

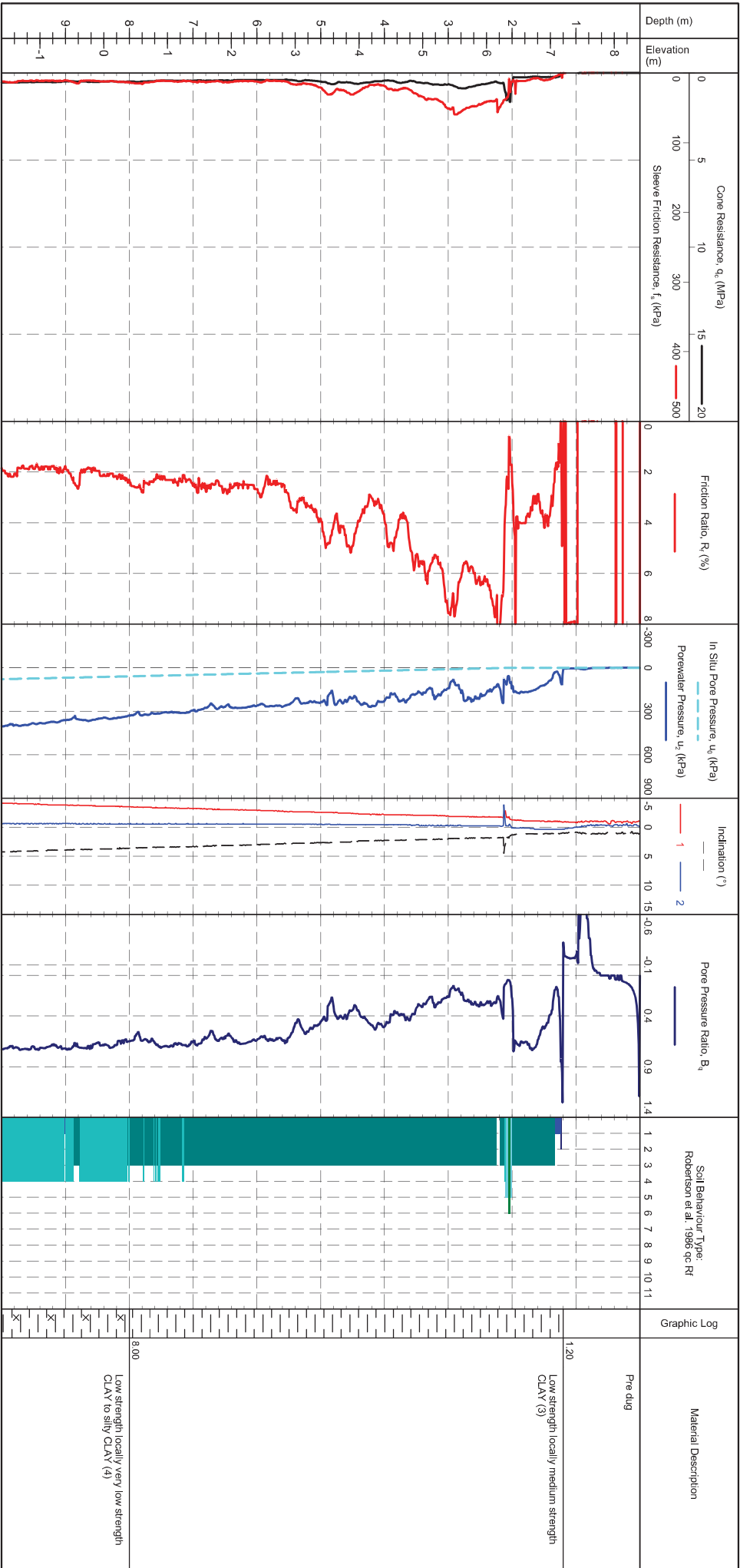
	Contract Name: M4CaN: Docks Enabling Works			Client: Welsh Government			Borehole ID: BH-M4ABP-Z05-02							
	Contract Number: JFR8707	Start Date: 08/03/2018	End Date: 12/03/2018	Checked By: GR	Status: DRAFT	Sheet 3 of 3								
Cable Percussion Borehole Log	Easting: 332000.7	Northing: 184475.6	Ground Level: 8.49mOD	Plant Used: Dando 150	Logged By: MS/AS	Scale: 1:50								
Weather: Overcast			Termination: Target depth reached.			SPT Hammer: SPT01 Energy Ratio: 62%								
Samples & In Situ Testing				Strata Details				Groundwater						
Depths	Type/Ref	SPT	Testing	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/Installation					
20.50 - 21.00	ES	SPT(C) 20.00m, N=41 (25 for 125mm/9, 10, 10, 12)	PID 20.50m, 0.0ppm	-12.51	(1.00)		Dense sandy subangular to rounded, fine to coarse GRAVEL with low cobble content. Gravel is of sandstone, quartzite and quartz conglomerate. Sand is medium to coarse. Cobbles are subangular to rounded of sandstone, quartzite and quartzitic conglomerate. GLACIOFLUVIAL DEPOSITS	21						
20.90	D45				21.00		Very stiff very friable reddish brown silty CLAY with frequent light greenish grey reductions spots (up to 15mm). (Weathering Grade IVb) MERCIA MUDSTONE GROUP			22				
21.00 - 21.50	ES		PID 21.00m, 0.0ppm	-13.91	(1.40)		End of Borehole at 22.40m	23						
21.50 - 21.95	B47	SPT(S) 21.50m, 50 (9, 16/50 for 150mm)			22.40				24					
21.50 - 21.95	D46							25						
		SPT(C) 22.40m, 50 (25 for 75mm/50 for 40mm)						26						
								27						
								28						
								29						
								30						
Start & End of Shift Observations				Installation				Remarks:						
Date	Time	Depth (m)	Casing (m)	Water (m)	Ref	Top (m)	Base (m)	Type	Dia (mm)	Concrete coring from ground level to 0.50 mbgl. Inspection pit hand excavated from 0.50 mbgl to 1.2 mbgl. Cable percussive drilling to 22.40 mbgl.				
					1	0.00	18.00	PLAIN	19					
					1	18.00	20.00	SLOTTED						
Chiselling				Borehole Diameter		Casing Diameter		Water Strikes						
From (m)	To (m)	Duration	Remarks		Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
17.30	17.60	01:00			22.40	200	3.00	200	15.00	14.80		20	12.50	Medium flow rate
17.90	18.10	00:30					21.30	150						
18.70	18.90	00:30												
20.10	20.50	01:00												
RPS CP Template Issue Number: 1 Issue Date: 13/09/2017														

