PN1883/2

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Archaeological Watching Brief on Geotechnical Investigations





Project No. 1883/2

November 2008

Hull College

Queen's Garden, Hull

Archaeological Watching Brief on Geotechnical Investigations

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Version: v1a	Version Da	te: 20.01.2009.									
File location:											
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Fieldwork\01_Reports\02_Final Report\01_Cover and											
Text\1883 Hull WB Report v0c.doc											

for Taylor Young Architects

On behalf of

Hull College

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Hull College Phase 2

Archaeological Watching Brief, November 2008

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SUMMARY

Birmingham Archaeology was commissioned in November 2008 by Taylor Young, acting on behalf of Hull College, to undertake an archaeological watching brief as part of geotechnical work involved with proposed redevelopment of Hull College, Queen's Gardens, Hull.

The watching brief located areas of the Queen's Dock wall in three of five test pits excavated with the potential for good structural survival of the wall.

In addition, the results of the geotechnical investigations have been integrated into the Geographic Information Software (GIS) to create a below-ground deposit model. There appears to be a layer of brown-grey sand-silt or sand-clay that extends across the entire site that may correspond with a former ground level. The presence of brick fragments in this material noted in the majority of bore-holes/ window-slots may suggest that the material is redeposited material designed to raise the level of the ground. The date of this material is however unknown.

The base of this material corresponds with a grey-brown sand-silt that does not contain brick fragments and this may represent the transition to the natural alluvial layers of the River Hull.



HULL COLLEGE, QUEEN'S GARDEN, HULL.

Archaeological Watching Brief on Geotechnical Investigations, November 2008

1. INTRODUCTION

- 1.1.1. Birmingham Archaeology was commissioned by Taylor Young on behalf of Hull College to undertake an archaeological watching brief during the geotechnical work and ground penetrating radar survey at Hull College, Queens Gardens, Hull (hereinafter referred to as the site).
- 1.1.2. This report outlines the results of the watching brief carried out during November 2008 on geotechnical investigations, in accordance with guidelines laid down in Planning Policy Guidance Note 16 (DoE 1990). The project conformed to the Institute for Archaeologists Standard and Guidance for Archaeological Watching Briefs (IFA 2001

2. LOCATION AND GEOLOGY

- 2.1.1. The site is located in the centre of Kingston Upon Hull, situated on flat land to the west of the River Hull, and is centred on NGR TA 510106 429070 (Fig. 1).
- 2.1.2. The underlying geology consists of Holocene tidal flat deposits of clay and silt overlying Burnham Chalk Formations.
- 2.1.3. The watching brief consists of the excavation of five test pits targeted over the original line of the Queens Dock Wall, while the GPR work was conducted over ground along the line of North Walls (Fig. 2)

3. AIMS AND OBJECTIVES

- 3.1.1. The principal objective of the watching brief was to record any archaeological features, structures, deposits, or horizons exposed during intrusive groundworks across the site.
- 3.1.2. It was also hoped to model below-ground deposits highlighted by the geotechnical investigations. and
- 3.1.3. The specific aims of the project were;
 - Record below-ground structures located within the test-pits during geotechnical investigations.
 - Interpret the results of the geotechnical bore-hole and window-slot logs.
 - Combine this with previous results from the Archaeological Evaluation and the Ground-Penetrating Radar Survey.

4. ARCHAEOLOGICAL BACKGROUND

4.1.1. The historical background to the site has been detailed in the report on the archaeological evaluation undertaken on the site (Mann 2008).

5. METHODOLOGY

- 5.1.1. Groundworks comprised the excavation of five test pits with the use of a machine fitted with a toothless ditching bucket. This was monitored by a suitably qualified archaeologist and complemented with the salvage recording of any archaeological deposits and features revealed during works.
- 5.1.2. All stratigraphic sequences were recorded, even where no archaeology was present. Features were planned at a scale of 1:20, and sections were drawn of all cut features and significant vertical stratigraphy at a scale of 1:20. A comprehensive written record was maintained using a continuous numbered context system on *pro-forma* cards. Written records and scale plans were supplemented by photographs using black and white monochrome, colour slide and digital photography.
- 5.1.3. Recovered finds were cleaned, marked and remedial conservation work undertaken as necessary. Treatment of all finds conformed to guidance contained within the Birmingham Archaeology Fieldwork Manual and *First Aid for Finds* (Watkinson and Neal 1998).
- 5.1.4. The full site archive includes all artefactual remains recovered from the site. The site archive will be prepared according to guidelines set down in Appendix 3 of the Management of Archaeology Projects (English Heritage, 1991), the Guidelines for the Preparation of Excavation Archives for Long-term Storage (UKIC, 1990) and Standards in the Museum Care of Archaeological collections (Museum and Art Galleries Commission, 1992). The paper archive will be deposited with the appropriate repository subject to permission from the landowner.

6. RESULTS

6.1.1. <u>Test Pit 1 (Fig. 3, Plate 1)</u>

The dock wall **104** was located at a depth of 0.25m below the modern ground surface (4.60m AOD) and was constructed with orange red handmade bricks measuring $9.5 \times 4.5 \times 2.5$ inches in size and bonded with a concrete mortar. The wall measured 0.85m in width, and survived to a depth of at least 0.7m (9 courses). To the north of **104** was a layer of grey silt that contained brick fragments **102**, while to the south of the wall was a modern drain infilled by a white gravel **103**.

Overlying these layers and wall **104** was a layer of brown silty clay **101** 0.15m in thickness that represented a levelling layer for the modern brick car park surface **100** 0.1m in thickness.

6.1.2. <u>Test Pit 2 (Fig. 4, Plate 2)</u>

The dock wall **204** was located at a depth of 0.32m below the modern ground surface (4.45m AOD) and was constructed of orange handmade bricks measuring 9.5 x 4.5 x 2.5 inches in size. Bonded by a cement mortar **204** measured 0.7m in width and survived to a height of at least 0.8m (10 courses). To the north side of **204** was a layer of black silt containing stone and chalk fragments **202** throughout. Overlying **202** was a layer of grey silt that contained fragments of brick rubble **201**.

Cutting **201** and running across the top of wall **204** on a northwest to southeast alignment was a modern pipe **203**. The service trench had cut through the wall structure resulting in damage to the brickwork at this point.

Overlying **203** was the brickwork for the modern car park surface **200** that measured 0.1m in thickness.

6.1.3. <u>Test Pit 3</u>

Test Pit 3 was not excavated for health and safety reasons.

6.1.4. <u>Test Pit 4 (Fig. 5, Plate 3)</u>

The dock wall **406** was located at a depth of 0.9m below the modern ground surface (4.60m AOD) and was constructed with red handmade bricks (9 x 5 x 3 inches in size) and was bonded by a white cement mortar. The wall survived to a height of at least 0.3m. Sealing the wall was a layer of black silt/ash that contained fragments of broken brick throughout **405**.

Cut through **405** to the southwest of the wall was the cut for a modern gas pipe **403** that had been filled with a light brown silty clay **404**. Overlying **404** and the remainder of the test pit was a layer of concrete/stone made ground **401** 0.25m in thickness. This was overlain by the tarmac layer of the car park **400** which measured 0.1m in thickness.

6.1.5. <u>Test Pit 5 (Fig. 6)</u>

The earliest layer encountered in Test Pit 5 was a black silty sand that contained large amounts of ash/charcoal **504** at a depth of 0.85m below the modern ground surface (c 4.50m AOD). Overlying **504** was a thin layer of grey silty clay **503** 0.15m in thickness, which was sealed by a thin layer of yellow silty clay **502** 0.2m in depth.

Sealing **502** was a layer of silty brick demolition rubble **501** 0.4min thickness which was overlain by the tarmac car park surface for the area **500**.

6.1.6. <u>Test Pit 6 (Fig.7, Plate 4)</u>

The dock wall **604** was located at a depth of 1.05m below the modern ground surface (4.25m AOD) and was constructed of orange handmade bricks measuring 9.5 x 4.5 x 2.5 inches in size and which were bonded by a white cement mortar. Wall **604** survived to a height of at least 0.8m. To the immediate northeast of the wall was a layer of brick rubble **605** which likely represents tumble from the dock wall itself. This was overlain by a layer of yellow silty clay **603** measuring *c* 1.1m in thickness.

Overlying **603** and the remainder of the test pit was a layer of black ash/clinker material **602** 0.7m in thickness. This was sealed by a layer of brown silty clay **601** 0.2m in depth. Overlying **601** was the topsoil layer for the area, a brown organic clay **600** 0.15m in thickness.

7. GROUND MODEL OF ARCHAEOLOGICAL DEPOSITS

7.1.1. Using the data from boreholes and window samples undertaken by Faber Maunsell at various points around the Hull College Campus (Fig. 8), and the data obtained from the archaeological evaluation carried out previously by Birmingham Archaeology (Mann 2008, Table 1, Appendix 1 and 2) a ground model was constructed showing the potential levels of surviving archaeology in the development area (Fig. 8, 9 and 10).

- 7.1.2. The model was constructed using the ArcGIS data processing tool by using the depths of the underlying geology recorded during the borehole/ trenching process to create a 3D representation of these layers (Fig. 8). The depths of recorded layers of modern made ground/demolition material were used to give an indication of the likely level of surviving archaeology below.
- 7.1.3. In areas where there was no data available due to lack of boreholes or trenching (largely areas below standing buildings and car parks) the implied archaeological level was set at the nearest highest recorded value for that area. It is likely however, that in these areas and in particular those areas disturbed by building foundations, the levels may vary from those shown.
- 7.1.4. The results show that in the areas disturbed by the construction and subsequent backfill of the Queen's Dock the levels of modern backfill/demolition material are significantly deeper than the rest of the development area, with up to 8m of backfill in places. The dock wall (as located during the test pitting of the area) is shown surviving at a much higher level on the southern and northern extents of the dock, although the northern extent to the west of the development area has been estimated using surviving maps as the exact location was not determined during the watching brief.
- 7.1.5. The watching brief on the test pits excavated to determine the presence of the Queen's Dock wall located the wall in all but one of the excavations. Due to the limited depth of the test pits it was difficult to determine the exact state of preservation of the dock wall beyond these levels. However, the presence of the dock wall in the majority of the test pits suggests that the underground survival of the structure is likely to be fairly good. The dock wall was located at a depth of between 0.50m and 0.70m below the present ground level (4.45 to 4.60m AOD).
- 7.1.6. The absence of the dock wall within Test Pit 5 is likely to be down to the placement of the test pit rather than the wall not existing in this area. It is likely the dock wall exists at a similar level to that of Test Pit 4 further to the southeast of the area of Test Pit 5.
- 7.1.7. The base of the dock was located in four of the bore-holes/ window slots at around 8.00 to 9.00 m below the present ground level (-2.70 to -3.90m AOD). In two locations structure may have been associated with the dock floor. Wood sleepers were located in Borehole 4 between 8.00 and 8.30m below the current ground level. The base of the dock was also located in Borehole 17 as a brick structure.
- 7.1.8. The medieval remains of the Town Wall and the stone structures located in Trench B were located around 3.1 to 3.3m AOD. The exception was the Town Wall in Trench C that was located at a depth of 2.40m AOD. This may be resultant from the destruction of the town wall at this location or the robbing of material from this area.
- 7.1.9. Examination of the ground investigation data does not allow a substantial increase in the understanding of the depths of archaeological material. However, it does allow a greater understanding of the below-ground build up of material.

- 7.1.10. Examination of the bore-hole data both north and south of the Queen's Dock supports the supposition that the whole of this area was subject to dramatic land reclamation prior to the construction of the dock. A layer of brown-grey sand silt or clay silt is located across the site at an average depth of around 2.00 to 3.00m below the current ground level (*c* 2.70 to 3.60m+ AOD).
- 7.1.11. The nature of this land reclamation is still unclear but it can be suggested that the presence of brick within deposits to depths of up to 5m below the current ground level would suggest that the reclamation has occurred in the latemedieval and post-medieval periods. The absence of deposits of industrial waste and the predominance of grey-brown silt-clays or sand-silts across the site may suggest that the land was reclaimed as part of a process of channel clearance within the River Hull and subsequent land reclamation that resulted in the shifting of the course of the river to the east.
- 7.1.12. The fact that brick material is not located below 5.0m (around -0.10 to 0.20m AOD) would suggest that this is the level of the natural mud flats and the material above is subsequent reclamation material.
- 7.1.13. The data is insufficient to make substantial conclusions at this stage. However, there is a noticeable change in the material within the locations around boreholes at 12A, 13 and 14 in one location that may suggest a former channel running across the site, or inversely survival of material in this location that has been eradicated elsewhere by channel migration. The material in this location has a grey-brown clay silt constituent as opposed to the clay composition located elsewhere. The base of this material is between -0.50 to -0.80m AOD and may represent a channel that existed through the mud flats at the time of initial reclamation.
- 7.1.14. Below these layers survival of a peat layer has been noted between *c* 9.0m and 11.0m below the present ground surface. Boreholes 2, 4, 9 and 16 with a wide spread across the site suggest the survival of this peat layer is across the entire site but is intermittent. The data is insufficient to make any further conclusions.

8. GROUND PENETRATING RADAR SURVEY

- 8.1.1. A detailed account of the ground-penetrating radar survey is provided in Birmingham Archaeology Report 1883/1. The following provides a reproduction of the summation of this report.
- 8.1.2. The objective of the survey was to identify the presence of the medieval Town Wall and associated structures along the length of its projected northern course towards the River Hull. The results were severely limited due to the nature of the subsoil (heavy clay content and noisy areas of surrounding made ground). Consequently, the survey did not identify remains possibly related to the medieval Town Wall (or associated structures) within the area of the survey grids. The attenuation of signal strength and noise interference curtailed the depth of the survey to *c* 2m. Previous archaeological investigations within the survey area (referred to by Mann 2008: Section 2.1.6) recorded remains of the medieval town wall at approximately 3.7m below ground surface level. The Town Wall remains may therefore survive at a deeper level, or of course, outside the survey area.

- 8.1.3. The survey did reveal a series of high amplitude linear features which indicate the presence of below-ground anomalies at depths of up to *c*.2m; these are interpreted as most probably relating to modern infrastructure and services.
- 8.1.4. One anomaly (Feature M, seen as two areas on anomaly) could be tentatively suggested as being of archaeological interest and might possibly relate to the remains of collapsed material from a previous structure(s) on site, although it is more likely to relate to material disturbed or deposited through the development of the College buildings and infrastructure.

