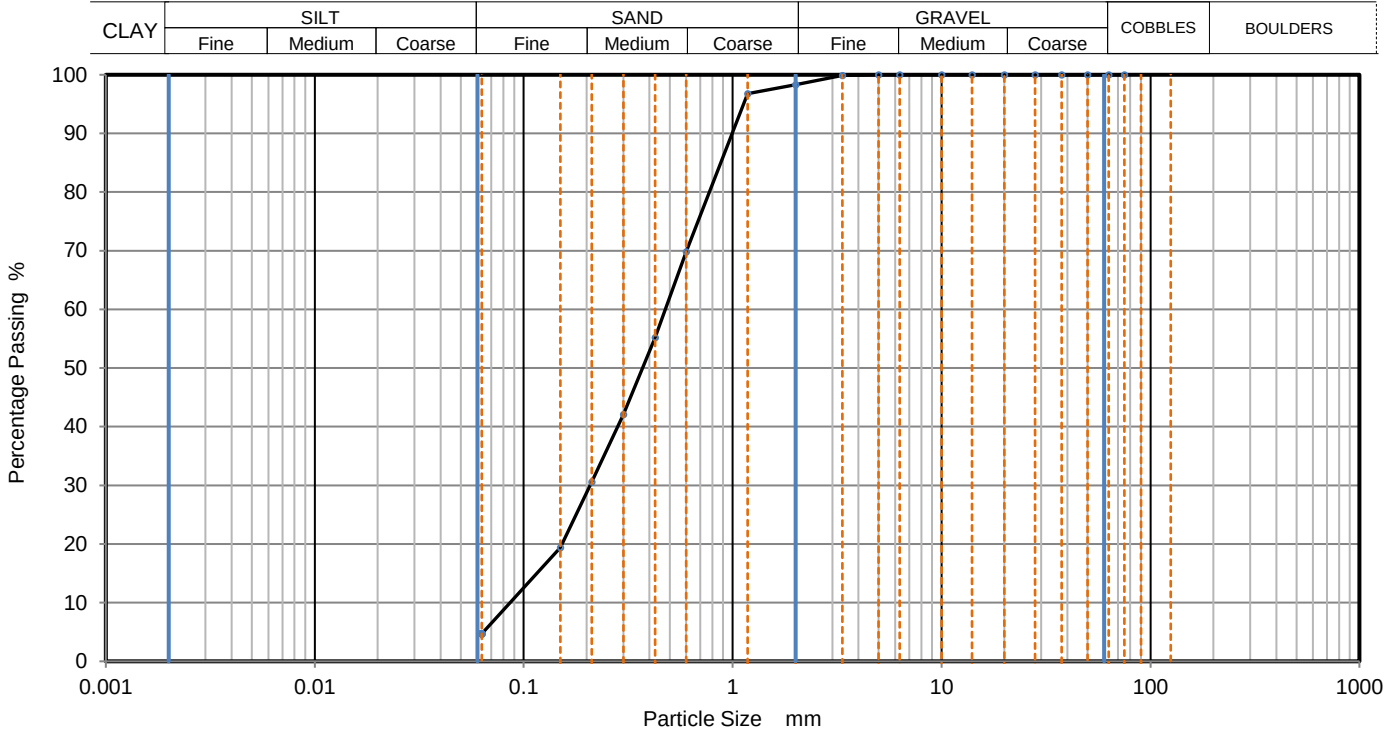
Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	89
Fines <0.063mm	10

Grading Analysis	
D100 mm	
D60 mm	0.23
D30 mm	0.158
D10 mm	
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS1377 unless noted below

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 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP24
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Brown silty slightly gravelly fine to coarse grained SAND. Gravel is fine subrounded sandstone			Depth, m	0.50
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL2018030819



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	98		
1.18	97		
0.6	70		
0.425	55		
0.3	42		
0.212	31		
0.15	19		
0.063	5		