	Contract Name: M4CaN: Docks Enabling Works			Client: Welsh Government			Borehole ID: WS-M4ABP-Z05-04					
	Contract Number: JFR8707	Start Date: 29/03/2018	End Date: 29/03/2018	Checked By: GR	Status: DRAFT		Sheet 1 of 1					
Windowless Borehole Log	Easting: 331901.3		Northing: 184406.2		Ground Level: 8.42mOD		Plant Used: Dando Terrier		Logged By: VW		Scale: 1:50	
Weather: Raining			Termination: Target depth reached.				SPT Hammer: WS2 Energy Ratio: 80%					
Samples & In Situ Testing					Strata Details						Groundwater	
Depths	Type/ Ref	SPT	Testing	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description				Water Strike	Backfill/ Installation
					8.17	0.25	Dark grey CONCRETE. MADE GROUND					
					7.92	0.50	Light brown slightly clayey sandy subangular fine to coarse GRAVEL of concrete, red brick, clinker and sandstone. Sand is fine to coarse. MADE GROUND					
1.00	ES	SPT(S) 1.20m, N=13 (2,4/6,3,2,2)					Medium dense black slightly clayey sandy subangular fine to coarse GRAVEL of red brick, mudstone and clinker. Sand is fine to coarse. MADE GROUND				1	
1.20	D1					(1.30)						
2.00	D2	SPT(S) 2.00m, N=9 (2,3/2,3,2,2)					Brown clayey gravelly fine to coarse SAND. Gravel is subangular fine to coarse of red brick. MADE GROUND				2	
2.00	ES					6.42	2.00					
2.50	ES					(0.80)	Loose black clayey sandy subangular to subrounded fine to coarse GRAVEL of red brick, tarmacadam, sandstone and mudstone. Sand is fine to coarse. Strong hydrocarbon odour. MADE GROUND					
3.00	D3	SPT(S) 3.00m, N=3 (1,1/0,1,1,1)					Very soft brownish grey slightly sandy CLAY with occasional organic matter. Sand is fine to medium. TIDAL FLAT DEPOSITS				3	
3.00	ES					5.62	2.80					
3.50	ES											
4.00	D4	SPT(S) 4.00m, N=2 (1,0/1,0,1,0)									4	
4.00	ES					(2.65)						
4.50	ES											
5.00	D5	SPT(S) 5.00m, N=1 (0,0/0,1,0,0)									5	
5.00	ES					2.97	5.45					
5.45	ES						End of Borehole at 5.45m					
											6	
											7	
											8	
											9	
											10	
Start & End of Shift Observations					Installation					Remarks:		
Date	Time	Depth (m)	Casing (m)	Water (m)	Ref	Top (m)	Base (m)	Type	Diameter (mm)	Concrete coring from ground level to 0.25 mbgl. Inspection pit hand excavated to 1.20 mbgl. Window sampling to 5.00 mbgl. No visual or olfactory evidence of contamination. Groundwater not encountered.		
29-03-2018	08:30	0.00										
29-03-2018	17:00	5.45		1.40								
Windowless Sample Run Details					Casing					Water Strikes		
Test Number	Diameter (mm)	Depth Top (m)	Depth Base (m)	Recovery (%)	Depth (m)	Diameter (mm)	Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
1	87	1.20	2.00	100								
2	87	2.00	3.00	100								
3	78	3.00	4.00	90								
4	67	4.00	5.00	100								
RPS WLS Template Issue Number: 2 Issue Date: 02/01/2018												

PointID

CPT-M4ABP-Z05-04

CLIENT : C J Associates	EASTING : 331938.4 m	Remark :	SHEET : 1 OF 2
PROJECT : Newport Docks M4ABP	NORTHING : 184326.6 m	Test stopped due to buckling rods.	STATUS : Final
LOCATION : Newport Docks	ELEVATION : 8.40 m		TEST DATE : 03/04/2018
PROJECT No. : 1180164	CHECKED BY : LD		PLOT DATE : 13/09/2018
	TERMINATION REASON : Machine Limit		METHOD : ISO 22476-1:2012