9. IMPLICATIONS

- 9.1.1. The results of this stage of the work has allowed a greater understanding of the below ground archaeology. The originally defined areas of archaeological significance remain unchanged (Fig. 2). However, further definition and understanding of the remains has been achieved.
- 9.1.2. The watching brief has further defined the nature of the Queen's Dock and its location. The dock was seen as of low archaeological potential but was recommended for an archaeological watching brief during any proposed development. It is now clear that the dock wall survives to a relatively shallow depth below the current ground surface of between 0.5 to 0.7m. The ground-penetrating radar supports the presence of the Queen's Dock Walls within the location of Test Pits 1 and 2 and it suggests that the depth is relatively shallow throughout this particular location. The depth of the basin is also known to be around 8.0 to 9.0m below the current ground level. This should allow for a targeted watching brief on the dock wall remains.
- 9.1.3. Unfortunately the ground-penetrating radar survey has not allowed accurate pinpointing of the Town Walls. The presence of redeposited clay may have masked signals elsewhere as suggested by the survey in Area B and because of this all excavation over the probable location of the Town Wall should be limited to the depths suggested by Trench D (about 3.1m AOD, approximately 1.5m below ground level).
- 9.1.4. The presence of services either side of North Wall Street appear to survive to a depth of around 0.7m below the current ground level and there is a strong suggestion that there are no remains in this initial depth of material. It is known that the wall have been adopted for the line of services and because of this the services may overlay the Town Wall.
- 9.1.5. The anomaly described as Feature M may relate to further evidence of towers to the north of the town wall as possibly located in Trench C and D. It is therefore recommended that below-ground excavations are treated with caution within the area of the wall and north of it. The Town Wall is regarded as nationally significant and therefore a policy of preservation *in situ* is likely to be recommended. This means any piling or below-ground foundation design should seek to avoid these areas or re-use former piles.
- 9.1.6. The level of the material originally interpreted as channel deposits in the evaluation stage of the work can now be seen to be a continuous layer across the site that may be resultant from the reclamation of the tidal mud flats that bordered the River Hull. The likelihood that any deposits that exist 2.0 to 3.0m or greater below the current ground level will be disturbed is low. Piling is the most likely solution during construction and it is the nature of these piles which

is likely to affect the archaeology. Piling solutions should be discussed with the Hull City Planning Archaeologist prior to implementation.

9.1.7. All the results of the survey and likely implications are subject to discussion with the Hull City Planning Archaeologist however, the levels of archaeological implications are likely to remain unchanged from those discussed in the evaluation report (Mann 2008, see Fig. 2).

10. ACKNOWLEDGEMENTS

10.1.1. The project was commissioned by Taylor Young, on behalf of Hull College. Thanks are due to Tim Warriner and Matt Weir of Faber Maunsell for their cooperation and assistance throughout the project. The assessment was undertaken by Phil Mann who also produced the written report which was illustrated by Helen Moulden and Ellie Ramsey and edited by Chris Hewitson who also monitored the project for Birmingham Archaeology.

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Appendix 1

Point Name	Full Depth	Ground Level (m) AOD	Top of Medieval Walls (m) AOD	Top of Dock Wall/ Floor (m) AOD	Top of 18/19th c. brick walls (m) AOD	Top of Brown- grey sand clay/ silt (m) AOD	Base Brown- grey sand- clay/ silt (m) AOD	Base of Brown-grey sand-silt (m) AOD	Peat Layer (m) AOD
BH 2	39.70	4.20				3.00	-0.20	-6.65	-6.65
BH 4	45.00	4.80		-3.50				-4.60	-5.10
BH 5	24.00	5.10		-3.90				-5.90	
BH 7	23.50	5.35				3.35	1.15	-5.65	
BH 8a	44.00	5.15				3.35	0.65	-7.85	
BH 9	24.00	5.25				4.05	0.25	-5.25	-6.95
BH 10									
BH 11a	24.40	5.25				2.85	0.25	-5.95	
BH 12a	42.00	5.25				3.25	-0.75	-7.35	
BH 13	24.40	5.20				2.70	-0.50	-6.70	
BH 14	45.00	5.20				2.80	-0.80	-6.60	
BH 16	46.00	5.30			2.20	1.30	-0.10	-3.70	-5.30
BH 17	8.00	5.30		-2.70					
TP 1	1.20	4.80		4.60					
TP 2	1.20	4.80		4.45					
TP 3	1.20	5.15							
TP 4	1.20	5.30		4.60					
TP 5	3.50	5.30				2.50			
TP 6	2.20	5.30		4.25					
WS 1	0.80	5.10							
WS 1a									
WS 4	8.30	5.20				3.10	0.20		
WS 5	8.50	5.35				3.15	0.55	-3.15	
WS 6	8.00	5.10		-2.90					
WS 7	8.00	5.30				3.60	1.30		
TR A East	3.75	4.19							
TR A West	3.3	4.39				2.99			

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Point Name	Full Depth	Ground Level (m) AOD	Top of Medieval Walls (m) AOD	Top of Dock Wall/ Floor (m) AOD	Top of 18/19th c. brick walls (m) AOD	Top of Brown- grey sand clay/ silt (m) AOD	Base Brown- grey sand- clay/ silt (m) AOD	Base of Brown-grey sand-silt (m) AOD	Peat Layer (m) AOD
TR B North	2.05	4.18	3.27	_		-			
TR B South	2.3	4.18	3.1						
TR C	2.75	4.65	2.4						
TR D	2.3	4.78	3.1						
TR E East	3.00	4.75							
TR E West	2.15	4.78				3.35			
TR F North	1.95	5.26							
TR F South	4.30	5.28				2.74			
TR G North		5.31							
TR G South	1.60	5.31							
TR H North	1.05	5.31				4.08			
TR H South	0.95	5.31				4.26			
TR I North	1.05	5.36				4.44			
TR I South	1.75	5.49				3.49			
TR J East	2.75	5.13				2.53			
TR J West	1.20	5.13							
TR K North	1.30	5.28							
TR K South	1.10	5.28							
TR L East	0.80	5.36							
TR L West	1.10	5.36							

Table 1: Geotechnical Data



Appendix 2

Selected Geotechnical Borehole Results

Drilling	g Metho	ethod Cable Percussion & Rotary				Bor 25	ehole E	Diameter	Casing Diameter 250mm to 5.00m	BOREHOLE No.		BH2	2
Equipr	nent	Dando	3000			20	00mm to	5 8.00m	200mm to 8.00m				
Drill Fl Drill C	luid rew	D NEW	ELLL			Log	aed by	Com	piled by Checked by				
Dates	Drilled	Start End	11/11/2008 14/11/2008			TW 19/	/11/200	md 18 20/1	1/2008				
Data		Water	Sample/Co	re Reco	overy	197	SPT		1,2000		Depth		
Date &	Casing Depth	(m)	Depth (m)	Туре	No.		/N	Fracture	Description of	of Strata	(Thick-	Level	Legend
Time	(m)	(Flush Return)	From To	TCR %	SCR %	RQD	Core Size (mm)	Spacing			(m)		
11/11		70	-				()		MADE GROUND: Tarmacadam	n. //	(0.10)		*****
									MADE GROUND: Composed	of dark grey	0.10 (0.15)		
									yellow sandy angular to to coarse gravel of lim	o subangular fine mestone. Sand is	- 0.25		
			1 00		-				Time to coarse.		(0.95)		
				њ5 р	-		C 1		sandy angular to subang	gular fine to	1 20		
			1.20-1.70	в	3		51		and brick. Sand is fir	he to coarse.	1.20		
			-						MADE GROUND: Composed sandy gravelly clay.	of very soft brown Fravel is angular	+		
			2.00	ES	4				to subrounded fine to c coal and chalk. Sand i	coarse of brick, s fine to coarse.	(1.40)		
			2.00-2.45 2.00-2.50	D B	5 6		S5				ŧ		
			-								-		
									MADE GROUND: Composed	of soft black	2.60		
			3.00	ES	7			25/	Gravel is angular fine	to coarse of brick	È l		
			3.00-3.45	U	0			450	and concrete. Sand 15	fine to coarse.	(1.40)		
			3.50	D	9 10		58				ŧ.		
			3.50-4.00	B	11						Ŧ		
			4.00 4.00-4.45	ES U	12 13			15/	Very set thinly mina	ated brown grey	4.00		× × ×
								45	very layey sandy LT. merium locally coarse.	Sand is fine to Rare organic	Ē		$\begin{array}{c} \times & \times & \times \\ & \times & \times \\ & \times & \times \\ & \times & & \times \end{array}$
			4.50 4.50-4.95	D D	14 15		S6		fragent throughout. Below 40m: Grades int	o silt.	F		· · × · · × · · · · · · · · · · · · · ·
			4.50-5.00	в	16			10/					×. × × · · · · · · · · · · · · · · · · ·
			5.00-5.45	U	17			107 450			Ē		× · × · × ·
			5.50	л	18				low 5.50m: Becoming y	very soft.	-		
			5.50-5.95	D B	19 20						Ē		×××
11/11	6.00	DRY	6.00-6.45	υ	21			5/					· × · × · × · × · × · ×
12/11	6.00		-								-		$\cdot \cdot \times \cdot$
			6.50	D	22						-		· · × · ×
			6.50-6.95 6.50-7.00	D B	23 24		S3				t t		× × · · ×
			7.00-7.45	U#E	25						(6.00)		× · × · ·× ·
													× × ×
			7.50-7.95	D B	26 27		S2				<u> </u>		$\begin{array}{c} \cdot & \cdot \\ \times & \cdot \\ \cdot & \cdot \\ \cdot & \cdot \\ \cdot & \cdot \\ \end{array}$
			-	_							+		× × × × × × × ×
			8.00-8.45	U#E	28						F		$\cdot \cdot \times \cdot$
			Ē								ŧ		× × ×
			8.50-8.95 8.50-9.00	D B	29 30		S2				-		× × · · · · · · · · · · · · · · · · · ·
											ŧ I		× · × · × · · · · · · · · · · · · · · ·
			9.00-9.45	U#E	31								× × ×
			9 50-9 95		30		c 2				‡		$\begin{array}{c} \cdot & \cdot \\ \cdot & \cdot \end{array}$
			9.50-9.95	в	33		55				Ē		· × · × · × · × · × · × · × · × · × · ×
			10.00	ES	34						10.00		× · · × · · × · · · × · · · · · × ·
Roman	ks -								Soft to very soft dark	grey clayey sandy			2.0
(See notes & keysheets) depth and rescanned using the CAT to check for services. Services were not located. The borehole was backfilled on completion with materials arising. The borehole was advanced by chiselling methods from 29.00m to 29.40m (1 hour). Groundwater was encountered at 8.50m during boring and rose to 8.30m after 5 mins,8.20m after after 15 mins,8.20m after 20 mins. Groundwater was encountered at 20.00m during boring and rose to 18.30m after 5 mins,17.90m after after 15 mins,17.80m after 20 mins.											nand-dug er 10 min after 10	y to 1. ns,8.20 mins,1	20m 9m .7.80m
Scale 1:5	00					Pr	oject			Contract No.	CON	083130	
						.	нц н	JLL COLL	EGE, KINGSTON UPON HULL ege		COM		
							Faber Maunsell Figure No.				BH2 (1 -	of 4)	
1										BH2 (1 Of 4) 304/03			

Drilling Method Cable Percussion & Rotary					yBorehole Diameter 250mm to 5.00mCasing Diameter 250mm to 5.00mBOREHOLE No.BH2						2								
Equipr	nent	Dando	3000			20	00mm to	8.00m	200mm to 8.00m										
Drill Fl Drill C Dates	luid rew Drilled	D NEW Start	ELLL 11/11/2008			Log TW	ged by	Com md	piled by Checked by										
		End Water	14/11/2008 Sample/Co	re Rec	overy	19/	/11/200 SPT	08 20/1	1/2008		Donth								
Date	Casing Depth	Depth (m)	Donth (m)	Туре	No.		Blow's /N	Fracture	Description of	of Strata	(Thick-	Level	Legend						
Time	(m)	(Flush Return)		TCR	SCR	RQD	Core Size	Spacing	Description	n Strata	ness)								
		%	From 10	% T	% 25	%	(mm)	15/	CTIT with postots (posti	ngg of fibroug	(m)		· · · · · ·						
			10.00-10.45	D	36			350	peat. Sand is fine to	coarse.	(0.95)		× × · · × · · × · · × · · × · · × · · × · · × · · · × ·						
			10.50-10.95	D	37		S6				(0.85)		× × × • × •						
			10.50-11.00	в	38						10 05		×. × ·						
			- 11.00	ES	39			70/	Stiff locally very stif	f brown slightly									
			11.00-11.45	U	40			450	subangular to subrounde	ed fine to coarse			0.0.0.						
			- 11.50 - 11.50-11.95	D	41		929		Sand is fine to coarse.	ine and sandstone									
			11.50-12.00	В	43		525				ŧ I		0.0 <u>.0</u> .						
			12.00-12.45	υ	44			100/ 450			È I								
			-					150			-		0.0. 0.0						
			12.50	D D	45 46		S46		Between 12.50m and 15.5	Om: Very stiff.	E		· · · · · ·						
			12.50-13.00	В	47						1		0.0. 0.0						
			_ 13.00-13.45	υ	48			100/ 450			E								
											Ē		0.0. 0.0						
			- 13.50 13.50-13.95	D D	49 50		S41												
			13.50-14.00	в	51						Ē		0. <u>0.0</u> .						
			_ 14.00-14.45	U#E	52								· · · · ·						
											Ē I		0.000						
			- 14.50-14.95 - 14.50-15.00	D B	53 54		S34				(7.55)		· · · · ·						
											Ē I		0.0.0						
		(0)	_ 0.00-29.95 15.00-15.45	100 U	16 55	0		85/			-		· · · · ·						
				_				450	Y		Ī		0.000						
			15.50	ם	56 57		ş				Ē								
			15.50-16.00	в	58								0. 						
			_ 10.00-10.45	U	59								· · · · ·						
			16 50	п	50			•					0.0.0						
			16.50 - 16.95 16.50 - 17.00	D B	61 62		S28						· · · · · · · · · · · · · · · · · · ·						
			17.00-17.45	U	63			85/			E		0.00						
			-	-				450					· · · · · · · · · · · · · · · · · · ·						
			17.50	D	64						Ē								
			17.50-17.95 17.50-18.00	D B	65 66		S29						· · · · · · · ·						
12/11	8.00	DRY	18.00-18.45	υ	67			60/					0.0.						
13/11	8.00	DRY						450			ŧ		· · · · · ·						
			18.50	D	68		a 00		Stiff locally firm to s	tiff thinly	18.40		······						
			18.50-18.95	B	69 70		523		Sand is fine to medium.	iity sandy CLAY.	Į		× × · · · · · · · · · · · · · · · · · ·						
			19.00	ES	71								Â						
			19.00-19.45	0#1	12						(1.00)		. <u>×</u>						
			19.50-19.95	D B	73 74		S27				ŧ I		Â						
					, -						f		. <u>×</u>						
			_ 20.00-20.45	D	75		S18		Medium dense brown silt	y fine and mediu	20.00 um		·····						
Remarks (See notes & keysheets) Scale 1:50							-												
-Firen					Pr	oject			Contract I	No. CON	83130								
						HU Hu	JLL COLL 111 Coll	EGE, KINGSTON UPON HULL ege											
					Faber Maunsell Figure No. BH2 (2				of 4)										
1												1							304/03