Dry Mass of sample, g	
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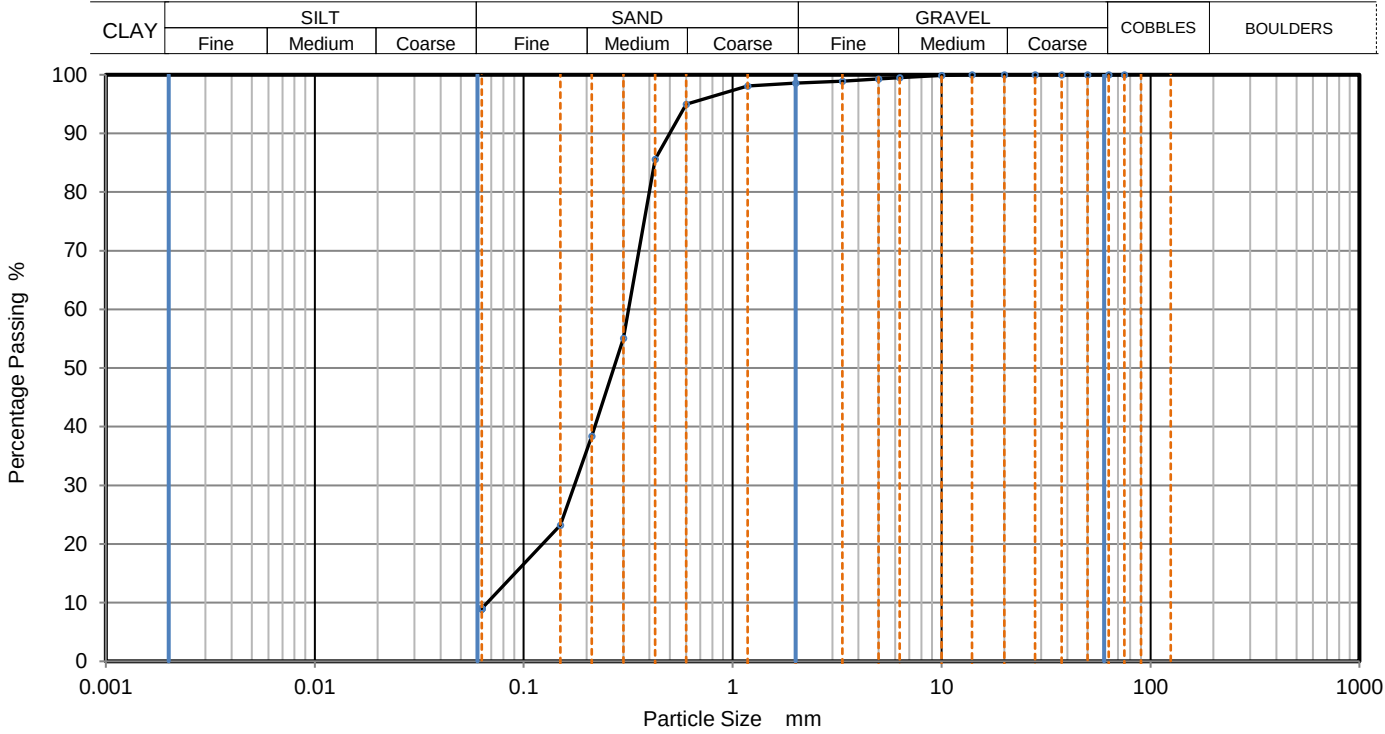
Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	94
Fines <0.063mm	5

Grading Analysis	
D100 mm	
D60 mm	0.476
D30 mm	0.208
D10 mm	0.0861
Uniformity Coefficient	5.5
Curvature Coefficient	1.1

Remarks
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Operator	Checked	Approved	Sheet printed	Fig 1 Sheet
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 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP25
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Brown silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium subrounded sandstone			Depth, m	0.70
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL2018030820



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
3.35	99		
2	99		
1.18	98		
0.6	95		
0.425	86		
0.3	55		
0.212	38		
0.15	23		
0.063	9		

Dry Mass of sample, g	
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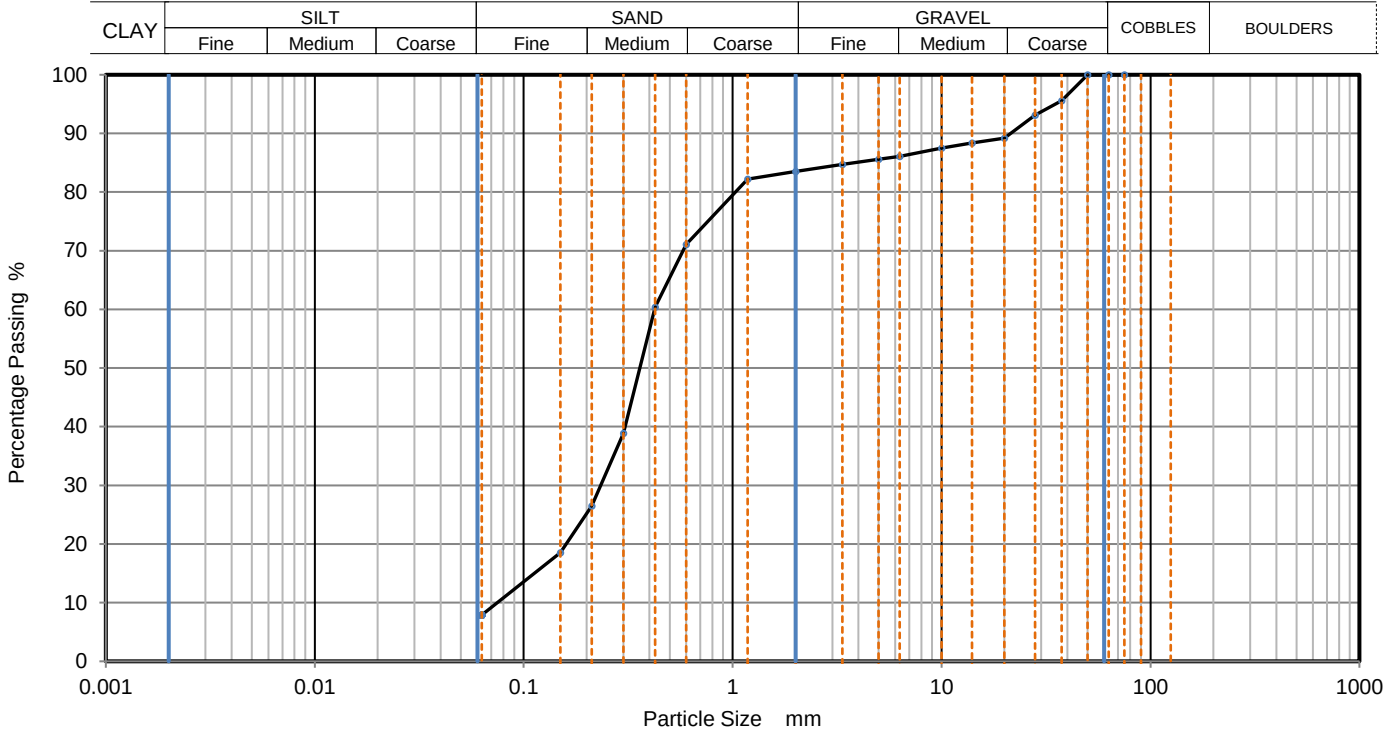
Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	90
Fines <0.063mm	9