CONE ID : S15-CFP-1619	TEST TYPE : TE2	Transducer	CPTU ZERO VALUES	METHOD: Robertson et al. 1986 qc Rf	Groundwater Level
CONE AREA : 15cm ²	APPLICATION CLASS : 2	Tip	Pre	1 - Silty fine grained material	 Groundwater Level
CONE AREA RATIO : 0.79	RIG : CPT 010	Sleeve	Post	2 - Organic material	
FILTER POSITION : u2	OPERATOR : DH & BC	Pore Pressure 2	Difference	3 - CLAY	
FILTER TYPE : HDPE	FILE NAME : 1180164-CPT-M4ABP-Z05-04	260 mV	-0.022 MPa	4 - Silty CLAY to CLAY	
FRICTION REDUCER : None	WEATHER : Rainy & mild	2423 mV	0 kPa	5 - Clayey SILT to silty CLAY	
		2397 mV	-0.003 kPa	6 - Sandy SILT to clayey SILT	
				7 - Silty SAND to sandy SILT	
				8 - SAND to silty SAND	
				9 - SAND	
				10 - Coarsely SAND to SAND	
				11 - Very stiff fine grained	
				12 - SAND to clayey SAND	
					Disipation Test

PointID

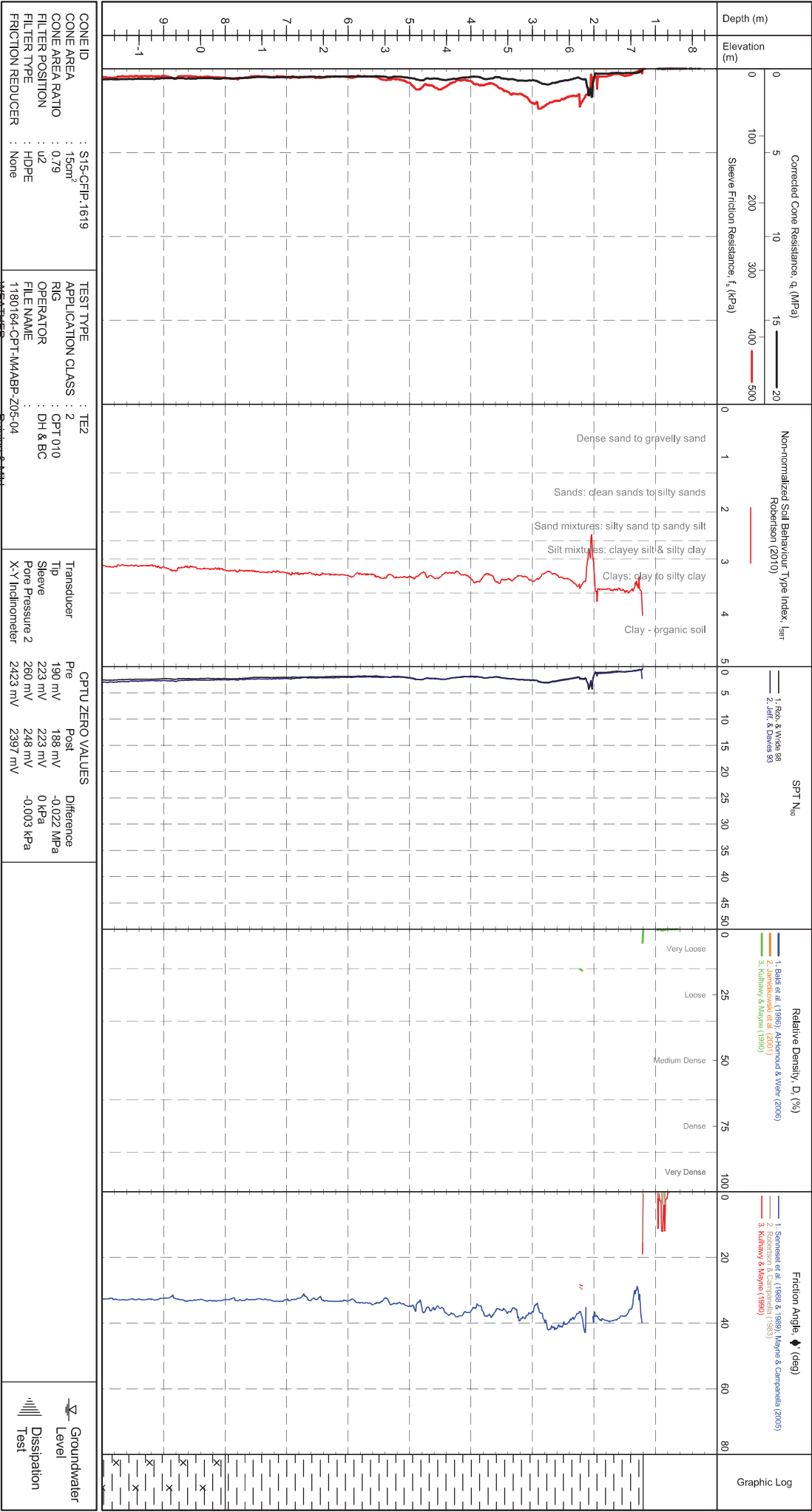
CPT-M4ABP-Z05-04

CLIENT : C J Associates
PROJECT : Newport Docks M4ABP
LOCATION : Newport Docks
PROJECT No. : 1180164

EASTING : 331938.4 m
NORTHING : 184326.6 m
ELEVATION : 8.40 m
CHECKED BY : LD
TERMINATION REASON : Machine Limit

Remark :
Test stopped due to buckling rods.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 03/04/2018
PLOT DATE : 13/09/2018
METHOD : ISO 22476-1:2012