Drilling	g Metho	d Cable	Percussion &	Rotary	Bore 250	hole Diam mm to 25.	eterCasing Diameter50m250mm to 25.50m	BOREHOLE No.		BH4	
Equipr	nent	Dando Knebe	2000 1		120	mm to 45.	00m 120mm to 28.50m				
Drill C Dates	rew Drilled	D. Ne Start End	well 05/11/2008 14/11/2008		Logo MW 12/1	ed by	Compiled by Checked by Clm 3/11/2008				
Date	Casing	Depth to	Sample D	etails	SPT Blows	N Blows/	Description of	Strata	Depth (Thick-	Level	Legend
Time	(m)	Water (m)	Depth (m) From To	Type N	lo. Tes	Result		Strata	ness) (m)		
05/11			-				MADE GROUND: Composed of d slightly sandy to sandy gr gravelly silt. Gravel is a fine to coarse of brick an	dark grey brown cavelly to very nngular to rounded d quartz.	(1.20)		
			1.00 1.00 1.20-1.65 1.20-1.70	ES ES D B	1 1 2 56 3		MADE GROUND: Composed of f very gravelly clay. Gravel subrounded medium to coars chalk and flint. Occasion	firm grey and black is angular to se of slate, brick, aal fragments of	1.20		
			2.00 2.00 2.00 2.00 2.00-2.45 2.00-2.50	ES ES D B	4 4 5 \$5 6		wood.	-			
			3.00 3.00 3.00 3.00 3.00-3.45 - 3.00 3.50-3.95	ES ES ES U#B W 5 U	7 7 7 8 2 9 5 4				(4.30)		
			4.00 - 4.00 - 4.00 - 4.00 - 4.00-4.50	ES ES ES B 1	9 9 0 C9		Below 160m Many cobble s fragment	sized brick			
			5.00 5.00 5.00 5.00-5.45 5.50-5.95 5.50-6.00	ES 1 ES 1 ES 1 U#B 1 D 1 B 1	1 1 2 3 \$81/ 95	0	MADE GROUND: Possible inta	act brick wall.	5.50		
			6.00 6.00 6.00 6.00-6.50	ES 1 ES 1 ES 1 B	5 5 C75/ 10*				(2.50)		
			7.00-7.50	в 1	7 C757 0*						
05/11 06/11	8.50	DRY 2.65	8.00-8.50 - - - - -	в	8 C757 0*		MADE GROUND: Wood sleepers Soft grey SILT.	3.	8.00 (0.30) 8.30		× × × × × × × × ×
			9.00 9.00 9.00 9.00-9.45 9.50 9.50-9.95 9.50-10.00	ES 1 ES 1 U 2 D 2 D 2 B 2	9 9 0 1 2 3	30/ 350	Dark brown spongy fibrous	PEAT.	9.40		
			_ 10.00-10.45	Ū 2	4	35/	Soft dark grey SILT/CLAY w plant remains.	with some grey peat	9.90		× ×
Remar (See not: & keyshe Scale 1:5	ks 1 es 2 3 4 5	Prior depth The bo See in Ground after Ground after	to boring a Ca and rescanned rehole was adv stallation det water was enco 15 mins,1.90m water was enco 15 mins,9.50m	able Av using vanced cails o ountere after ountere after	oidance the CAT by chise n final d at 3.0 20 mins. d at 19. 20 mins.	Tool (CAI to check lling met sheet. Om during 30m durin	c) survey was carried out. A for services. Services were hods from 5.50m to 8.30m (6 g boring and rose to 1.90m af ng boring and rose to 12.70m	An inspection pit was a not located. hours) and 25.00m to Eter 5 mins,1.90m after after 5 mins,10.80m	hand-dug 25.50m (er 10 min after 10	to 1. 1 hour 1,90 mins,9	20m). m .90m
						ect HULL C Hull C	COLLEGE, KINGSTON UPON HULL	Contract No.	CONO	83130	
						Faber	maunsell	Figure No.	BH4 (1 c	f 6)	301/04

Drilling Method Cable Percussion & Rotary				ry	Borehole Diameter 250mm to 25.50m Casing Diameter 250mm to 25.50m BOREHOLE No.					BH4		
Equipm	nent	Dando Knebe	2000 1			120mm	to 45.	00m 120mm to 28.50m				
Drill Cr Dates	ew Drilled	D. Ne Start End	well 05/11/2008 14/11/2008			Logged MW 12/11/	d by C 2008 1	ompiled by Checked by Im 3/11/2008				
Date &	Casing Depth	Depth to	Sample D	etails		SPT Blows/N Drive	U100 Blows/ Recovery	Description of St	rata	Depth (Thick-	Level	Legend
Time	(m)	Water (m)	Depth (m) From To	Туре	No.	mm Test	mm Result			(m)		
			-				400					× × × × × ×
			10.50 10.50-10.95 10.50-11.00	D D B	25 26 27	S9				(1.10)		
			- 11.00-11.45 11.00	U ES	28 51		115/ 450	Stiff grey brown slightly s	andy to sandy	11.00		
			11.00 11.00 11.00	ES ES	51 51			subangular fine to medium o and sandstone with occasion	f chalk, flint al coal. Sand is			0.0.0.
			11.50 11.50-11.95 11.50-12.00	D D B	29 30 31	S36		fine to coarse.				
			_ 12.00-12.45	υ	32		115/ 450			-		
			- 12.50	D	33	935						· · · · · · · · · · · · · · · · · · ·
			12.50-13.00	B	35	555	100/					· · · · · ·
				U	30		450					· · · ·
			- 13.50 - 13.50-13.95	D D	37 38	S41				-		0. <u>0</u> .
			13.50-14.00 14.00-14.45	в U	39 40		80/					· · · · · · · · · · · · · · · · · · ·
			- - -				450					· · · · · ·
			14.50 14.50-14.95	D D P	41 42	S28						0.0.0
				ь U#B	44			\sim		-		0.0.0 0.0.0
			-							(8.30)		0 0 0 0
			_ 15.50-15.95 - 15.50-16.00	D B	45 46	\$20		Belly 15.50m: Locally grade silt	s into sandy			0 0 0
			16.00-16.45	υ	47		5 45t	-				0.0.0.
			16 50	л	48			Below 16 50m. Locally with	pockets/partings			
06/11	17 00	14 10	16.50-16.95 16.50-17.00	D B	49 50	16		of silt/clay.	pockets/partings			0 0 0 0
07/11	17.00	14.10	17.00-17.45	U	53		75/ 450			-		· · · · · · · · · · · · · · · · · · ·
			17.50	D	54							
			- 17.50-17.95 17.50-18.00	D B	55 56	S21						· · · · ·
			_ 18.00-18.45	υ	57		60/ 450	Below 18.35m: Locally think	y laminated.			
			18.50 18.50-18 95	ם ת	58 59	S18			-	E		
			18.50-19.00	B	60	510						
				U#B	οT			Below 19.30m: Predominantly	coarse sand.			0 0 0
			19.50-19.95 19.50-20.00	D B	62 63	S14		Medium dense brown speckled medium to coarse SAND with angular and subangular fine	white silty occasional gravel of chalk.	19.30 (0.70)		× × ×
			20.00-20.45	υ	64		40	Firm thinly laminated grey	brown silty sandy	20.00		×
Remark (See note & keyshe Scale 1:5	(S es eets) 0											
TUGRO						Projec	HULL C	OLLEGE, KINGSTON UPON HULL	Contract No.	CON	083130	
							Faber 1	Maunsell	Figure No.	BH4 (2 d	of 6)	301/04

Drilling	Drilling Method Cable Percussion						Borehole Diameter Casing Diameter 250mm to 15.00m BOREHOLE No. BH					5
Equipr	nent	Dando	2000			200mm	n to 24.	00m 200mm to 24.00m				
Drill C Dates	rew Drilled	D. NE Start End	WALL 29/10/2008 03/11/2008			Logged DH 04/11/	d by (m 2008 0	Compiled by Checked by d 5/11/2008				
Date &	Casing Depth	Depth to Water	Sample D	etails		SPT Blows/N Drive	U100 Blows/ Recovery	Description of	Strata	Depth (Thick- ness)	Level	Legend
Time	(m)	(m)	Deptn (m) From To	Туре	No.	Test	Result			(m)		
29/10								MADE GROUND: Compact rubh (Driller's description).	ble and clay fill.			
			- 1.00	ES	1	GEO (
			1.20-1.24 	в	2	35*				1.70		
29/10 30/10	2.00	DRY DRY	2.00 2.00-2.45	ES U	3 4		60/ 450	MADE GROUND: Composed of h silty sandy angular to sub coarse gravel of concrete, quartz with many subangula (<120mm). Sand is fine to	prown slightly prounded fine to flint, brick and ar concrete cobbles o coarse. Driller	(1.30)		
			2.50 2.50-2.95 2.50-3.00	D D B	5 6 7	S11		notes wood, glass, and met	al fragments.			
			3.00-3.45 3.00-3.45	В	9	S37		MADE GROUND: Composed of d gravelly fine to coarse sa subangular to subrounded r	dark brown black and. Gravel is predominatly fine	(0.50)		
			-					and medium of contract, br many subangular of subrour cobbles (<100r Strong	rick and flint with ided concrete hydrocarbon odour.	3.50		
			4.00 4.00-4.45 4.00-4.45	ES B	10 11	S42		MADE GROUNN: Completed of fine to chrise graveloof of flint. Jobbles are stang of converte (160mm) with green lass (40mm). 1 no brick no. (100mm x 110mm	angular to rounded concrete, brick and yular to subrounded frequent shards of . intact yellow a x 60mm)	 (1.50) 		
			- 5.00 - 5.00-5.45 -	ES U	12 13		45/ 350	MDE GOVE Composed of f said slightly gravelly cl angular to subrounded fine	Firm grey slightly ay. Gravel is a to coarse of	_ 5.00 (0.60)		
			5.50 5.50-5.95 5.50-6.00	D D B	14 15 16	S13		brir, flint and concrete. cobbe of concrete (80mm).	1 No. subrounded	5.60		
			- 6.00 - 6.00-6.45 - 6.00-6.45 - 6.00-6.45 -	es B	17 1	S50	X	MADE GROUND: Composed of f gravelly sandy clay with m is fine to coarse. Gravel rounded fine to coarse of and quartz. Cobbles are a subrounded of brick and cc 1 no. piece of steel (100m	<pre>:rrm sligntly nany cobbles. Sand l is subangular to concrete, brick nngular to nncrete (<100mm). mm x 100mm)</pre>	_(0.90) 6.50		
			- 7.00 7.00-7.45 7.00-7.45	es B	19 20	S28		MADE GROUND: Composed of concerned to the second se	lark grey clayey angular to rounded prick, flint, pocasional glass is fine to coarse.	(1.50)		
30/10 31/10	8.00	DRY 1.60	- - 8.00 - 8.00-8.45 -	ES B	21 22	C11		MADE GROUND: Composed of to rounded fine to coarse concrete, wood and glass. coarse.	grey sandy angular gravel of brick, Sand is fine to	8.00 		
			- - - 9.00 - 9.00-9.45	ES U	23 24		20/ 450	Soft dark grey silty sligh with rare subangular to su	ntly sandy CLAY ubrounded fine to	9.00		× · · · · · ×
			9.50 9.50-9.95 9.50-10.00	D D B	25 26 27	S9		coarse gravel of flint. So predominantly fine and med	Sand is lium.	(1.00)		× ···· × ···· ×
			_ 10.00-10.45	υ	28		25/	Soft dark grev slightly sa	andy SILT with	10.00		×
Remar (See note & keyshe Scale 1:5	Remarks 1 Prior to boring a Cable Avo: depth and rescanned using the keysheets) 3 The borehole was advanced by 4 5 See installation details on 6 6 Groundwater was encountered after 15 mins,1.45m after 20						ool (CAT o check ing met ing met ing met meet. n during) survey was carried out. A for services. Services were hods from 1.20m to 1.70m (2 hods from 4.10m to 4.35m (1 hods from 12.90m to 13.00m boring and rose to 2.00m af	An inspection pit was a not located. hours) and 3.40m to 3 hour) and 6.25m to 6 (30 mins) and 23.50m f Eter 5 mins, 1.70m after	hand-dug 3.70m (1 .65m (1 h to 24.00r er 10 min	g to 1. hour). hour). n (1 ho hs,1.50	20m ur) m
						Projec	HULL C	OLLEGE, KINGSTON UPON HULL	Contract No.	CON	083130	
							Hull C Faber	oiiege Maunsell	Figure No.	вн5 (1 с	of 4)	301/04