Grading Analysis	
D100 mm	
D60 mm	0.317
D30 mm	0.175
D10 mm	0.0668
Uniformity Coefficient	4.8
Curvature Coefficient	1.4

Remarks
Preparation and testing in accordance with BS1377 unless noted below

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 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP28
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Brown silty gravelly fine to coarse grained SAND. Gravel is fine to coarse subangular tabular sandstone			Depth, m	0.70
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL2018030822



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	96		
28	93		
20	89		
14	88		
10	88		
6.3	86		
5	86		
3.35	85		
2	84		
1.18	82		
0.6	71		
0.425	60		
0.3	39		
0.212	27		
0.15	19		
0.063	8		

Dry Mass of sample, g	
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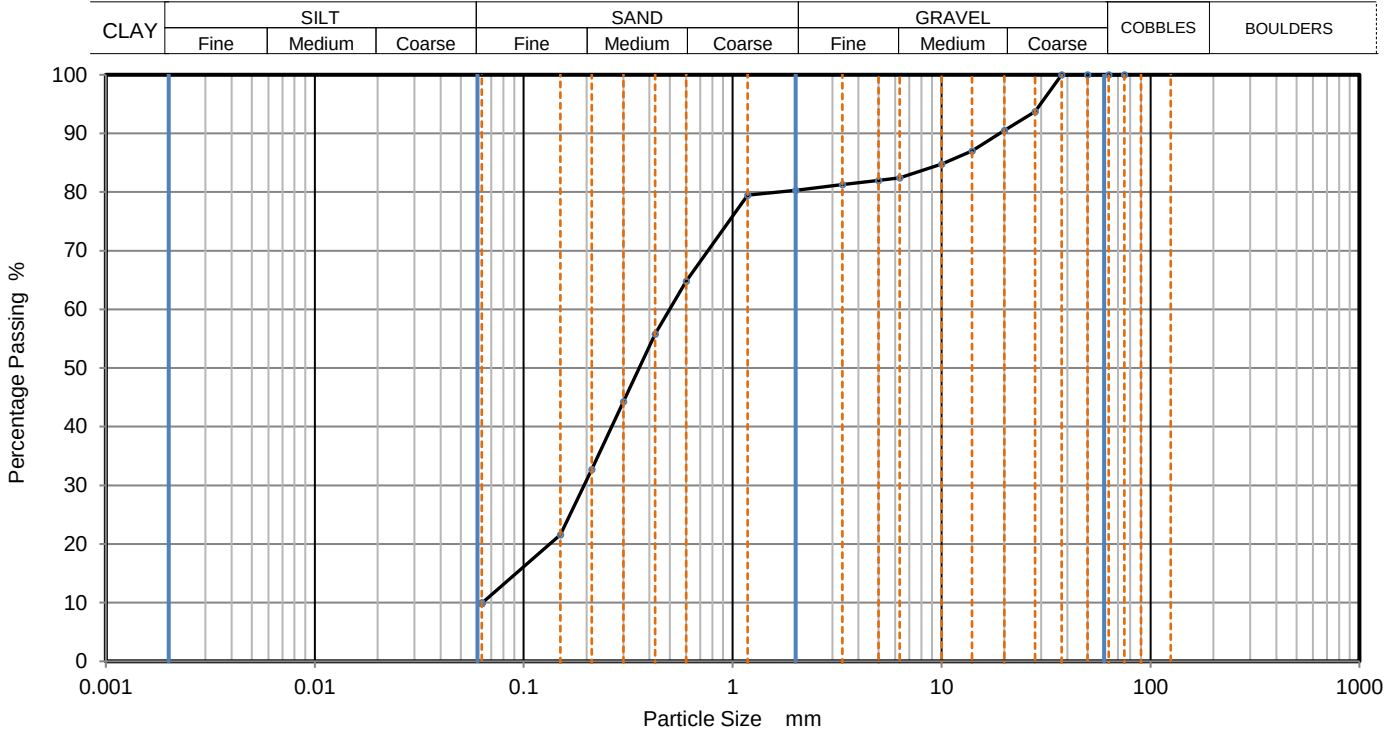
Sample Proportions	% dry mass
Very coarse	0
Gravel	17
Sand	76
Fines <0.063mm	8