PointID

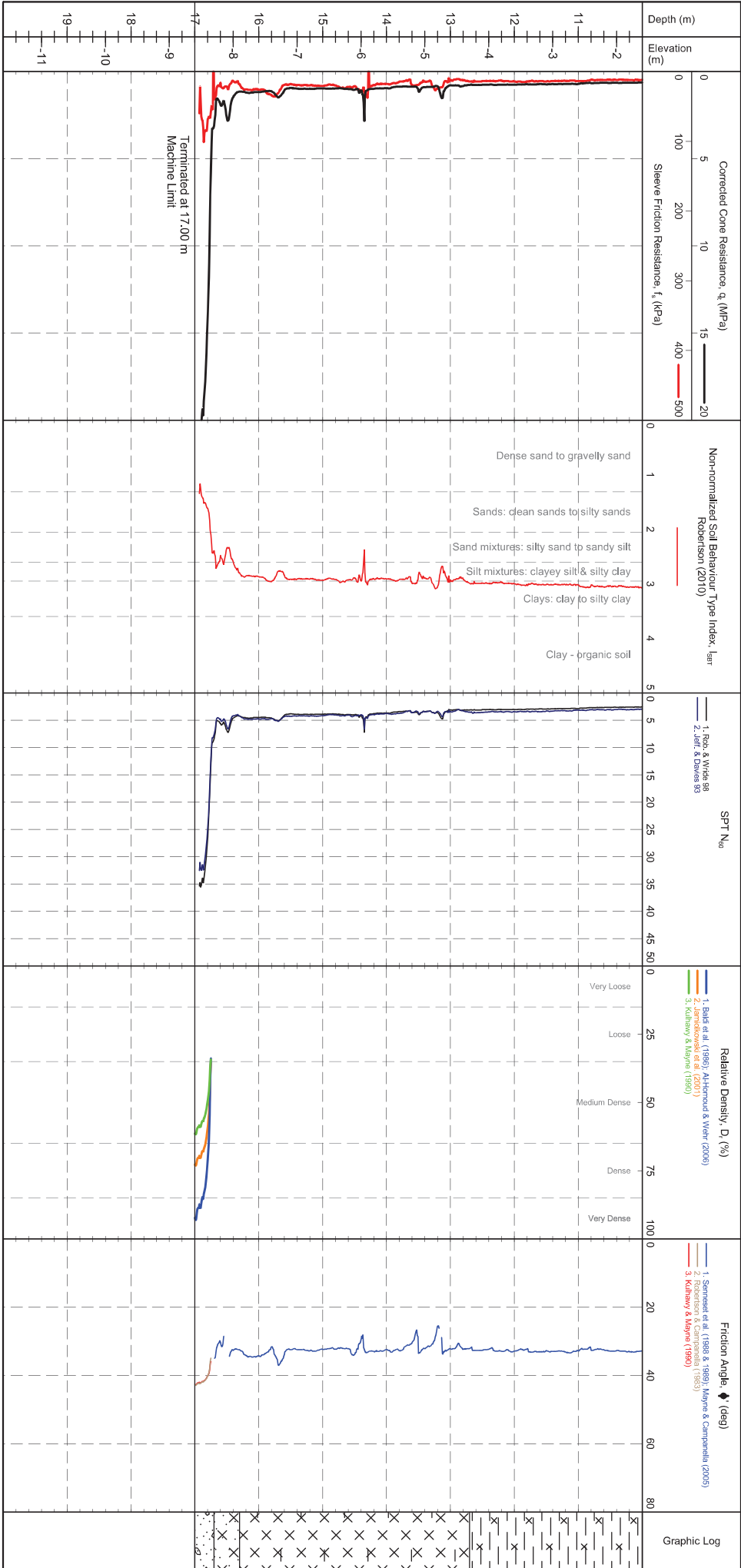
CPT-M4ABP-Z05-04

CLIENT : C J Associates
PROJECT : Newport Docks M4ABP
LOCATION : Newport Docks
PROJECT No. : 1180164

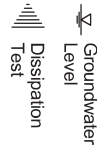
EASTING : 331938.4 m
NORTHING : 184326.6 m
ELEVATION : 8.40 m
CHECKED BY : LD
TERMINATION REASON : Machine Limit

Remark :
Test stopped due to buckling rods.

SHEET : 2 OF 2
STATUS : Final
TEST DATE : 03/04/2018
PLOT DATE : 13/09/2018
METHOD : ISO 22476-1:2012



CONE ID : S15-CFP-1619	TEST TYPE : TE2	Transducer : Pre	CPTU ZERO VALUES	
CONE AREA : 15cm ²	APPLICATION CLASS : 2	Tip : 190 mV	Post : 188 mV	Difference : -0.022 MPa
CONE AREA RATIO : 0.79	RIG : CPT 010	Sleeve : 223 mV	223 mV	0 kPa
FILTER POSITION : u2	OPERATOR : DH & BC	Pore Pressure 2 : 260 mV	248 mV	-0.003 kPa
FILTER TYPE : HDPE	FILE NAME : 1180164-CPT-M4ABP-Z05-04	X-Y Inclinator : 2423 mV	2397 mV	
FRICTION REDUCER : None	WEATHER : Rainy & Wind			