Drilling	Drilling Method Cable Percussion					Boreho	ble Diamo	BH5				
Equipr	nent	Dando	2000			200mm	n to 24.	00m 200mm to 24.00m				
Drill C Dates	rew Drilled	D. NE Start End	WALL 29/10/2008 03/11/2008			Logged DH 04/11/	d by (,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Compiled by Checked by Id 5/11/2008				
Date	Casing Depth	Depth to	Sample D	etails		SPT Blows/N Drive	U100 Blows/ Recovery	Description of	Strata	Depth (Thick-	Level	Legend
Time	(m)	Water (m)	Depth (m) From To	Туре	No.	mm Test	Result		onata	ness) (m)		
			-			·	450	occasional pockets (<5mm) brown sandy clay. Sand is	and lenses of pale s fine.	10.00		×. × ×
			- - 10.50 - 10 50-10 95	D	29 30	97		Diown Dandy Citay. Dana i		(1.00)		× × ×
			10.50-11.00	В	31	57	35/			11 00		×. × × × × ×
			- 11.00-11.45	0	52		450	Firm dark grey silty slig with occasional pockets of (<10mm). Sand is fine.	htly sandy CLAY f pale yellow clay /	(0.25)		× · · · · · · · · · · · · · · · · · · ·
			11.50 11.50-11.95 11.50-12.00	D D B	33 34 35	S19		Stiff locally very stiff g	grey brown slightly			· · · · · · · · ·
			12.00-12.45	U	36		110/ 450	predominantly fine. Grave subangular to rounded fine flint, chalk, siltstone au	el is predominantly e and medium of nd mixed			
			- 12.50	п	37			lithologies.				
			12.50-12.95	D B	38 39	S35				-		· · <u>· · · ·</u> · .
			_ 13.00-13.45	υ	40		120/ 450					· · · · · · · · · · · ·
			- 13.50 - 13.50-13.95	D D	41 42	S43				-		
			13.50-14.00 14.00-14.45	B U	43 44		120/					
					45		450					
21/10	15 00	עתק	- 14.50 - 14.50-14.95 - 14.50-15.00	D D B	45 46 47	S42						
03/11	15.00	5.00	15.00-15.45	υ	48		60/ 450	etween 15.0 wr: With occas faint analyalk cobbles.	sional subrounded	(7.75)		
			- - 15.50 - 15.50-15.95	D	49 50	S18		X				
			15.50-16.00 16.00-16.45	B	51 52							
			-				45					
			- 16.50 - 16.50-16.95 - 16.50-17.00	D D B	53 54 55	19				-		
			17.00-17.45	υ	56		65/ 450			-		
			_ 17.50	D	57							
			17.50-17.95	B	58	519						
			18.00-18.45 - - -	U	60		55/ 400					
			- 18.50 - 18.50-18.95 - 18.50-18 95	D D B	61 62 63	S15						·
				D B	64 65	S22		Medium dense brown silty	fine and medium			
								SAND with occasional thin	clay laminae.	(0.90)		×
										19.90		, , , , , , , , , , , , , , , , , , , ,
_			_ 20.00-20.45	U#B	66			Firm, locally stiff, thin sandy CLAY with rare subre	ly laminated brown ounded fine to	-		
(See not & keysh	es eets)											
Scale 1:	50					-						
						Projec	HULL C	OLLEGE, KINGSTON UPON HULL	Contract No.	CON	83130	_
							Faber	Maunsell	Figure No.	ВН5 (2 с	of 4)	301/04

Drilling Method Cable Percussion						Borehole Diameter 250mm to 5.50m 250mm to 5.00m 250mm to 5.00m 250mm to 5.00m						BH7	,
Equipr	nent	Dando	2000			200mm	n to 23.	00m 200mm to 23.00m					
Drill C Dates	rew Drilled	в. на Start End	WES 29/10/2008 31/10/2008			Logge MW 03/11/	d by (Compiled by Checked by d 5/11/2008					
Date &	Casing Depth	Depth to Water	Sample D	etails		SPT Blows/N Drive	U100 Blows/ Recovery	Description of	Strata		Depth (Thick- ness)	Level	Legend
Time	(m)	(m)	From To	Туре	No.	Test	Result				(m)		
29/10			-					Grass over TOPSOIL.			(0.30)		
			-					MADE GROUND: Concrete and	brick (Dri	ller's	0.30		
			-					description).			(0.70)		
			-					MADE GROUND: Composed of	soft brown	clayey	- 1.00		
			-		-			silty fine sand.			(1 . 0.0)		
			1.50-1.95	U#B B	1 2						- (1.00) -		
			2.00	CD	3						2.00		
			2.00-2.15		_	S2/ 100		MADE GROUND: Composed of locally black sandy silt/	very soft h clay with	rown	-		
	1 80	DRV	2.00	K V B	3			occasional cobbles of bri	CK.		(1 30)		
	2.40	DRY	2.50-2.95	Ū	6		12/ 450				(,		
			- 3.00 3.00-3.25	CD	8	S3/					-		
			3.00	к v	8 8	200		Verv soft brown soldv CLA	Y locally o	rading	3.30		×××××××
	2.90 3.40	DRY DRY	3.00-3.45 3.50-3.95	B U#B	10 11			into sandy silt. Sand is	fine.	5	(0.90)		
			3.50-3.95 4.00-4.45	B B	12 14	S2/					-		
			4.00 4.00	CD K	15 15	125		Soft lically ery soft gr	ey brown sa	ndy SILT	4.20		× × ×
	4 40		4.00	V W	15 25		10/	locally graving into sand is fine the coarse.	y SILTt/CLA	Y. Sand	-		
	4.40	DRI	4.50-4.95	w	10 78		450	\sim			-		× × × ×
			5.00-5.15			S2/ 100					-		× × × ×
	4.90	DRY	4.90 5.00-5.45 5.00	W B CD	78 19 20						-		× ^ × × ` ×
29/10	6.00	DRY	5.00	K V	20 20 20						-		× ^ × × ×
	5.30	DRY	_ 5.50-5.95 5.50-5.95	B U#B	22 21								× × × × × ×
30/10	6.40	4.00 WET	6.50-6.95	ь U#B	26	225		Below 6.50m: Grading into	arev brown		-		× × × ×
			6.50-6.95	в	27			slightly sandy silt.	5 .		-		× × × × × ×
	6.80	WET	7.00-7.45	в	29	S10					-		× × × × × ×
			-								-		× × × × × × ×
	7.40	WET	7.50-7.95	U	30		14/ 450				(6.80)		
	7.40	WET	8.00-8.45	в	33	S4							
													× × × × × ×
	8.40	WET	8.50-8.95	υ	34		18/ 350						
				_	25					·			
	8.40	WET	9.00-9.45	в	57	5/		odour.	y. Slight	organic			
	9.40	WET	9.50-9.95	U	38		18/						× × ×
			r - -				350						
	9.40	WET	_ 10.00-10.45	в	41	S5					-		<u> </u>
Remarks 1 Prior to boring a Cable Avoid (See notes depth and rescanned using the See installation details on 3 & keysheets) 2 See installation details on 3 Groundwater was encountered Scale 1:50						ance To CAT to inal sh t 19.00	ool (CAT o check heet. Om durin) survey was carried out. for services. Services wer g boring.	An inspecti e not locat	on pit was ed.	hand-du	g to 1.	20m
-Fugro						Projec	t	OLTEGE KINGGTON IIDON HITT	Co	ntract No.	CON	083130	
DGRU					Hull C Faber	College Maunsell	Fig	ure No					
									' 'g		BH7 (1 o	of 4)	301/04

Drilling	g Metho	d Cable	Percussion			Boreho 250mm	ble Diame	om 250mm to 5.00m	BOREHOLE No.		BH7	7
Equipn	nent	Dando	2000			200mm	n to 23.	00m 200mm to 23.00m				
Drill Ci Dates	rew Drilled	в. на Start End	WES 29/10/2008 31/10/2008			Logged MW 03/11/	d by C m 2008 0	Compiled by Checked by a 5/11/2008				
Date	Casing	Depth to	Sample D	etails		SPT Blows/N	U100 Blows/	Description of	Strata	Depth (Thick-	Level	Legend
Time	(m)	Water (m)	Depth (m) From To	Туре	No.	Test	Result	Description of	Strata	ness) (m)		
										(,		×
			- - -							-		x x x
			- - -							-		
	10.40	WET	- 10.95-11.00 11.00-11.45	υ	42	S6	15/ 400	Firm, becoming stiff with	depth slightly	-11.00		× × × × × ×
	11.40	WET	11.00-11.45	в U	45 46			angular to subrounded med: fine to coarse.	LAY. Gravel is ium chalk. Sand is	- -		× × × × × ×
			11.50-11.95	в	47							× × × × × ×
	11.80	WET	- 12.00-12.45	υ	49	S20				- 		× × × × × ×
			12 50-12 95	π	50					(3.00)		× ^ × × × ×
			- 12.50-12.55	U	50					(3.00)		× × × × × ×
	12.40	WET		в	53	S47				- 		× × × × × ×
			13 50-13 95	π	54							× × ×
	13.40	WET	13.50-13.95	в	55							× × × × ×
	13.80	WET		в	57	S32		Stiff logarly firm gay by	rown slightly sandy	14.00		× ×
	14 40	WET	14 50-14 95	π	58			gravelle CLAY. Grave is subroy ded file and medium mudsto	angular to m of chalk and			· · · · · · · · · · · · · · · · · · ·
	11.10		14.50-14.95	в	59			mustor, and is line to	o coarse.			
	14.90	WET	15.00-15.45	в	61	S31				- 		0.0.0
			15 50-15 95	π	62					- - -		· · · · · · · · · · · · · · · · · · ·
	15.40	WET	15.50-15.95	в	63							· · · · · ·
	15.90	WET		в	65		X					
	16 40	WET	16 50-16 95	π						(5.00)		· · · · · · · · · · · · · · · · · · ·
	10110		16.50-16.95	в	67					(3100)		· · · · · ·
	16.90	WET	_ 17.00-17.45	υ	69	S15				- 		0.0.0 0.0
	17 40	WET	17 50-17 95	в	70					-		0 0 0 0
	1,.10		17.50-17.95	В	71					-		· · · · ·
	17.80	WET	18.00-18.45	в	73	S25				₽		· · · · · · · · · · · · · · · · · · ·
	18.40	₩₽ጥ	18.50-18 95	π	74							· · · · · · ·
20/1-	10.00		18.50-18.95	в	75							0.0.0 0.000
30/10	19.00	WET	- 19.00-19.45	в	77	S33		Stiff locally soft grey b	rown slightly sandy	19.00		
			- - -					gravelly CLAY. Gravel to subrounded fine and medium mudstone Sand is fine to	angular to m of chalk and	-		
			-						o coarse.	-		0.0.0 0. <u>0</u> 00
	19.90	DRY	_ 20.00-20.45	D	79			Below 20.00m: Becomes sti	ff			0
Remar (See note & keyshe	ks es eets)											
ocale 1:5	iu .	-6.	6 P A			Projec	:t		Contract No.	CON	083130	
							HULL C Hull C Faber	OLLEGE, KINGSTON UPON HULL ollege Maunsell	Figure No.			
			Â						rigare no.	ВН7 (2 с	of 4)	301/04

Drilling	Metho	d Cable	Percussion &	a Rota	ry	250mm	ble Diamo	om 250mm to 5,50m	BOREHOLE No.		BH8	Α
Equipn	nent	Dando	2000			200mm 150mm	to 23.	50m 200mm to 23.50m 90m 150mm to 23.50m				
Drill Cr	ew	B. Ha	wes				to 44.	00m 120mm to 37.40m				
Dates	Drilled	Start	05/11/2008			DH 07/11/	2008 1	en 7/11/2008				
Data		Depth	Semple I	Dotaila		SPT	U100	//11/2008		Denth		
Date &	Casing Depth	to	Sample I	Jetails	1	Blows/N Drive	Blows/ Recovery	Description of S	Strata	(Thick-	Level	Legend
Time	(m)	water (m)	Depth (m) From To	Туре	No.	mm Test	^{mm} Result			(m)		
05/11							rtoount	Grass over MADE GROUND: C	composed of soft to	-		
			-					firm brown sandy slightly Sand is fine to medium. G	gravelly silt. Fravel is			
			-					brick. Rare organic fragm	nents (<20mm).			
			-							(1 80)		
			-							(,		
			1.50	ES	1					-		
	1.40	DRY	1.50-1.95 1.50-1.95	D B	2 3	C7						
			-					MADE GROUND: Composed of	firm brown	1.80		
								becoming black locally gra Gravel is angular coarse c	velly silty clay. of brick.	(0.50)		
	2 4 6	D D D -	2.50	ES	4		20.4	MADE CROWNER COMPANY	finn harry 1 - 22	2.30		
	∠.40	лкл	∠.ou-∠.95	U	5		450	mottled blue grey locally clay with occasional angula	slightly sandy			
	2.40	DRY	2.95-3.00	ES D	6 7	S12		gravel of brick. Below 2.90m: Becoming blac	k.	(1.30)		
			3.00-3.45	в	8			j		E		
	3.40	DRY	3.50 3.50-3.95	ES U	9 10		34/			3.60		
							450	Firm grey brown lightly s Sand is fine to corre.	andy SILT/CLAY.			×. × × ×
	3.40	DRY	- 3.95-4.00 4.00-4.45	ES D	11 12	S16				_(0.90) -		× · ×
			4.00-4.45	В	13							× × · · × · · · × · · · × · · · · × ·
	4.40	DRY	4.50	U	14 15		20/	Soft brougrey slightly s	andy gravelly	4.50		
			4 95 5 00	FC	16		450	that. Gravel is angular to upparse outchalk, mudsto	one, quartz and	-		······
	4.40	DRY	5.00-5.45	DB	17 18	S5	_		to course.	-		D
	5.40	DRY	5.50-5.95	U	19		16/	Bely 5.50m: Locally dark	grey and black.			0.0.0.
							450			E		
	- 40		5.95-6.00	ES	20		X			-		0. <u></u> .
	5.40	DRY	6.00-6.45	B	21	85				-		· · · · · · ·
	6.40	DRY	6.50-6.95	U	23		5/					0.0.0
			-				150			-		· · · · · · · · · · · · · · · · · · ·
	6.40	DRY	6.95-7.00 7.00-7.45	ES D	24 25	S4				-		0.0.0
			7.00-7.45	в	26							0 0
	7.40	DRY	- 7.50-7.95	υ	27		28/ 200			E		· · · · · · ·
				80	20			Polon & Come Degrade bill		[0.000000000000000000000000000000000000
	7.40	DRY	- 7.95-8.00 - 8.00-8.45 - 8.00-9.45	ES D B	28 29 30	S5		Derow 0.00m: Becomes black	•			• • • •
	8.40	DRV	8.50-8 95	Π	31		22/					0.000
			-		-		450			- (8.50)		
			8.80 8.95-9.00	W Es	76 32							0.0.0
	8.40	DRY	9.00-9.45 9.00-9.45	D B	33 34	S7				E		
	9.40	DRY	9.50-9.95	υ	35		20/			E		0.0.0.0
							450		a into more trans			D
			9.95-10.00) ES	36			and black silt/clay.	s into grey brown			······
Remar	KS 1	Prior	to boring a (able .	Avoid	ance To	ol (CAT) survey was carried out. A	n inspection pit wa	s hand-du	g to 1.	20m
(See note & keyshe	es eets) 2	depth Aquife	and rescanned r protection	l usin was c	g the arrie	CAT to d out b	o check oy seali	for services. Services were ng the base of the hole at a	e not located. A depth of 5.50m and	continui	ng in r	educed
	3	diamet The bo	er casing. rehole was ad	lvance	d by	chisell	ing met	hods from 20.50m to 20.80m (1 hour) and 22.20m	to 23.00m	(2 hou	ırs).
	4	Aquife reduce	r protection d diameter ca	was casing.	arrie	d out b	y seali	ng the base of the hole at a	depth of 23.50m an	d continu	ing in	
Scale 1:5	0 5	See in	stallation de	etails	on f	inal sh	leet.					
		-60	GRO			Projec	t HULL C	OLLEGE, KINGSTON UPON HULL	Contract No.	CON	083130	
							Hull C Faber	ollege Maunsell	Figure No.			
			\sim						rigare no.	BH8A (1	of 6)	301/04