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	5.7
Curvature Coefficient	1.7

Remarks
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 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP29
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Brown silty gravelly fine to coarse grained SAND. Gravel is fine to coarse subrounded to subangular sandstone			Depth, m	0.60
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL2018030823



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	94		
20	91		
14	87		
10	85		
6.3	82		
5	82		
3.35	81		
2	80		
1.18	80		
0.6	65		
0.425	56		
0.3	44		
0.212	33		
0.15	22		
0.063	10		

Dry Mass of sample, g	
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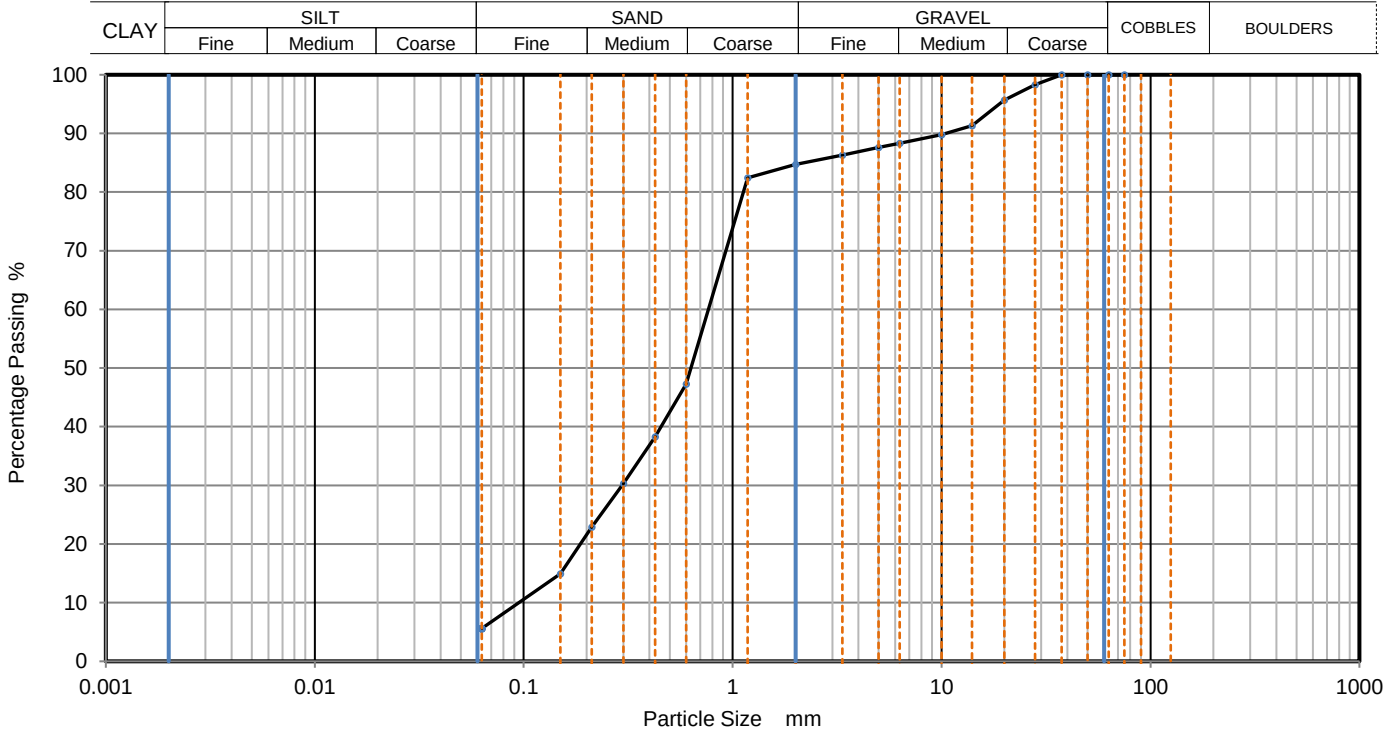
Sample Proportions	% dry mass
Very coarse	0
Gravel	20
Sand	70
Fines <0.063mm	10

Grading Analysis	
D100 mm	
D60 mm	0.499
D30 mm	0.195
D10 mm	0.0634
Uniformity Coefficient	7.9
Curvature Coefficient	1.2

Remarks
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 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP29
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Light brown silty gravelly fine to coarse grained SAND. Gravel is fine to coarse subangular tabular sandstone			Depth, m	1.30
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL2018030821



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	98		
20	96		
14	91		
10	90		
6.3	88		
5	88		
3.35	86		
2	85		
1.18	82		
0.6	47		
0.425	38		
0.3	30		
0.212	23		
0.15	15		
0.063	6		