PointID

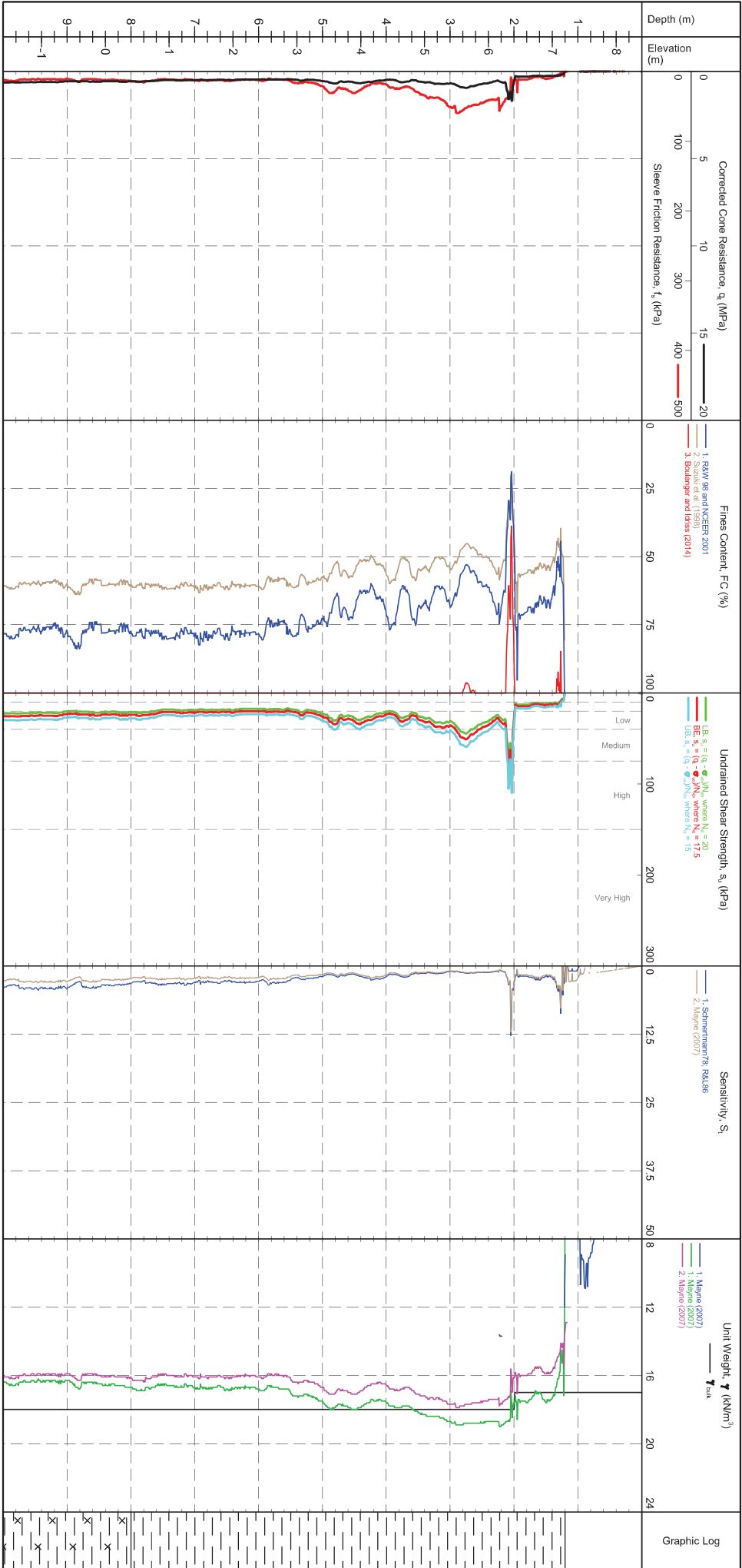
CPT-M4ABP-Z05-04

CLIENT : C J Associates
PROJECT : Newport Docks M4ABP
LOCATION : Newport Docks
PROJECT No. : 1180164

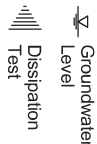
EASTING : 331938.4 m
NORTHING : 184326.6 m
ELEVATION : 8.40 m
CHECKED BY : LD
TERMINATION REASON : Machine Limit

Remark :
Test stopped due to buckling rods.