Drilling	g Metho	d Cable	Percussion &	Rota	ry	Boreho	ble Diame	eter Casing Diameter	BORE	HOLE No.		BH8	Α
Equipr	nent	Dando	2000			200mm 150mm	n to 23.	50m 200mm to 23.50m 90m 150mm to 23.50m					
Drill C	rew	В. На	wes				to 44.	00m 120mm to 37.40m Compiled by Checked by					
Dates	Drilled	Start End	05/11/2008			DH 07/11/	2008 1	en 7/11/2008					
Date	Casing	Depth	Sample D	etails		SPT	U100	.,,			Depth	Laval	Lanand
& Time	Depth (m)	Water	Depth (m)	Type	No	Drive	Recovery	Description of	Strata		ness)	Level	Legenu
		(m)	From To	. , po	27	Test	Result				(m)		۵۰٬۰۰ ^۰
	9.40	DRI	10.00-10.45	B	38	50					-		0.0
	10.40	DRY	10.50-10.95	υ	39		30/ 450				Ē		0 0 0 0
			-										0.000 0.000
	10.40	DRY	-10.95-11.00 11.00-11.45	ES D B	40 41 42	S10							D. 0.0
	11.40	DRY	- 11.50-11.95	U	43		35/						0.0.0
			-				450				-		
	11.40	DRY	-11.95-12.00	ES D	44 45	525		Below 12.00m: Occasional	plant re	emains.	-		· · · · · · · ·
			12.00-12.45	В	46								0.000
	12.40	DRY	12.50-12.95 12.50-12.95	U B	47 48		65						• • • •
	12.90	DRY	_ 13.00-13.45	р	49	5 36					13.00		· · · · · · · · · · · · · · · · · · ·
			13.00-13.45	В	50	200		Stiff grey brown sandy CL subangular fine to coarse	AY with gravel	occasional of chalk.			× ×
	13.40	DRY		υ	51		80	Sand is fine to coarse.			-		× —
05/11	14.00	DRY	-					X			-		· · · × · · · · ×
06/11	14.00	13.70	- 13.95-14.00 14.00-14.45	ES B	52 54						-		×
	13.40	DRY	14.00-14.45	D	53	S47	65/				-		× × · · · ·
	14.40	DRI	- 14.50-14.95	U	22		450	. Y			-		× ×
				ES	56			elow = 00m. Locally gra	des into	o silty	-		×
	14.40	DRY	15.00-15.45 15.00-15.45	D B FC	57 58	S23		Corry.			-		× ×
	15.40	DRY	15.50-15.95	Ū	60		40/ 450						× ×
											(6.00)		· · · × · · ×
	15.40	DRY	-15.95-16.00 -16.00-16.45 16.00-16.45	ES D B	61 62 6	S21					_(8.00)		× ×
	16.40	DRY	16.50-16.95	υ	64		0/						×
			-			\mathbf{N}	800				-		×
	16.40	DRY		ES D	65 66	\$23					-		× —
	1 - 1 -		17.00-17.45	в	67								· · · · · ×
	1,40	DKX	_ 1/.5U-17.95	U	80		450						×
				ES	69								× ×
	17.40	DRY	18.00-18.45 18.00-18.45	D B	70 71	S26							× · · · · · · · · · · · · · · · · · · ·
	18.40	DRY	18.50-18.95	υ	72		30/ 450						×
													· · · ×
	18.40	DRY	18.95-19.00 - 19.00-19.45 - 19.00-19.45	ES D R	73 74 75	S15		Medium dense grey brown s and medium SAND with rare	lightly	silty fine	19.00		<×
			19.50	ES	77			to coarse gravel of sands	tone.	moutum			×
	19.40	FULL	19.50-19.95	U	78		100/ 400				(1.50)		
			_ 19.95-20.00	ES	79						-		· · · × ·
Remar (See note & keyshe	ks 6 es eets)	Ground after	water was enco 15 mins,8.80m	afte	red a r 20	t 15.00 mins.)m durin	g boring and rose to 9.80m	after 5	mins,9.00m af	ter 10 m	ins,8.9	00m
Scale 1:5	50					Proiec	t		I	Contract No.	COM	083130	
			GRO				HULL C	OLLEGE, KINGSTON UPON HULL ollege					
							Faber	Maunsell		Figure No.	BH8A (2	of 6)	
						1					-		301/04

Drilling	g Metho	d Cable	Percussion			Boreho		om 250mm to 6,00m	BOR	HOLE No.		BH9)
Equipr	nent	Dando	2000			200mm 23mm	to 18. to 18.	50m 200mm to 13.00m 00m 150mm to 23.50m					
Drill C Dates	rew Drilled	Start End	10/11/2008 11/11/2008			Logged MW 12/11/	d by (r 2008 2	compiled by Checked by en 5/11/2008					
Date &	Casing Depth	Depth to	Sample D	etails		SPT Blows/N Drive	U100 Blows/ Recovery	Description of	Strata		Depth (Thick-	Level	Legend
Time	(m)	Water (m)	Depth (m) From To	Туре	No.	mm Test	Result				(m)		
10/11			0.20	D	1			MADE GROUND: Composed of brown slightly sandy silt	tarmac y clay.	adam over	-		
			0.20 0.30	B CD	2 3			At 0.20m: Concrete.	1 - 1		-		
			0.30	K V	3						(1.20)		
			- 0.50	K K	4 4 5						-		
			1.00 1.20-1.65	CD	5	C10		MADE GROUND: Composed of	firm 1	ocally	1.20		
			- 1.00 1.00	K V	5 5			fissured brown locally bl grey locally slightly san	ack, br dy clay	own and blue with rare	-		
			1.20-1.65	D B CD	6 7 8			gravel. Gravel is fine, sandstone.	subangu	lar of	-		
			2.00	K V	8 8						-		
	1.90	DRY	2.00-2.45 2.45-2.50	U CS	9 10		18/ 450	Below 2.50m: Brown and bl	ack sli	ghtly sandy	(2.30)		
	1.90	DRY	2.50-2.95 2.50	D B	11 12	S7		silt/clay with rare grave	l of br	ick.	-		
			- 3.00 - 3.00	CD	13 13						-		
	2.80	DRY	3.00 3.00-3.45	v U	14 14		60/				-		
			3.45-3.50 3.50-3.95	CS D	15 16	S9	450	Firm grey brown lightly	sandy S	ILT. Sand	3.50		× × ×
			3.50	B	17			is fine to core.			-		× × × · · · · · · · · · · · · · · · · ·
			4.00	K V	18 18 18						(1.50)		× × × × × × × × × × × × × × × × × × ×
	3.90	DRY	4.00-4.45 4.45-4.50	U CS	19 20		32/ 450				_		× × ×
			4.50-4.95 4.50	D B	21 22	S12					-		· · · · · · · · · · · · · · · · · · ·
			- - 5.00 - 5.00	CD V	23			Vrv s rk grev sligh	tlv san	dv siltv	5.00		·
			5.00	V B	23 24			CLV Sand is fine to co	arse.	ay siley	-		× × ×
	4.90		5.00-5.45 5.50-6.03	U#B	25	s1/					-		
	4.90	DRY	5.00	В	26	150					-		
			- 5.50-5.95 - 5.50 - 6.00	B	21 28 2						-		× × × ×
			6.00 6.00	K V	2 29						-		× × ×
			6.00-6.45 6.45-6.50	U CS	30 31		11/ 400				-		× × × ×
			6.50-6.95	С в	32	75							× × ×
		FULL	7.00-7.45	U#B B	34 35						-		× ×
			7.50-7.95	С	36	S1/ 450*					-		
		FULL	7.50 8.00-9.4F	В 11#5	37						(5.50)		× × × ×
			8.00-8.45 8.00 8.00-8.95	B C	39 40						-		× × × ×
			8.50	D	41								× × × ×
			8.50-8.95			S1/ 450*							× × ×
		FULL	9.00-9.45 9.00	U#B B	42 43						E I		× × ×
			-								-		
	9.00	FULL	9.50-9.95	C -	44	S1/ 450*					F I		× × × ×
			9.50 10.00-10 45	в	45 46		64 /						× × × ×
Remar	ks 1	Design			<u> </u>				2m d	ogtion -it	hord 3	a + - 1	2.0
(See not & keyshe	es eets) 2	depth Acuifo	and rescanned	usin was c	avoid g the arris	CAT to d out b	check	, survey was carried out. for services. Services wer ng the base of the bole at	e not l a derth	ocated.	nana-dug	y to I. ng in ~	educed
,	3	diamet	er casing.	vance	d by	chisell	ing met	hods from 12.20m to 12 50m	(1,25 h	ours).	- Sire rituri		Juaceu
	4	Aquife	r protection was add	was c sing	arrie	d out b	y seali	ng the base of the hole at	a depth	of 18.50m and	continu	ing in	
Scale 1:5	io ⁵	The bo	rehole was ad	vance	d by	chisell	ing met	hods from 20.60m to 20.90m	(1.5 hc	ours) and 23.60m	n to 24.	00m (1	hour).
		-Fu	GRO			Projec	t HULL C	OLLEGE, KINGSTON UPON HULL		Contract No.	CON	083130	
		ļ					Hull C Faber	ollege Maunsell		Figure No			
											BH9 (1 0	of 4)	301/04

Drilling	g Metho	d Cable	Percussion			250mm	le Diam	eter Casing Diameter 250mm to 6.00m	BOREHOLE No.		BH9)
Equipn	nent	Dando	2000			200mm 23mm	to 18. to 24.	50m 200mm to 13.00m 00m 150mm to 23.50m				
Drill Cı Dates	rew Drilled	Start End	10/11/2008 11/11/2008			Logged MW 12/11/	d by (1 2008 2	Compiled by Checked by Sen 5/11/2008				
Date &	Casing Depth	Depth to Water	Sample D	etails		SPT Blows/N Drive	U100 Blows/ Recovery	Description of	Strata	Depth (Thick- ness)	Level	Legend
Time	(m)	(m)	Deptn (m) From To	Туре	No.	Test	Result			(m)		
			-				450					× ^ ×
		FULL	- 10.45-10.50 10.50-10.95 10.50 - 11.00-11.45	CS C B U	47 48 49 50	58	60/	Firm grey brown sandy gra is angular to subrounded chalk, coal, sandstone and is fine to coarse.	velly CLAY. Gravel fine to medium of d mudstone. Sand	- 10.50 		
10/11	10.50	FULL 0.00	- 11.45-11.50 - 11.50-11.95 - 11.50 - 11.70 - 11.70	СS Св С К	51 52 53 54 54	S13	550	At 11.70m: Bands/pockets o spongy PEAT.	of dark brown/black	- (2.00) -		
11/11	10.50 11.80	6.80 FULL	11.70 11.70 11.70 12.00-12.45 12.50-12.95 12.00 12.50-12.95 12.50	V D B U#B B C B	54 55 56 57 58 59 60	S18		At 12.20m: Sandstone cobb Stiff brown slightly sand CLAY. Gravel is subangula to coarse of chalk, flint Sand is fine to coarse.	le/boulder. y slightly gravelly r to rounded fine and sandstone.	- 12.50		
	12.50 B 12.50 CD 12.50 V 12.50 V 12.80 DRY - 13.00-13.45 U 13.45-13.50 CS 13.50-13.95 C 13.50 B 13.00 DRY - 14.00-14.45 U - 14.45-14.50 CS 13.00 DRY 14.50 B					S28	100/ 450 110/					
	13.50-13.95 C 6 13.00 DRY 14.00-14.45 U 14.00-14.45 U 14.45-14.50 CS 6 14.50-14.95 C 6 14.50-14.95 C 6 14.50 B 6 15.45-15.50 CS 7 13.00 DRY 15.50-15.95 C 7 15.50-15.95					S38	100/ 450	KÌ.		· · · · · ·		
	13.00 DRY 14.45-14.50 14.50-14.95 14.50 CS C 6 6 14.50 6 6 6 6 7 13.00 DRY 15.00-15.45 15.50-15.95 15.50 U 7 7 13.00 DRY 15.45-15.50 15.50 CS 7 7 7 7 13.00 DRY 16.00-16.45 U 7					S34		Y		(6.00)		
	13.00		- 16.45-16.50 16.50-16.95 16.50 - 17.00-17.45	CS C B U	75 76 77 78	47	80/ 450			- - - - - - - -		
	13.00	DRY DRY	17.45-17.50 17.50-17.95 17.50 18.00-18.45 18.00	CS C B U#B B	79 80 81 82 83	S37				· - - - - - - - - -		
	13.00	6.80	18.50 - 18.50 - 18.50 - 18.50	D B CD F	84 85 86 86			Medium dense brown very c medium SAND.	layey fine and	18.50		×
	$ \begin{bmatrix} 13.00 \\ 6.80 \\ - 18.50 \\ 18.50 \\ - 18.50 \\ - 18.50 \\ - 18.50 \\ - 18.50 \\ - 18.50 \\ - 18.50 \\ - 19.00 \\ - 19.00 \\ - 19.00 \\ - 19.00 \\ - 19.00 \\ - 19.00 \\ - 19.00 \\ - 19.00 \\ - 19.00 \\ - 19.00 \\ - 19.00 \\ - 19.00 \\ - 19.00 \\ - 19.00 \\ - 19.00 \\ - 19.00 \\ - 19.00 \\ - 10.00 $					S21				(1.40)		× • • • • • • • • • • • • • • • • • • •
	D 89				89			Probably extremely weak sirecovered as firm comminut	tructureless CHALK ted chalk.	19.90		×°°°
Remarl (See note & keyshe	ks 6 es 7 eets) 8	See in Ground after Ground after	stallation de water was enc 15 mins,3.50m water was enc 15 mins,6.80m	tails ounter after ounter after	on f red a r 20 : red a r 20 :	inal sh t 4.70m mins. t 18.20 mins.	eet. during m durin	y boring and rose to 4.30m and rose to 15.10m	fter 5 mins,4.10m aft after 5 mins,11.20m	er 10 min after 10	ns,3.80 mins,8	m .70m
- Sure 1.5	-	-fu	GRO			Projec	HULL C	COLLEGE, KINGSTON UPON HULL	Contract No.	CON	083130	
		•					пull C Faber	Maunsell	Figure No.	ВН9 (2 с	of 4)	301/04