Dry Mass of sample, g	
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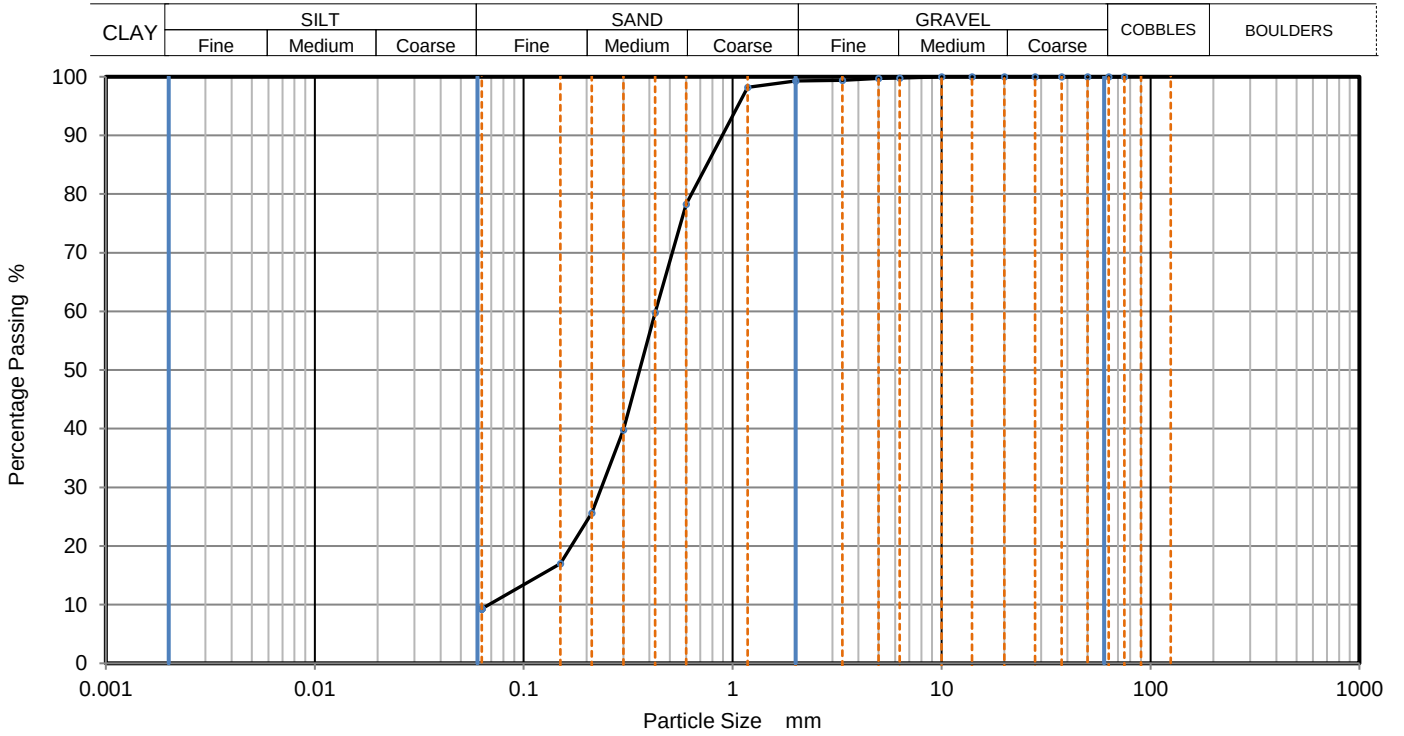
Sample Proportions	% dry mass
Very coarse	0
Gravel	15
Sand	79
Fines <0.063mm	6

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS1377 unless noted below

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 CC Geotechnical Ltd Tel: 0151 545 2750 e: lab@ccgeotechnical.com		PARTICLE SIZE DISTRIBUTION		Job Ref	10117.1
				Borehole/Pit No.	TP31
Site Name	FOX'S BANK LANE, WHISTON			Sample No.	
Specimen Description	Black silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium subrounded sandstone			Depth, m	0.80
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	CCGL2018030824



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	99		
1.18	98		
0.6	78		
0.425	60		
0.3	40		
0.212	26		
0.15	17		
0.063	9		

Dry Mass of sample, g	
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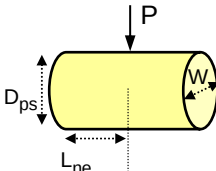
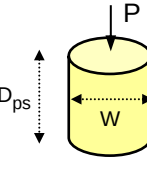
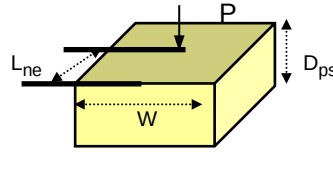
Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	90
Fines <0.063mm	9

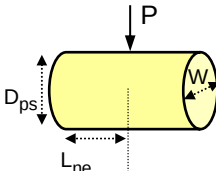
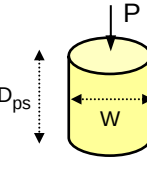
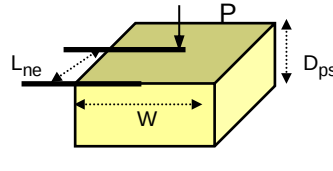
Grading Analysis	
D100 mm	
D60 mm	0.427
D30 mm	0.236
D10 mm	0.0681
Uniformity Coefficient	6.3
Curvature Coefficient	1.9