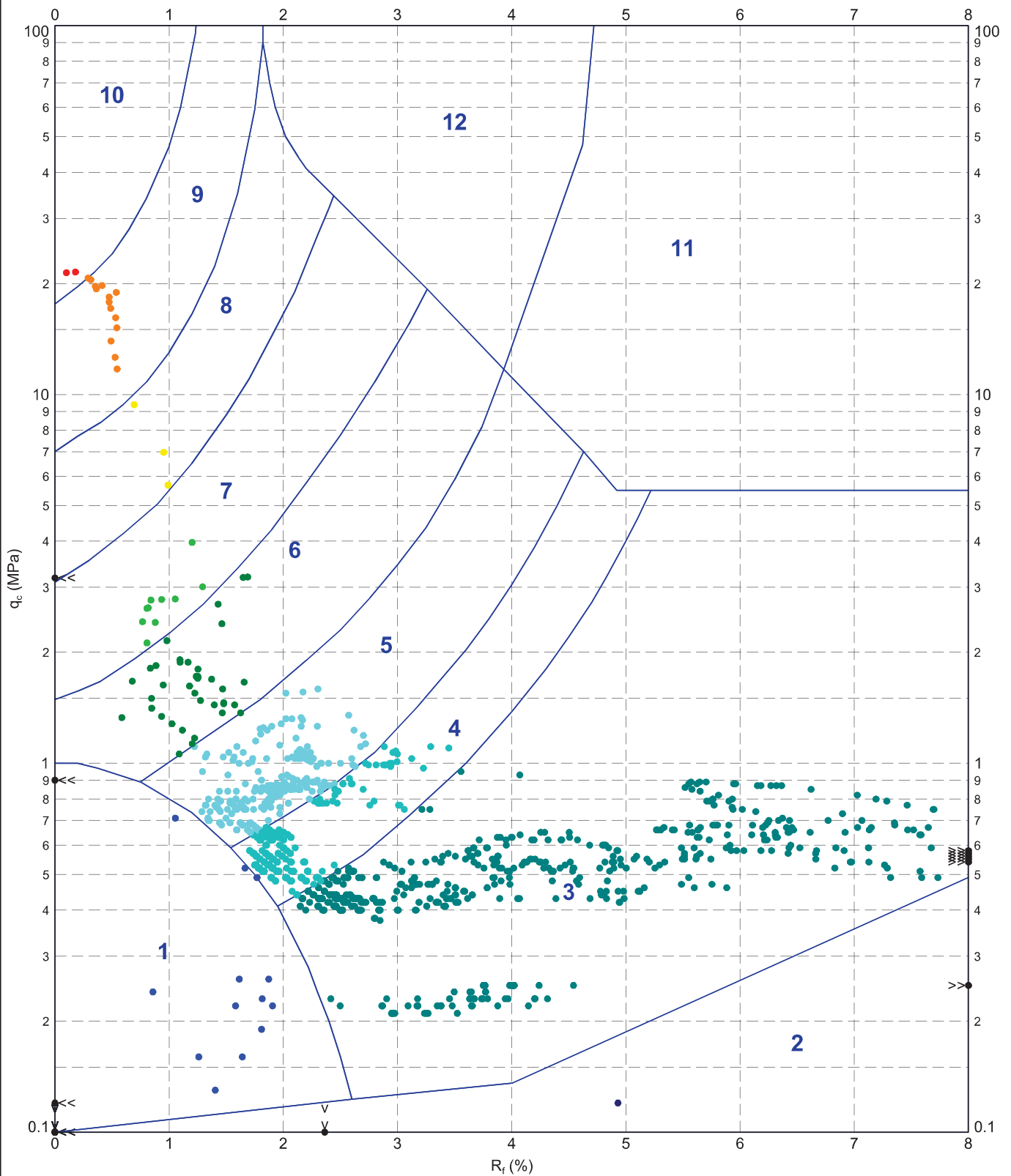
SHEET : 1 OF 2
STATUS : Final
TEST DATE : 03/04/2018
PLOT DATE : 13/09/2018
METHOD : ISO 22476-1:2012



CONE ID : S15-CFP-1619	TEST TYPE : TE2	Transducer	Pre	Post	Difference
CONE AREA : 15cm ²	APPLICATION CLASS : 2	Tip	190 mV	188 mV	-0.022 MPa
CONE AREA RATIO : 0.79	RIG : CPT 010	Sleeve	223 mV	223 mV	0 kPa
FILTER POSITION : U2	OPERATOR : DH & BC	Pore Pressure 2	280 mV	248 mV	-0.003 kPa
FILTER TYPE : HDPE	FILE NAME : 1180164-CPT-M4ABP-Z05-04	X-Y Inclinator	2423 mV	2397 mV	
FRICION REDUCER : None	WEATHER : Raining & Wind				



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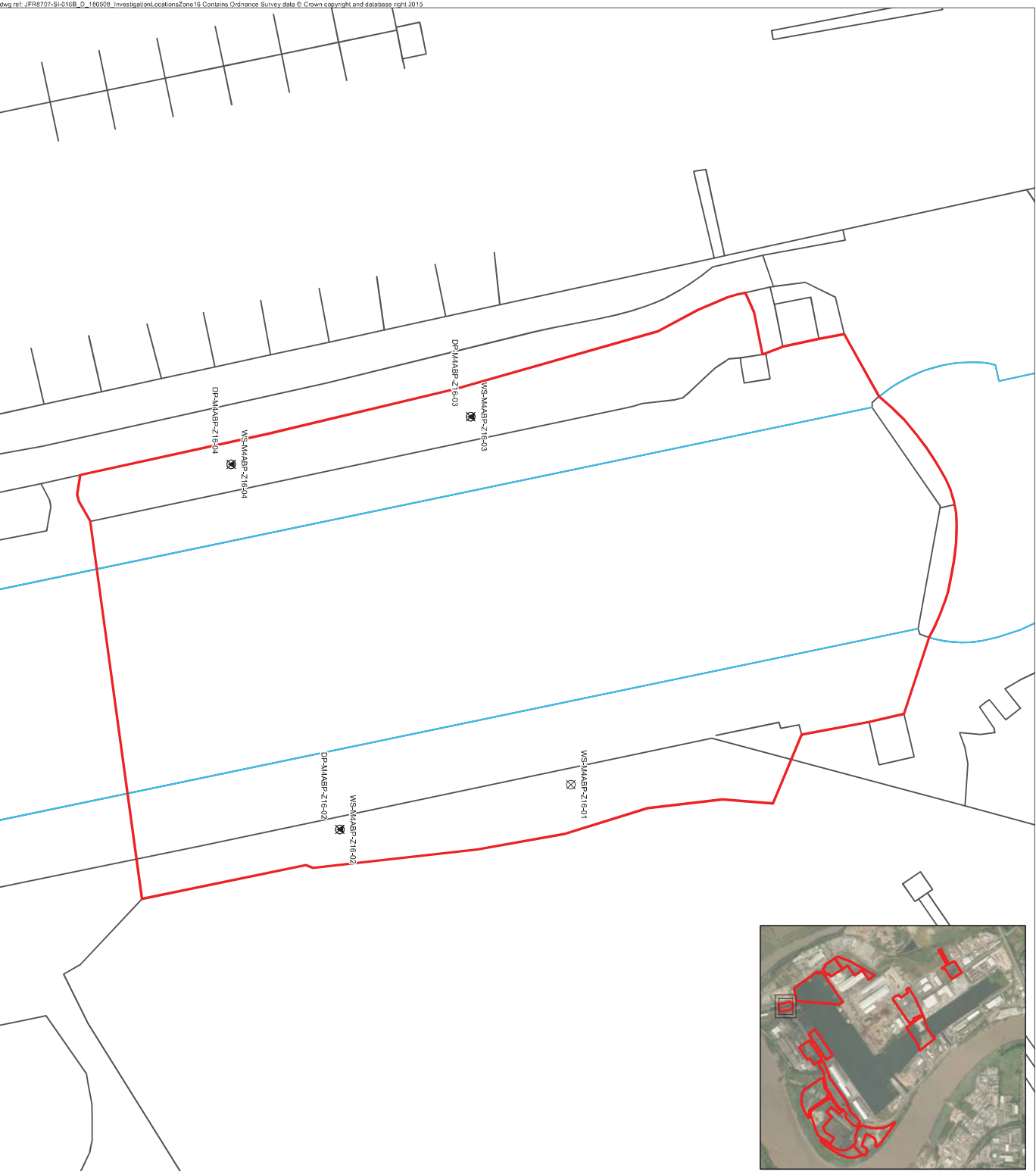
METHOD: Robertson et al. 1986 qc Rf