Drilling	Metho	d Cable	Percussion			Boreho	le Diame	eterCasing Diameter0m250mm to 7.00m	BORE	HOLE No.		BH11	Α
Equipn	nent	Dando	2000			200mm 150mm	to 12. to 24.	00m 200mm to 12.00m 50m					
Drill Cı Dates	rew Drilled	Start End	30/10/2008 03/11/2008			Logged MW 03/11/	d by C m 2008 0	Compiled by Checked by d 5/11/2008					
Date &	Casing Depth	Depth to	Sample D	etails		SPT Blows/N Drive	U100 Blows/ Recovery	Description of	Strata		Depth (Thick-	Level	Legend
Time	(m)	water (m)	Depth (m) From To	Туре	No.	mm Test	^{mm} Result				(m)		
30/10			-					MADE GROUND: Tarmacadam.			(0.20) 0.20		
			0.30 0.30 0.30 0.30 0.30 0.50 0.50	CD K D B CD K V	1 1 2 3 4 4 4			MADE GROUND: Composed of gravelly clay. Gravel is subrounded fine to coarse coke and mudstone. Occas brick.	firm br angula of bri ional c	own sandy r to ck, chalk, obbles of	- - - - - (2.20)		
	1.70	DRY	$\begin{array}{c} 1.00\\ -1.00\\ 1.20-1.65\\ 1.20\\ -2.00-2.45\\ 2.00\\ 2.00\\ 2.00\\ 2.00\\ \end{array}$	CD K D B CD K	5 5 6 7 8 9 10 10						2.40		
	2.00	DRY	- 2.00 2.40 2.40	V D B	10 11 12			MADE GROUND: Composed of sandy clay with occasiona subrounded fine to coarse chalk, brick and flint.	soft to l suban gravel	firm grey gular to of coke,	- - - -		
	2.80 DRY 3.00-3.45 D 3.00 B 3.00 CD 3.00 K 3.00 V 3.70 D 3.70 B 4.00 CD 4.00 K 4.00 V 4.00 V				13 14 15 15 15	C9					(1.30)		
			3.70 3.70 4.00 4.00 4.00 4.00 4.00-4.45 4.50-4.95	D B CD K V U B	16 17 17 17 17 18 21	S4	22/ 450	MADE GROUND incompared of sandy clay, locally with brick.	soft gr some co	ey brown bbles of	3.70		
	4.80	2.20	- - - 5.00-5.45	υ	22		24/ 450	Form i come soft grey br	own sli	ghtly sandy	5.00		
			5.50-5.95	в	25	S3		gn welly CLAY. Gravel is subconded fine and mediu flic, sandstone and muds to darse.	angula m of ch tone. S	r to alk, coal, and is fine	-		
	5.70	2.20	6.00-6.45	σ	26		2. ř 45.				- - -		
	6.30	FULL	6.50-6.95	в	29	S11					- - - -		
	6.80	FULL	- 7.00-7.45 -	σ	30		18/ 450				- - - -		
			7.50-7.95	в	33	S10		At 7.50m: Grey brown silt	partin	g.	- - - -		
	7.80	FULL	8.00-8.45	υ	34		22/ 450				(6.20)		
	8.90	FULL	_ 8.50-8.95 - - - 9.00-9.45	B U	37 38	S13	27/	Below 8.50m: Locally grad	es into	silty clay.	- - - -		
			9.50-9.95	в	41	S13	450						
	9.80	FULL	10.00-10.45	υ	42		52/						
Remarl (See note & keyshe	ks 1 es 3 4 5 0	Prior depth The bo The bo mins). The bo See in Ground	to boring a C and rescanned rehole was ad rehole was ad rehole was ad stallation de water was enc	able i using vance vance vance tails ounte	Avoid g the d by d by d by on f red a	ance To CAT to chisell chisell chisell inal sh t 5.00m	ol (CAT o check ing met ing met ing met neet. a during) survey was carried out. for services. Services wer hods from 1.70m to 1.90m (4 hods from 21.70m to 21.90m hods from 23.50m to 23.80m boring and rose to 4.40m a	An insp e not 1 5 mins) (30 min (1 hour fter 5	ection pit was ocated. and 10.30m to s) and 22.60m 30 mins). mins,3.60m afte	hand-dug 11.15m to 22.90r er 10 min	g to 1. (45 min n (1 ho ns,2.80	20m s). ur 45 m
		-fu	GRO			Projec	t HULL C	OLLEGE, KINGSTON UPON HULL		Contract No.	CON	083130	
		•	Â				Hull C Faber	ollege Maunsell		Figure No.	BH11A (1	of 4)	301/04

Drilling	g Metho	d Cable	Percussion			Boreho	ble Diame	om 250mm to 7.00m	BOREHOLE No.		BH11	Α
Equipr	nent	Dando	2000			200mm 150mm	n to 12. n to 24.	00m 200mm to 12.00m 50m				
Drill C Dates	rew Drilled	Start End	30/10/2008 03/11/2008			Logge MW 03/11/	d by C m 2008 0	Compiled by Checked by ^{Id} 5/11/2008				
Date	Casing	Depth to	Sample D	etails		SPT Blows/N Drive	U100 Blows/ Recovery	Description of	Strata	Depth (Thick-	Level	Legend
Time	(m)	Water (m)	Depth (m) From To	Туре	No.	Test	Result		ottata	ness) (m)		
	-		-				450					· · · · · ·
			- 10.50-10.95	в	45	S17						
	10.80	FULL	- - 11.00-11.45	υ	46		100/ 450			 		
			- 11.50-11.95	в	49	S27		Stiff brown sandy slightl Gravel is subangular to r coarse flint and chalk. coarse.	y gravelly CLAY. ounded, fine to Sand is fine to			
30/10	10.80	FULL			5.0		100/			Ē-		0.000 0.00
31/10	10.80	6.80 DRY	12.00-12.45	в	50	S42	100/ 450					
			- - - 13.00-13.45	υ	54		110/					
			-				450					
	12.00	DRY	- 13.50-13.95	в	57	S42				-		
			_ 14.00-14.45	υ	58		100/ 450			-		
	12.00	DRY	14.50-14.95	в	61	S45				-		
			15.00-15.45	υ	62		100/ 450	>				
	12.00	DRY	15.50-15.95	в	65	S44				(8.40)		0.0.0
				υ	66		1.1V 451					0.000
	12.00	DRY	- 16.50-17.00	в	69	543						0.000
	12.00	DRY	17.00-17.45	υ	70		100/ 450	Below 17.00m: Driller not boulders.	es occasional			0.0.0
			17.50-17.95	в	73	S44						
			_ 18.00-18.45	υ	74		100/ 450					
			18.50-18.95	в	77	S45		Below 18.50m: Locally gra gravelly silt.	des into sandy			· · · · · · · · · · · · · · · · · · ·
31/10	19.00	6.40								È.		0.0000
03/11	19.00	1.90	19.00-19.45 19.00	U#B B	78 79							
	19.00	1.90	19.60 19.60	D B	80 81			Medium dense clayey sligh to coarse SAND. Gravel i	tly gravelly fine s subangular and	19.60		e
Damas	19.80	4.70	_ 20.00-20.00	в	83	S25		subrounded fine to coarse lithologies.	e of mixed	<u> </u>		
(See not & keysh	KS es 7 eets)	after Ground after	15 mins,2.20m Water was enc 15 mins,6.40m	afte ounte afte	r 20 red a r 20	mins. t 19.00 mins.)m durin	g boring and rose to 15.10m	after 5 mins,9.70m a	after 10	mins,6.	4 0 m
Scale 1:	50					Proiec	t		Contract No	CON	083120	
		Ţ	GRO				HULL C Hull C Faber	OLLEGE, KINGSTON UPON HULL College Maunsell	Figure No.	CON		
1						1				BH11A (2	of 4)	301/04

Drilling	Metho	d Cable	Percussion &	Rota	ry	Boreho	ble Diam	eter Casing Diameter	BOREHOLE No.		BH12	2A
Equipn	nent	Dando	2000			200mm	to 17.	.50m 200mm to 19.00m 00m 150mm to 22.00m				
	201	incode	-			120mm	to 42	00m 120mm to 37.00m				
Dates	Drilled	Start End	04/11/2008 21/11/2008			DH 07/11/	2008 1	nd L2/11/2008				
Date	Casing	Depth to	Sample D	etails		SPT Blows/N Drive	U100 Blows/	Description of	Strata	Depth (Thick-	Level	Legend
Time	(m)	Water (m)	Depth (m) From To	Туре	No.	mm	Bocult	Description of	Strata	ness)		
04/11		(,	- From To			Test	Result	MADE GROUND: Composed of	brown to dark brown	(m) - (0.20)		
			0.20 0.20 0.30	D B ES	1 2 3			slightly gravelly to grav Sand is fine to coarse. subangular to rounded fin	elly clayey sand. Gravel is e to coarse of	0.20		
			0.50	64	-			occasional rootlets (<2mm).	(1 40)		
	NIL	DRY	- 1.00 1.20-1.65 1.20	ES D B	5 6 7	C7		MADE GROUND: Composed of subrounded fine to coarse sand matrix with occasion (<30mm) locally intermixe	subangular to gravel in a silty al brick fragments d with brown sandy			
04 /11	1							MADE GROUND: Concrete.		1.60 (0.40)		
04/11	1.90	DRY	2.00	ES B	8			Very soft brown locally g	rev brown glightly	2.00		×××
05/11	1.90	DRY	2.00-2.45	D	9			<pre>clayey SILT with occasion (<10mm) of yellow and ora Below 2.60m: Grades into</pre>	al pockets of nge silt. silty clay.	- - -		$\begin{array}{c} & \times \\ \times \\ \times \\ \times \\ \times \\ \times \end{array}$
			2.60 2.60	D B	11 12					(1.50)		
			3.00	ES	13		10/			-		× × × ×
	2.80	DRY	3.00-3.45	U	14		450			-		× × × × × ×
			3.45-3.50 3.50-3.95	ES D	15 16	S8		Loose grey brown to brown	silty fine SAND	3.50		×
			3.50	в	17			with occasional ockets (organic silt ind ccasion	<10mm) of dark grey al partings and			×
	3.80	DRY	4.00-4.45	U ES	18 20		32/ 450	lenses (<5mm) of file to :	medium sand.			ו••••,
			4.45-4.50	ES	19			Below 50mg Grades into	sandy silt.	-		× ×
			4.50-4.95 4.50	D B	21 22	S9			-	(2.50)		×,
	4.80	DRY	5.00-5.45	U	23		24/			-		<
	4.80	DRY	5.00	ES	25		450			-		×
			5.45-5.50 5.50-5.95	ES D	24 26	S8						<×
			5.50	в	27							×
	5.90	5.20	6.00-6.45 6.00-6.45	U B	28 29		250	Very soft grey brown slig	htly sandy silty	- 6.00		×
			6.50-6.95	D	30	S1/		Between 6.50m and 7.50m:	With occasional	-		×
			6.50	в	31	225		pockets/partings of silty	fine sand.			××
	6.80	150.00	7.00-7.45	UB	32		22					×
					55					-		$\frac{1}{1}$
			7.50-7.95	D	34	S1/ 150						×
	7 0 0	7 1117		В 	35		21			(4 . 0.0)		× ×
	1.80	чотр	- 8.00-8.45 - 8.00-8.45	В	37		21			(4.00) -		×
			8.50-8.95	D	38	S1/						×
			8.50	в	39	450						× · · · · · · · · · · · · · · · · · · ·
	8.80	FULL	9.00-9.45	U B	40 41		18			F		×
			-	-						E		· · × · · · ×
			9.50-9.95	D	42	S1/ 450				F		×
	9 80	150 00	9.50 10 00-10 45	в	43 44		32/			10 00		· · · × · · · ×
Pomer			_ 10.00-10.45				54/	Firm dark grey brown slig	htly sandy slightly			
(See note & keyshe	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Prior depth The bo Aquife reduce The bo See in Ground	to boring a C and rescanned prehole was ad er protection ad diameter ca orchole was ad stallation de water was enc	able usin vance was c sing. vance tails ounte	Avoid g the d by arrie d by on f red a	ance To CAT to chisell d out h chisell inal sh t 5.60m	ooi (CA1 o check ing met oy seali ing met eet. during	() survey was carried out. for services. Services wer chods from 1.60m to 1.80m (1 ing the base of the hole at chods from 21.10m to 21.50m g boring and rose to 5.40m a	An inspection pit was e not located. .25 hours). a depth of 16.00m and (1 hour). fter 5 mins.5.20m aft	er 20 mi	g to l. ing in ns.	2 UM
Scale 1:5	υŤ					Proied		,	Contract No.	COM	083130	
		Tu	GRO				HULL C	COLLEGE, KINGSTON UPON HULL College				
							Faber	Maunsell	Figure No.	BH12A (1	of 6)	
L										\-	•••	301/04