Remarks
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CCCG CC Geotechnical Ltd Tel: 0151 545 2750 e:lab@ccgeotechnical.com				Point Load Strength Index Tests Summary of Results														
Project No. 10117.2				Project Name Fox's Bank Lane, Whiston														
Borehole No.	Sample			Specimen		Rock Type and Test condition	Test Type see ISRM		Failure Valid (Y/N)	Dimensions				Force P kN	Equivalent diameter, De mm	Point Load Strength Index		Remarks (including water content if measured)
	Depth m	Ref.	Type	Ref.	Depth m		Type (D, A, I, B)	Direction (L, P or U)		Lne mm	W mm	Dps mm	Dps' mm			Is MPa	Is(50) MPa	
RBH01	4.15		C				A	P	YES		85.0		59.9	0.8	80.5	0.1	0.2	
RBH01	6.60		C				D	L	YES		130.6		85.0	1.0	105.4	0.1	0.1	
RBH01	6.70		C				A	P	YES		85.0		52.0	0.8	75.0	0.1	0.2	
RBH01	8.65		C				A	P	YES		85.0		51.8	0.8	74.9	0.1	0.2	
RBH01	10.80		C				D	L	YES		126.0		85.0	1.2	103.5	0.1	0.2	
RBH01	11.15		C				A	P	YES		85.0		52.0	1.3	75.0	0.2	0.3	
RBH01	11.60		C				A	P	YES		85.0		62.0	1.2	81.9	0.2	0.2	
RBH01	11.90		C				D	L	YES		168.0		85.0	0.6	119.5	0.0	0.1	
RBH01	13.20		C				A	P	YES		85.0		59.7	1.2	80.4	0.2	0.2	
RBH01	13.40		C				A	P	YES		85.0		63.0	0.5	82.6	0.1	0.1	
RBH01	13.95		C				A	P	YES		85.0		53.0	1.5	75.7	0.3	0.3	
RBH01	14.20		C				A	P	YES		85.1		64.0	1.4	83.3	0.2	0.3	
RBH01	14.32		C				D	L	YES		148.0		85.0	1.1	112.2	0.1	0.1	
RBH01	15.20		C				A	P	YES		85.0		60.0	0.7	80.6	0.1	0.1	
RBH01	15.60		C				A	P	YES		85.0		41.0	1.4	66.6	0.3	0.4	
RBH01	15.90		C				D	L	YES		136.0		85.0	0.9	107.5	0.1	0.1	
RBH01	16.90		C				A	P	YES		85.1		62.3	1.5	82.2	0.2	0.3	
RBH01	17.25		C				A	P	YES		85.0		45.9	1.1	70.5	0.2	0.3	
RBH01	18.00		C				A	P	YES		85.0		60.0	1.2	80.6	0.2	0.2	
RBH01	18.20		C				D	L	YES		182.2		85.1	0.9	124.5	0.1	0.1	
Test Type D - Diametral, A - Axial, I - Irregular Lump, B - Block Direction L - parallel to planes of weakness P - perpendicular to planes of weakness U - unknown or random Dimensions Dps - Distance between platens (platen separation) Dps' - at failure (see ISRM note 6) Lne - Length from platens to nearest free end W - Width of shortest dimension perpendicular to load, P Diametral Axial Block/irregular lump																		
Test performed in accordance with ISRM Suggested Methods : 2007, unless noted otherwise Detailed legend for test and dimensions, based on ISRM, is shown above. Size factor, F = (De/50)0.45 for all tests.										Date Printed 29/03/2018		Approved By DanielKerfoot		Table sheet 1 1				