- | | | | |
|-------------------------------------|-------------------------------|------------------------------|------------------------------|
| 1 - Sensitive fine grained material | 4 - Silty CLAY to CLAY | 7 - Silty SAND to sandy SILT | 10 - Gravelly SAND to SAND |
| 2 - Organic material | 5 - Clayey SILT to silty CLAY | 8 - SAND to silty SAND | 11 - Very stiff fine grained |
| 3 - CLAY | 6 - Sandy SILT to clayey SILT | 9 - SAND | 12 - SAND to clayey SAND |

IN SITU
SITE INVESTIGATION

TITLE
C J Associates
Matthew Eaton
Newport Docks
Newport Docks M4ABP
Robertson et al. 1986 qc vs. Rf - CPT-M4ABP-Z05-04

DRAWN	DATE	13/09/2018
CHECKED	DATE	13/09/2018
SCALE	Not To Scale	A4
PROJECT No	FIGURE No	1180164



- Legend**
- Land Parcel Zone
 - RPS Investigation Locations (2017/18)**
 - Window Sample Borehole with Dynamic Probe
 - Window Sample Borehole



M4 Corridor around Newport -
ABP & Tenant Relocation

Investigation Locations (Zone 16)

Figure: JFR8707-SI-016	Revision: B
Date: June 2018	Status: FINAL
Drawn: RJJ	Checked: GR

Scale: A3 @ 1:500
0 10 20 m



	Contract Name: M4CaN: Docks Enabling Works			Client: Welsh Government		Borehole ID: WS-M4ABP-Z16-02			
	Contract Number: JFR8707	Start Date: 17/05/2018	End Date: 17/05/2018	Checked By: GR	Status: DRAFT	Sheet 1 of 1			
Windowless Borehole Log	Easting: 331629.9	Northing: 184178.8	Ground Level: 8.71mOD	Plant Used: Dando Terrier	Logged By: MS	Scale: 1:50			
Weather: Sunny		Termination: Target depth reached.							
Samples & In Situ Testing				Strata Details			Groundwater		
Depths	Type/ Ref	SPT	Testing	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
				8.63	0.08		Black TARMACADAM		
				8.56	0.15		MADE GROUND		
				8.36	0.35		Grey subangular to subrounded fine to coarse limestone GRAVEL.		
					(0.85)		MADE GROUND		
							Red and black (ashy) subangular to angular fine to coarse GRAVEL of clinker, slag and limestone.		
							MADE GROUND		
1.20 - 2.00	B1		PID 1.20m, 3.5ppm	7.51	1.20		Greyish brown clayey (ashy) subangular to subrounded fine to coarse sandstone GRAVEL.		
1.20 - 2.00	ES			7.26	1.45		MADE GROUND		
					(0.55)		Brownish black (ashy) medium to coarse SAND.		
							MADE GROUND		
2.00 - 3.00	B2		PID 2.00m, 1.5ppm	6.71	2.00		Soft brown (ashy) slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of limestone.		
2.00 - 3.00	ES				(0.35)		MADE GROUND		
				6.36	2.35		Poor recovery. Brownish black (ashy) medium to coarse SAND.		
				6.06	2.65		MADE GROUND		
					(0.30)		Soft to firm grey slightly gravelly silty CLAY. Gravel is subangular to subrounded fine of limestone.		
					(0.35)		MADE GROUND		
3.00 - 4.00	B3		PID 3.00m, 0.7ppm	5.71	3.00		MADE GROUND		
3.00 - 4.00	ES				(0.30)		Soft to firm brown slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of limestone and coal.		
				5.41	3.30		MADE GROUND		
							No Recovery.		
					(0.43)		MADE GROUND		
4.00 - 5.00	ES		PID 4.00m, 0.0ppm	4.71	4.00		Soft greyish brown (ashy) CLAY.		
					(0.50)		MADE GROUND		
							Brown slightly clayey silty (ashy) subangular to subrounded fine to coarse limestone GRAVEL.		
				4.21	4.50		MADE GROUND		
					(0.38)		Poor recovery. Brown slightly sandy slightly clayey subangular to subrounded coarse sandstone and limestone GRAVEL. Sand is medium to coarse.		
5.00 - 6.00	ES			3.83	4.88		MADE GROUND		
				3.71	5.00		MADE GROUND		
					(0.84)		Firm greyish brown slightly gravelly (ashy) CLAY. Gravel is subrounded to rounded fine limestone.		
							MADE GROUND		
							Soft reddish brown sandy gravelly CLAY. Sand is medium to coarse. Gravel is subangular to subrounded fine to coarse of sandstone and limestone.		
				2.87	5.84		MADE GROUND		
				2.71	6.00		MADE GROUND		
							Poor recovery. Reddish brown subangular to subrounded fine to coarse GRAVEL. Gravel is of sandstone, limestone, quartzite and mudstone.		
							MADE GROUND		
							Soft reddish brown sandy gravelly CLAY. Sand is medium to coarse. Gravel is subangular to subrounded fine to coarse of mudstone, quartzite and sandstone.		
							MADE GROUND		
							End of Borehole at 6.00m		
Start & End of Shift Observations									
Date	Time	Depth (m)	Casing (m)	Water (m)	Ref	Top (m)	Base (m)	Type	Diameter (mm)
17-05-2018	08:30	0.00							
17-05-2018	17:00	6.00							
Installation									
Remarks:									
Concrete coring from ground level to 0.10 mbgl. Inspection pit hand excavated to 1.20 mbgl. Window sampling to 6.00 mbgl.									
Windowless Sample Run Details									
Test Number	Diameter (mm)	Depth Top (m)	Depth Base (m)	Recovery (%)	Depth (m)	Diameter (mm)	Water Strikes		
1	87	1.20	2.00	100			Strike (m)	Casing (m)	Sealed (m)
2	87	2.00	3.00	80					Time (mins)
3	78	3.00	4.00	60					Rose to (m)
4	67	4.00	5.00	50					Remarks
5	56	5.00	6.00	30					
RPS WLS Template Issue Number: 2 Issue Date: 02/01/2018									