Drilling	Metho	d Cable	Percussion	n & 1	Rotai	ry	250mm	le Diame	om 250mm to 6.00m	BORE	HOLE No.		BH12	2A
Equipr	nent	Dando Knebe	2000 1				200mm 150mm	to 17. to 22.	50m 200mm to 19.00m 00m 150mm to 22.00m					
Drill C	rew						120mm Logged	<u>to 42.</u> 1 by C	00m 120mm to 37.00m Compiled by Checked by					
Dates	Drilled	Start End	04/11/200 21/11/200	8 8			DH 07/11/	m 2008 1	d 2/11/2008					
Date	Casing	Depth to	Samp	le De	tails		SPT Blows/N Drive	U100 Blows/ Recovery	Description of	Strata		Depth (Thick-	Level	Legend
Time	(m)	Water (m)	Depth (m) T	Гуре	No.	mm	mm Posult		otrata		ness) (m)		
		(,		0			Test	450	gravelly CLAY. Sand is fi	ine and	medium.	10.00		×.° <u>. · ·</u> •
			- 10.45-10 - 10 50-10	.50	ES D	45 46	57		Gravel is angular to round fine and medium of mixed 1 Between 10.50m and 11.50m; nockets of (<50mm) grey fi	ded pred litholog : With d	dominantly gies. occasional	- - - -		×
	10.80	FULL	10.50	.45	B U	47 48		33/	F, 21					× · · · ·
				_				450				(2.60)		×
			11.45-11 11.50-11 11.50	.50 .95	es D B	49 50 51	S11					- - -		×
	11.80	FULL	- 12.00-12 12.00-12	.45 .45	U B	52 53		58				- - -		×
05/11	12.50	FULL	- 12.50-12 12.50	.95	D B	54 55	S10					12.60		×. • • • • •
06/11	12.50	DRY	12.60 12.60 _ 12.60		D B ES	56 57 58			Stiff brown sandy slightly Sand is predominantly fine Gravel is predominantly an	y gravel e and me ngular (lly CLAY. edium. to rounded	-		
	12.90	DRY	13.00-13	.45	U	59		120/ 450	fine and medium of mixed l partings and lenses of fir brown sand (<3mm).	litholog ne and r	gies with nedium light	- - -		· · · · · · · ·
	- 13.45-13.50 CS (- 13.50-13.95 D (- 13.50 B (- 14.00-14.45 U (S37		Below 13.50m: Becomes stif	II DTOWI	n and sandy.	- - - -		
	- 14.00-14.45 U							110/ 450				- - -		0.0.0 0.0
	- 14.45-14.50 CS 6 - 14.50-14.95 D 6 - 14.50 B 6						S39					- - -		· · · · · · · · · · · · · · · · · · ·
	- 14.45-14.50 CS 6 - 14.50-14.95 D 6 - 14.50 - 14.50 B 6 - 15.00-15.45 U 6							100/ 450	\sim					
			15.45-15	.50	cs	68			Y			- - -		
			15.50-15 15.50	.95	D B	69 70	S42					(6.40)		
			_ 10.00-16	.40	U			450						
			16.45-16 16.50-16 16.50	.50 .95	CS D B	72 73 74	29		Below 16.50m: Gravel is an fine to coarse.	ngular (to rounded	-		0. <u>0.0</u> .0
			_ 17.00-17	.45	υ	75		81/ 450						· · · · · · · · ·
			- - 17.45-17 - 17.50-17	.50 .95	CS D	76 77	S 30					- - -		0 0 0 0
	12.90	DRY	17.50 18.00-18	.45	в U	78 79		80/				[- -		
			18.45-18	.50	cs	80								0.0 0. <u>0</u> .0 0.0 0.0
	10.00		18.50-18 18.50	.95	D B	81 82	S27	244				10.00		
	12.90	DRY		.45	U B	83 84		24/ 450	Medium dense grey green cl coarse SAND.	layey f:	ine to	 		· · · · · · · · · · · · · · · · · · ·
	12.90 9.80 19.50 19.50 19.50 19.50 19.50 19.50 19.50 19.50 19.50 19.50 86 19.50 19.50 87 19.50 87					85 86 86 86 87	S20					(1.50)		
Remar	ks 7	Ground	water was	encou	unter	red a	t 19.20	m durin	g boring and rose to 17.20m	after !	5 mins,15.30m	after 10	mins,1	.2.10m
& keyshe	eets)	arter	15 mins, 9.	80m 4	arcer	. 20 .	mins.							
Scale 1:5	Ū	-fu	GRO				Projec	t HULL C	OLLEGE, KINGSTON UPON HULL		Contract No.	CON	083130	
		I						Hull C Faber	ollege Maunsell	ŀ	Figure No.	BH12A (2	of 6)	
L												,-	•	301/04

Drilling	Metho	d Cable	Percussion			250mm	le Diame	om 250mm to 6.90m	BORE	HOLE No.		BH1:	3
Equipn	nent	Dando	2000			200mm	to 11.	00m 200mm to 9.80m					
Drill Cr Dates	rew Drilled	Start End	18/11/2008 20/11/2008			Logged MW 21/11/	d by C m 2008 2	Compiled by Checked by d 6/11/2008					
Date &	Casing Depth	Depth to Water	Sample D	etails		SPT Blows/N Drive mm	U100 Blows/ Recovery mm	Description of	Strata		Depth (Thick- ness)	Level	Legend
Time	(m)	(m)	From To	Туре	No.	Test	Result				(m)		
18/11	0.00	DRY						MADE GROUND: Composed of g gravelly fine to coarse sa	grey br and wit	own clayey h occasional			
			0.30 0.30 0.30 0.30 0.50 0.50 0.50 1.20-1 65	D B CD K V CD K V	1 2 3 3 4 4 4	C11		cobbles of brick. Gravel subrounded fine to coarse quartzite. Between 0.30m and 0.50m: F concrete.	is ang of bri Possibl	ular to ck and y insitu	- - - - - - - - - - - - - - - - - - -		
			1.00 1.00 1.20-1.65 1.20-2.45 2.00-2.45 2.00 2.00	CD K V D B D B CD K	5 5 6 7 8 9 10 10	C10		Below 2.00m: Becomes very gravelly.	sandy	and	- - - - - - - - - - - - - - - - - - -		
	2.00	D0 DRY 2.50 K 2.50 DRY 2.50 B 2.50 CD 2.50 CD 2.50 V 2.50 V 3.00-3.45 U 3.70 D 3.70 D 4.00-4.45 U 4.00-4.45 U 4.00-4.95 B				59	31/ 450	Firm grey brown slightly a with rare angular fine gra	sandy C avel of grev/b	LAY/SILT chalk.	- - - - - - - - - - - -		× × × × × × × × × × × × × × × × × × ×
		3.00-3.45 U 3.50-3.95 B 3.70 D 3.70 B 4.00-4.45 U 4.00-4.45 U 4.50-4.95 B 4.50 CD 4.50 K 4.50 V					32/ 450		grey/b	Tuck.	- (3.20)		× • × • × • × • × • × • × • × • × • × •
	4.50	DRY	4.50-4.95 4.50 4.50 4.50 4.70 4.70 4.70 5.00-5.45	B CD K V CD K V U R V U R	23 24 24 25 25 25 25 26	S12		X			- - - - - - - - - -		× • × • × • × • × • × • × • × • × • × •
	5.80	DRY	5.70 5.70 5.70 5.70 6.00-6.45	CD K V U	30 30 30 31		33) 450	Soft dark grey sandy CLAY. coarse.	. Sand	is fine to	5.70		× • • × 4 • × • × 4 • × 4 • × 4 • · · · · · · · · · · · · · · · · · · ·
	6.40	5.30	6.50-6.85	в	34	S1/					- - -		
	6.90	5.30	6.50 6.50 6.50 7.00-7.45 7.00	CD K V U B	35 35 35 36 37	50	11/ 450				(2.30)		
	6.90 7.90	5.30 FULL	7.50-7.88 7.50 7.50 7.50 7.50 8.00-8.45 8.00	B CD K V U#B B	39 40 40 40 41 42	S7/ 375*		Very soft grey brown sandy sandy locally gravelly to	y local very g	ly very ravelly	- - - - 8.00		
			8.50-8.95	в	44	S1/ 450*		CLAY. Gravel is angular t and medium of chalk, flint sandstone. Sand is fine to	to suro t and r o coars	unded fine are e.	-		0.0.0
	8.90	FULL	9.00-9.45 9.00	U#B B	45 46			Occasional subrounded cobb	bles of	chalk.	- - - -		
			9.50-9.95	в	48	S2/ 300					- - -		
	9.80	FULL	_ 10.00-10.45	U#B	49						(3.90)		0. <u>0.0</u> .0
Remarl (See note & keyshe	ks 1 es 2 3 4 5 0	Prior depth The bo The bo hour). See in Ground after	to boring a Ca and rescanned rehole was adv rehole was adv stallation def water was enco 15 mins,5.30m	able i using vance vance tails ounte afte	Avoid g the d by d by on f red a r 20	ance To CAT to chisell chisell inal sh t 6.10m mins.	ol (CAT check ing met ing met eet. during) survey was carried out. A for services. Services were hods from 1.60m to 1.90m (1 hods from 21.20m to 21.50m boring and rose to 5.40m af	An insp e not 1 hour 4 (1 hour fter 5	ection pit was ocated. 5 mins). 30 mins) and 2 mins,5.30m afte	hand-dug 24.20m to er 10 min	g to 1. o 24.50 ns,5.30	20m m (1 m
50aie 1.3	-	-60	GRO			Projec	t	OLLEGE, KINGSTON HOON HULT.		Contract No.	CON	083130	
			Â				Hull C Faber	ollege Maunsell		Figure No.	BH13 (1	of 4)	301/04

Drilling	g Metho	d Cable	Percussion			Boreho 250mm	ole Diamo 1 to 7.5	eter Casing Diameter 0m 250mm to 6.90m	BORE	HOLE No.		BH1	3
Equipr	nent	Dando	2000			200mm	n to 11.	00m 200mm to 9.80m					
Drill C Dates	rew Drilled	Start	18/11/2008			Logge MW	d by (Compiled by Checked by					
Date	Casing	End Depth	20/11/2008 Sample D	etails		21/11/ SPT	²⁰⁰⁸ 2	6/11/2008			Depth		
& Time	Depth (m)	to Water	Depth (m)	Type	No	Blows/N Drive mm	Blows/ Recovery mm	Description of	Strata		(Thick- ness)	Level	Legend
	(,	(m)	From To	Type	NO.	Test	Result				(m)		o • ; • • •
			10.00-10.50	в	50						-		· · · · ·
			10.50-10.95	в	52	S6					-		0 0 0 <u>0</u>
18/11	9.80	FULL											······
19/11	9.80	5.30	11.00-11.45	U#B B	53 54						Ē		· · · · ·
		5.30	11.50-11.95	в	56	S1/					-		0. <u>0.0</u> .
			11.50	W	57 57	450*					11 90		· · · · ·
		DRY	- 11.90 - 11.90 - 11.90	D B	58 59			Stiff grey sandy locally s CLAY. Gravel is subangular	slightly r and su	gravelly brounded	-		0.0
			11.90 11.90	CD K	60 60			fine to coarse flint, chal Sand is fine to coarse.	lk and s	andstone.			· · · · ·
		עפת	- 11.90 12.50-12.95	V TT	60 61	S47	70/						· · · · · · · · · · · · · · · · · · ·
		DKI	12.00-12.45 12.50-12.95 13.00-13.45	B U	64 65		450 12/						0 0 0
	DRY 13.50-13.95 B						450				-		· · · · ·
		DRY	13.50-13.95	в	68	S46					-		0 <u>0 0</u>
			-								-		· · · · · · · · · · · · · · · · · · ·
		DRY	_ 14.00-14.45	υ	69		120/ 450				-		0.00
	DRY 14.00-14.45 U					546							0.0.0
	14.50-14.95 в					210							· · · · ·
		DRY		υ	73		74/				-		0.0.0.
			-				450				(6.70)		· · · · · ·
			15.50-15.95	в	76	S21					-		0. <u></u>
			16 00 16 45		77								· · · · ·
			_ 10.00-10.45	U			450				-		• • • •
				в	80	S22		Below 16.50m: Slightly sil	lty.		-		0.0.0.
			- - -			\mathbf{N}							· · · · · ·
			_ 17.00-17.45	υ	81		90/ 450				-		0.0.0
					0.4	a 220							· · · · ·
		DRY	L 17.50-17.95	в	84	532							0.0.0
				υ	85		90/						· · · · · · ·
							450						0 0 0 0 0
		5.40	18.50-18.95 18.60	B D	88 89	S 33					18.60		0.0.0.
		5.10	18.60 18.60	B CD	90 91			Medium dense grey brown sa sandy angular to subrounde	andy loc ed fine	ally very and medium			• • • • •
			18.60 18.60	к V	91 91			GRAVEL of chalk. Rare fli	int cobb	oles.	_(0.80)		
			19.40	D	92			Firm grev brown sandy CLAN	Y. Sand	is fine to	19.40		• • • • • • • • •
	19.40	5.50	19.50-19.95 19.40	CD	95	S17		coarse.					· · · · · · · ·
	19.40 5.50 19.40 CD 19.40 K 19.40 V										F		· · · ·
Remar (See not & keysho	ks ₆ es eets)	Ground after	water was enc	ounte afte	red a r 20	t 18.50 mins.)m durin	g boring and rose to 13.20m	after 5	; mins,9.70m a	after 10 m	nins,7.	10m
Scale 1:5		-6.	200			Projec	ct			Contract No.	CON	083130	
							HULL C Hull C	OLLEGE, KINGSTON UPON HULL College	ļ	P 1			
							Faber	Maunsell		Figure No.	BH13 (2	of 4)	301/04