 CC Geotechnical Ltd Tel: 0151 545 2750 e:lab@ccgeotechnical.com				Point Load Strength Index Tests Summary of Results														
Project No. 10117.2				Project Name Fox's Bank Lane, Whiston														
Borehole No.	Sample			Specimen		Rock Type and Test condition	Test Type see ISRM		Failure Valid (Y/N)	Dimensions				Force P kN	Equivalent diameter, De mm	Point Load Strength Index		Remarks (including water content if measured)
	Depth m	Ref.	Type	Ref.	Depth m		Type (D, A, I, B)	Direction (L, P or U)		Lne mm	W mm	Dps mm	Dps' mm			Is MPa	Is(50) MPa	
RBH01	19.10		C				A	P	YES		85.0		61.0	2.0	81.3	0.3	0.4	
RBH01	19.70		C				A	P	YES		85.0		61.0	0.4	81.3	0.1	0.1	
RBH01	20.20		C				D	L	YES		183.0		85.0	1.3	124.7	0.1	0.1	
RBH01	20.60		C				A	P	YES		85.0		45.0	1.1	69.8	0.2	0.3	
RBH01	23.15		C				A	P	YES		85.0		52.0	2.5	75.0	0.4	0.5	
RBH01	23.45		C				A	P	YES		85.0		62.1	5.2	82.0	0.8	1.0	
RBH01	25.90		C				A	P	YES		85.1		47.8	1.0	72.0	0.2	0.2	
RBH01	26.50		C				D	L	YES		181.2		85.1	0.7	124.2	0.0	0.1	
RBH01	28.00		C				A	P	YES		85.0		53.0	1.0	75.7	0.2	0.2	
RBH01	28.25		C				A	P	YES		85.1		36.9	1.5	63.2	0.4	0.4	
RBH01	29.75		C				A	P	YES		85.0		35.0	5.0	61.5	1.3	1.4	
RBH02	2.55		C				A	P	YES		85.0		62.7	1.1	82.4	0.2	0.2	
RBH02	3.55		C				A	P	YES		85.1		46.3	2.3	70.8	0.5	0.5	
RBH02	4.65		C				A	P	YES		85.0		60.7	1.2	81.1	0.2	0.2	
RBH02	4.85		C				A	P	YES		85.0		57.7	1.9	79.0	0.3	0.4	
RBH03	2.95		C				A	P	YES		85.0		59.8	0.4	80.4	0.1	0.1	
RBH03	3.10		C				A	P	YES		85.0		36.0	0.2	62.4	0.1	0.1	
RBH03	3.60		C				D	L	YES		128.1		85.0	0.4	104.3	0.0	0.1	
RBH03	4.05		C				A	P	YES		85.0		47.4	0.3	71.6	0.1	0.1	
RBH03	4.35		C				D	L	YES		121.0		85.0	0.4	101.4	0.0	0.1	
Test Type D - Diametral, A - Axial, I - Irregular Lump, B - Block Direction L - parallel to planes of weakness P - perpendicular to planes of weakness U - unknown or random Dimensions Dps - Distance between platens (platen separation) Dps' - at failure (see ISRM note 6) Lne - Length from platens to nearest free end W - Width of shortest dimension perpendicular to load, P Diametral  Axial  Block/irregular lump 																		
Test performed in accordance with ISRM Suggested Methods : 2007, unless noted otherwise Detailed legend for test and dimensions, based on ISRM, is shown above. Size factor, F = (De/50)0.45 for all tests.										Date Printed 29/03/2018		Approved By DanielKerfoot		Table sheet 1 2				

 CC Geotechnical Ltd Tel: 0151 545 2750 e:lab@ccgeotechnical.com				Point Load Strength Index Tests Summary of Results														
Project No. 10117.2				Project Name Fox's Bank Lane, Whiston														
Borehole No.	Sample			Specimen		Rock Type and Test condition	Test Type see ISRM		Failure Valid (Y/N)	Dimensions				Force P kN	Equivalent diameter, De mm	Point Load Strength Index		Remarks (including water content if measured)
	Depth m	Ref.	Type	Ref.	Depth m		Type (D, A, I, B)	Direction (L, P or U)		Lne mm	W mm	Dps mm	Dps' mm			Is MPa	Is(50) MPa	
RBH03	4.55		C				A	P	YES		85.0		62.0	0.4	81.9	0.1	0.1	
RBH03	5.05		C				D	L	YES		161.0		85.1	0.4	117.1	0.0	0.0	
RBH03	5.10		C				A	P	YES		85.1		60.8	0.2	81.2	0.0	0.0	
RBH03	5.15		C				D	L	YES		131.7		85.0	0.1	105.8	0.0	0.0	
RBH03	5.95		C				A	P	YES		85.0		52.4	1.0	75.3	0.2	0.2	
RBH03	6.35		C				A	P	YES		85.0		46.9	1.2	71.2	0.2	0.3	
RBH04	3.90		C				A	P	YES		85.0		64.0	0.4	83.2	0.1	0.1	
RBH04	5.30		C				D	L	YES		132.2		85.1	0.6	106.1	0.1	0.1	
RBH04	5.45		C				A	P	YES		85.0		46.2	0.5	70.7	0.1	0.1	
RBH04	5.65		C				A	P	YES		85.0		47.7	0.6	71.8	0.1	0.1	
RBH04	6.20		C				D	L	YES		152.0		85.0	0.5	113.7	0.0	0.1	
RBH04	6.45		C				A	P	YES		85.0		51.6	1.4	74.7	0.3	0.3	
RBH04	7.20		C				D	L	YES		148.2		85.1	0.5	112.3	0.0	0.1	
RBH04	7.40		C				A	P	YES		85.0		54.8	0.8	77.0	0.1	0.2	
RBH04	7.80		C				D	L	YES		156.0		85.0	0.7	115.2	0.1	0.1	
RBH04	8.50		C				A	P	YES		85.0		44.9	0.8	69.7	0.2	0.2	
RBH04	9.55		C				A	P	YES		85.0		48.1	1.3	72.2	0.2	0.3	
RBH05	2.40		C				A	P	YES		85.1		54.2	2.4	76.6	0.4	0.5	
RBH05	4.30		C				A	P	YES		85.0		32.1	0.3	58.9	0.1	0.1	
RBH05	4.40		C				D	L	YES		160.3		85.1	0.6	116.8	0.0	0.1	
Test Type D - Diametral, A - Axial, I - Irregular Lump, B - Block Direction L - parallel to planes of weakness P - perpendicular to planes of weakness U - unknown or random Dimensions Dps - Distance between platens (platen separation) Dps' - at failure (see ISRM note 6) Lne - Length from platens to nearest free end W - Width of shortest dimension perpendicular to load, P Diametral  Axial  Block/irregular lump 																		
Test performed in accordance with ISRM Suggested Methods : 2007, unless noted otherwise Detailed legend for test and dimensions, based on ISRM, is shown above. Size factor, F = (De/50)0.45 for all tests.										Date Printed 29/03/2018		Approved By DanielKerfoot		Table sheet 1 3				