Appendix F

SITE RECONNAISSANCE PHOTOGRAPHS

PHOTOGRAPHIC LOG

Photo no.	Date:
1	05/10/2023

Looking north-east

Description:

Main access road from east with steel sheds 6 and 7a in the background.



Photo No.	Date:
2	05/10/2023

Looking south-west

Description:

Main access road from east with scrap metal berth in right background and Saica works in left background.



Photo No.	Date:	
3	05/10/2023	
Looking east		
Description:		
Ponded water in east of site towards derelict portacabins		

Photo No. 4	Date: 05/10/2023	
Looking south-west		
Description: Rough ground (possibly underlain by hardstanding) with Saica works in background		

Photo No. 5	Date: 05/10/2023	
Looking west		
Description: Site access from east		

Photo No. 6	Date: 05/10/2023	
Looking north-west		
Description: Aggregate (sand) berth in north-east of site		

Photo No. 7	Date: 05/10/2023	
Looking south		
Description: Site boundary to right of road marked by scaffolding that used to be covered in netting.		

Photo No. 8	Date: 05/10/2023	
Looking south-west		
Description: Electrical sub-station adjacent to southern boundary, Saica works to the left		

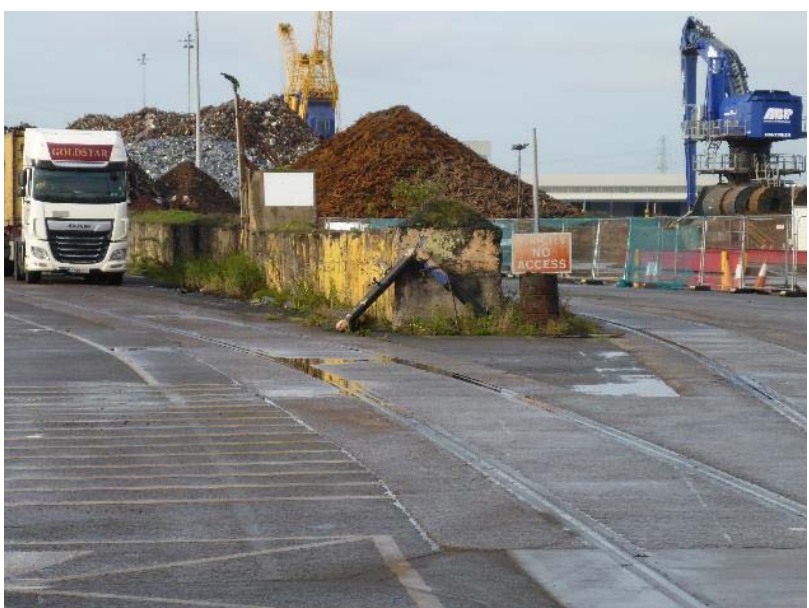
Photo No. 9	Date: 05/10/2023	
Looking north-west		
Description: Coal stockpile in south-west of site		

Photo No. 10	Date: 05/10/2023	
Looking south-west		
Description: Ponded water adjacent to coal stockpile.		

Photo No. 11	Date: 05/10/2023	
Looking east		
Description: Stockpile of expanded clay		

Photo No. 12	Date: 05/10/2023	
Looking south-west		
Description: Derelict portacabins with expanded clay in the right background		

Photo No. 13	Date: 05/10/2023	
Looking south-west		
Description: Maintenance work being carried out on plant in central southern part of site		

Photo No. 14	Date: 05/10/2023	
Looking south-west		
Description: Access to berths on the right marked by concrete blocks. Scrap metal berth in the background		