Point Load Strength Index Tests

Summary of Results

Test Type

D - Diametral, A - Axial, I - Irregular Lump, B - Block

Direction

L - parallel to planes of weakness

P - perpendicular to planes of weakness

U - unknown or random

Dimensions

Dps - Distance between platens (platen separation)

Dps' - at failure (see ISRM note 6)

Lne - Length from platens to nearest free end

W - Width of shortest dimension perpendicular to load, P

Test performed in accordance with ISRM Suggested Methods : 2007, unless noted otherwise	Date Printed	Approved By	Table
Detailed legend for test and dimensions, based on ISRM, is shown above.	29/03/2018		1
Size factor, $F = (De/50)^{0.45}$ for all tests.		DanielKerfoot	sheet 4

Point Load Strength Index Tests

Summary of Results

Test Type D - Diametral, A - Axial, I - Irregular Lump, B - Block Direction L - parallel to planes of weakness P - perpendicular to planes of weakness U - unknown or random Dimensions Dps - Distance between platens (platen separation) Dps' - at failure (see ISRM note 6) Lne - Length from platens to nearest free end W - Width of shortest dimension perpendicular to load, P			
Test performed in accordance with ISRM Suggested Methods : 2007, unless noted otherwise Detailed legend for test and dimensions, based on ISRM, is shown above. Size factor, $F = (De/50)^{0.45}$ for all tests.		Date Printed 29/03/2018	Approved By DanielKerfoot
			Table 1 sheet 5



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UNIAXIAL COMPRESSION TEST ON ROCK - SUMMARY OF RESULTS

Project No. 10117.2	Project Name Fox's Bank Lane, Whiston
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Hole No.	Sample				Rock Type	Specimen Dimensions ²			Bulk Density ² Mg/m ³	Water Content ¹ %	Uniaxial Compression ³				Remarks
	Ref	Top	Base	Type		Dia. mm	Length mm	H/D			Condition	Stress Rate MPa/s	Mode of failure	UCS MPa	
RBH01		14.50		C	SANDSTONE	85.1	170.0	2.0	1.90	8.1	as received	0.0015	AC	3.6	
RBH01		14.90		C	SANDSTONE	84.9	170.0	2.0	1.91	6.6	as received	0.0015	AC	3.9	
RBH01		23.65		C	SANDSTONE	85.0	170.0	2.0	1.92	8.8	as received	0.0015	AC	22.6	
RBH01		24.20		C	SANDSTONE	85.1	170.0	2.0	1.89	6.1	as received	0.0015	AC	16.3	
RBH02		4.45		C	SANDSTONE	85.0	170.0	2.0	1.90	7.9	as received	0.0015	AC	4.0	
RBH03		3.25		C	SANDSTONE	85.0	170.0	2.0	1.89	10.0	as received	0.0015	AC	2.3	
RBH04		9.20		C	SANDSTONE	85.0	170.0	2.0	1.91	6.1	as received	0.0015	AC	4.1	
RBH04		10.20		C	SANDSTONE	85.0	170.0	2.0	1.91	6.5	as received	0.0015	AC	4.9	
RBH08		6.20		C	SANDSTONE	85.0	170.0	2.0	1.93	5.4	as received	0.0015	AC	3.2	
RBH08		7.30		C	SANDSTONE	85.1	170.0	2.0	1.88	4.3	as received	0.0015	AC	5.0	
RBH08		10.50		C	SANDSTONE	85.1	170.0	2.0	1.90	5.6	as received	0.0015	AC	3.9	
RBH08		11.20		C	SANDSTONE	85.1	170.0	2.0	1.92	5.7	as received	0.0015	AC	6.3	

Notes

- 1 ISRM p87 test 1, water content at 105 ± 3 °C, specimen as tested for UCS
 - 2 ISRM p86 clause (vii), Caliper method used for determination of bulk volume and derivation of bulk density
 - 3 ISRM p153 part 1, determination of Uniaxial Compressive Strength (UCS) of Rock Materials
- above notes apply unless annotated otherwise in the remarks

Mode of failure :

S - Single shear MS - multiple shear
AC - Axial cleavage F - Fragmented

Test Specification International Society for Rock Mechanics, The complete ISRM suggested methods for Rock Characterization Testing and Monitoring, 2007	Date Printed 29/03/2018	Approved By Daniel Kerfoo	Table sheet 1 1
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