Drilling	g Metho	d Cable	Percussion &	Rota	ry	Boreho	ole Diamo	om 250mm to 4.50m	BORE	HOLE No.		BH1	4
Equipn	nent	Dando Knebe	2000 1			200mm 120mm	n to 23. n to 45.	00m 200mm to 23.00m 00m 120mm to 34.45m					
Drill Cr Dates	rew Drilled	в _{Наw} Start End	res 10/11/2008 01/12/2008			Logged MW 13/11/	d by 0 m /2008 2	Compiled by Checked by d 0/11/2008					
Date &	Casing Depth	Depth to	Sample D	etails		SPT Blows/N Drive	U100 Blows/ Recovery	Description of	Strata		Depth (Thick-	Level	Legend
Time	(m)	water (m)	Depth (m) From To	Туре	No.	Test	mm Result				(m)		
10/11			-					MADE GROUND: Sand (Drille	r's des	cription).	(0.10)		
								MADE GROUND: Hardcore (D description).	riller'	s	(1.10)		
			-										
	1 40	עפת	1.50 1.50 1.50 1.50	CD K V	1 1 1 2	C7		MADE GROUND: Composed of dark grey sandy gravelly angular to subrounded fin chalk, sandstone and flin	firm b clay. e to co t. San	rown locally Gravel is arse brick, d is fine to	(0.80)		
	1.10	DRI	- 1.50-1.95	В	3	07		Soft brown sandy silty CL	AY.		2.00		××××× *
			2 50	CD	4			Below 2 50m. Rare subroun	ded ar	avel	(1 10)		× ×
	2.40	DRY	2.50 2.50 2.50 2.50-2.95	K V B	4 4 6	S1/			ucu gr		- (1110)		× ×
			-			225		Soft dark grey sandy SILT	/CLAY.	Sand is	3.10		×
			3.50	CD K	7			fine to coarse.					× ×
	3.50	DRY	3.50 3.50-3.95	V D	78	С5					-		· · · · · ×
			_ 3.50-3.95	в	9								×
			4.50	CD	10						-		×
	4.40	DRY	4.50 4.50 4.50-4.95	K V D	10 10 11						-		× ×
			4.50-4.95 4.50-4.95	в	12	C7							×
			5.50	CD	13			Y			-		× × · · ·
10/11	c a a		5.50 5.50	к V	13 13								× ×
10/11	5.40	DRY	 - 5.50-5.95	U	14		12	Below 6.00m: Gravel is fi chalk. Tending to a silt	ne suba	ngular of	-		× <u>× .</u>
11/11	6.00	5.70	6.00-6.15	в		S2/ 100	450				-		× × ×
	0.40	WET	- 6.60 -	W	18 79		300				(7.40)		× ×
	6.40	WET	7.00-7.30	в	21	\$3/							×
			-			200					-		× ×
	7.40	WET	7.50-7.95 7.50-7.95	U#B B	22 23						-		×
	7.90	WET	8.00-8.25	в	25	S2/							· · · · ×
			-			125							× ×
	8.40	WET	8.50-8.95	υ	26		20/ 400				E		×
	8.40	WET	9.00-9.23	в	29	S2/ 100		Below 9.00m: Grades into	dark gr	ey clay.			× × × ×
													× ×
	9.40	WET	9.50-9.95	υ	30		18/ 450						×
	9.40 WET 10.00-10.35 B 33										[-		· · × . · ·
Remark (See note & keyshe	ks 1 es eets) 2 3 4	Prior depth The bo mins). See in Ground	to boring a Ca and rescanned rehole was adv stallation def water was enco	able . usin vance tails ounte	Avoid g the d by on f red a	ance To CAT to chisell inal sh t 19.00	ool (CAT o check ling met neet. Om durin) survey was carried out. for services. Services wer hods from 21.80m to 22.00m g boring and rose to 10.20m	An insp e not l (1 hour after	ection pit was ocated.) and 22.00m t 5 mins,9.70m a	hand-du o 23.00m fter 10 m	g to 1. (3 hou mins,9.	20m urs 30 40m
Scale 1:5	0	after	15 mins,9.10m	afte	r 20 :	mins.							
			FRO			Projec	:t			Contract No.	CON	083130	
							HULL C Hull C Faber	OLLEGE, KINGSTON UPON HULL College Maunsell		Figure No.	BH14 (1	of 6)	
											(1	01 0)	301/04

Edujornet Bando 2000 2000 2000 2000 2000 2000 2000 20	Drilling	g Metho	d Cable	Percussion &	Rota	ry	Boreho	ble Diame	om 250mm to 4.50m	BOREHOLE N	0.	BH1	4
Diff Crow State B Assess End of Control of Strata Logged by Compiled by Checked by Strate Strate State Strate Str	Equipr	ment	Dando Knebe	2000 1			200mm 120mm	n to 23. n to 45.	00m 200mm to 23.00m 00m 120mm to 34.45m				
Date 8 Casing Depth Weter Depth From From No Sample Details The Weter Spr. Weter Mode Spr. Spr. Spr. Spr. Spr. Spr. Spr. Spr.	Drill C Dates	rew Drilled	в наw Start End	ves 10/11/2008 01/12/2008			Logged MW 13/11/	d by C m 2008 2	Compiled by Checked by ^d 0/11/2008				
Time (m) Witer Depth (m) Type No. mm	Date &	Casing Depth	Depth to	Sample D	etails		SPT Blows/N Drive	U100 Blows/ Recovery	Description of	Strata	Depth (Thick-	Level	Legend
10.40 WET 10.50-10.95 U 34 10.40 WET 11.00-11.35 B 37 84/ 10.40 WET 11.00-11.35 B 37 84/ 11.40 WET 11.50-11.95 U 30 25/ 11.40 WET 12.50-12.95 U 42 80/ 12.40 DEX 12.50-12.95 U 42 80/ 12.40 DEX 13.50-13.95 U 45 630 13.40 DEX 13.50-13.95 U 45 630 14.40 DEX 13.50-13.95 U 55 61/ 14.40 DEX 15.50-15.45 B 54 21 15.40 DEX 14.50-16.55 U 55 75 15.40 DEX 17.50-17.95 U	Time	(m)	Water (m)	Depth (m) From To	Туре	No.	mm Test	mm Result			(m)		
10.40 WWT 10.50-10.95 7 34 12/40 10.40 WWT 11.00-11.35 8 37 84/ 11.40 WWT 11.00-12.46 8 41 814 814 814 12.40 DRY 12.50-12.45 0 42 80/ 80/ 814 814 814 12.40 DRY 12.50-13.45 8 45 810 814				-			225						× ×
10.40 WET 11.00-11.35 B 37 \$4/ 225 11.40 WET 11.50-11.35 U 38 25/ 450 11.40 WET 12.00-12.45 B 41 \$14 11.40 WET 12.00-12.45 B 41 \$14 12.40 DRY 13.00-13.45 B 45 \$30 11.40 WET 13.50-13.95 U 42 \$60 12.40 DRY 13.50-13.95 U 46 \$60 13.40 DRY 13.50-13.95 U 46 \$60 14.40 DRY 13.50-13.95 U \$61 \$62 14.40 DRY 15.00-15.45 B \$62 \$10 14.40 DRY 15.00-15.45 B \$23 \$10 15.40 DRY 15.00-17.45 B \$24 \$30 15.40 DRY 15.00-17.45 B \$24 \$30 15.40 DRY 15.00-17.45 B \$22 \$31 16.40 DRY 1		10.40	WET	10.50-10.95	υ	34		12/			10.50		× · · · · · · · · · · · · · · · · · · ·
10.40 MET 11.00-11.35 B 37 Se/ 225 11.40 MET 11.50-11.95 U 38 25/ 450 11.40 MET 11.50-11.95 U 38 25/ 450 11.40 MET 11.50-11.95 U 43 12.40 DRY 12.50-12.85 U 42 12.40 DRY 12.50-13.95 U 42 13.40 DRY 13.50-13.95 U 45 13.40 DRY 13.50-13.95 U 53 14.40 DRY 15.00-15.45 54 521 15.40 DRY 17.50-17.95 U 63 35/ 450 16.40 DRY 18.50-18.95 U 63 35/ 450 16.40 DRY 18.50-18.95 U 63 35/ 450 17.40 DRY 18.50-18.95 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>450</td> <td>Soft grey brown sandy gray is angular to subangular f chalk and sandstone Sand</td> <td>velly CLAY. Grav Eine to coarse of</td> <td>el</td> <td></td> <td>0.0.0.0 0.0.0</td>								450	Soft grey brown sandy gray is angular to subangular f chalk and sandstone Sand	velly CLAY. Grav Eine to coarse of	el		0.0.0.0 0.0.0
11.40 WET 11.50-11.95 U 38 25/ 450 11.40 WET 12.00-12.45 B 41 S14 S14 12.40 DRY 12.50-12.95 U 42 80/ 450 12.40 DRY 12.50-12.95 U 42 80/ 450 12.40 DRY 13.00-13.45 B 45 830 13.40 DRY 13.00-13.45 B 45 630 13.40 DRY 13.00-13.45 B 45 630 13.40 DRY 14.00-14.45 B 60/ 50 50 51 14.40 DRY 15.00-15.45 B 54 921 63/ 50 14.40 DRY 15.00-16.45 B 58 921 75/ 50/ 50 75/ 50/ 50 75/ 50/ 50/ 50/ 50/ 50/ 50/ 50/ 50/ 50/ 5		10.40	WET	- 11.00-11.35	в	37	S4/ 225		coarse.	is line to	(1.30)		0 0 0 0
11.10 MH 11.90-11.9 0 10 450 11.40 MHT 12.00-12.45 B 41 S14 S14 S14 12.40 DRY 12.50-12.95 U 42 80/ 450 12.40 DRY 13.00-13.45 B 45 830 S10 Below 13.00.13.es carse of chalk, and flint. 13.40 DRY 13.50-13.95 U 46 60/ 450 13.40 DRY 14.00-14.45 B 50 53 60/ 14.40 DRY 15.00-15.45 B 54 21 60/ 14.40 DRY 15.00-15.45 B 54 51 70 15.40 DRY 16.50-16.45 B 58 51 70 16.40 DRY 12.00-17.45 B 62 518 70 17.40 DRY 13.50-18.95 U 53 15/ 450 18.40 DRY 13.50-18.95 U 63 15/ 15/ 18.40 DRY 13.50-18.95		11 40	MDT	11 50-11 95	TT	20		25/			Ę		
11.40 WET -12.00-12.45 B 41 \$14 Sife boost scheduly cavely cavely cavel is some chalk and filmt. 11.40 11.40 12.40 DRY -12.50-12.95 U 42 \$9/		11.40	W151	- 11.50-11.55	U	50		450					· · · · ·
12.40 DRT 12.50-12.95 U 42 80/ 450 12.40 DRT 13.00-13.45 B 45 630 13.40 DRT 13.00-13.45 B 45 630 13.40 DRT 13.00-13.45 B 45 630 13.40 DRT 14.00-14.45 B 49 523 14.40 DRT 15.00-15.45 B 54 521 14.40 DRT 15.00-15.45 B 54 521 15.40 DRT 17.00-17.45 B 52 61/ 450 16.40 DRT 18.00-18.45 B 62 510 17.40 DRT 18.00-18.45 B 66/ 450 15/ 450 18.40 DRT 18.00-18.45 B 66/ 450 15/ 450 15/ 450 18.40 DRT 18.00-18.45 B 66/ 450 15/ 450 15/ 450 18.40 DRT 18.00-18.45 B 66/ 450 15/ 450 15/ 450 18.40 DRT 18.00-18.45 B <t< td=""><td></td><td>11.40</td><td>WET</td><td></td><td>в</td><td>41</td><td>S14</td><td></td><td>Stiff brown sandy gravelly</td><td>CLAY. Gravel i</td><td>s</td><td></td><td>0.0.0</td></t<>		11.40	WET		в	41	S14		Stiff brown sandy gravelly	CLAY. Gravel i	s		0.0.0
12.40 DRY 12.50-12.95 U 42 80/ 450 12.40 DRY -13.00-13.45 B 45 830 13.40 DRY -13.00-13.45 B 45 830 13.40 DRY -13.00-13.45 B 45 830 13.40 DRY -13.00-13.45 B 45 823 13.40 DRY -13.00-13.45 B 46 60/ 450 13.40 DRY -14.00-14.45 B 49 823 14.40 DRY -15.00-15.45 B 54 821 15.40 DRY -15.00-15.45 B 54 813 16.40 DRY -15.00-17.45 B 52 813 16.40 DRY -17.00-17.45 B 62 818 17.40 DRY -18.00-18.45 B 66 818 18.40 DRY -19.00-19.45 B 70 821 Medium dense brown silty fine 5AND with occasional subangular fine 6Ablk gravel and rare chalk coblies. 19.00									Subangular fine to coarse.	chaik and flint.	Ę		
12.40 DRY 13.00-13.45 B 45 \$30 13.40 DRY 13.50-13.95 U 46 60/ 450 13.40 DRY 14.60-14.45 B 60/ 55 53 14.40 DRY 14.00-15.45 B 54 \$21 14.40 DRY 15.0-15.45 B 54 \$21 15.40 DRY 15.0-15.45 B 54 \$21 15.40 DRY 15.0-15.45 B 54 \$21 16.00-16.45 B 58 \$13 0/ 450 450 16.40 DRY 16.50-16.95 U 53 45/ 450 16.40 DRY 16.00-18.45 B 62 \$18 17.40 DRY 18.00-18.45 B 62 \$18 18.40 WRT 19.00-18.45 B 62 \$18 18.40 WRT 19.00-18.45 B 66 \$18 18.40 WRT 19.00-18.45 B 70 \$21 Medium dense brown silty fine SAND with oracos		12.40	DRY	12.50-12.95	υ	42		80/ 450			Ē		0.0 0.0
13.40 DRY 13.50-13.95 U 46 60/ 450 13.40 DRY 13.50-13.95 U 46 60/ 450 13.40 DRY 14.00-14.45 14.00 14.00 14.00 14.00 14.00 14.00 14.00 14.00 14.00 14.00 14.00 14.00 14.00 14.00 14.00 14.00 15.1 B 49 15.1 50 16.0/ 450 60/ 450 14.40 DRY 15.00-15.45 B 54 821 60/ 450 14.40 DRY 15.50-15.95 U 55 60/ 450 60/ 450 60/ 450 16.40 DRY 16.50-16.95 U 53 815 75 16.40 DRY 17.50-17.95 U 63 35/ 450 17.40 DRY 18.00-18.45 B 66 518 18.40 DRY 18.00-18.45 B 60/ 400 60/ 400 18.40 MRT 19.00-19.45 B 70 821		12.40	DRY	13.00-13.45	в	45	S30		Below 13.00m: Gravel is an	ngular to	-		0.0.0
13.40 DRY 13.50-13.95 U 46 60/ 450 13.40 DRY 14.00-14.45 14.00 14.00 14.00 14.00 B DRY 50 14.00 14.00 14.00 60/ 450 14.40 DRY 15.00-15.45 B 54 521 15.40 DRY 15.50-15.95 U 55 60/ 450 16.40 DRY 16.50-16.45 B 58 515 16.40 DRY 17.00-17.45 B 62 818 16.40 DRY 18.50-18.95 U 63 35/ 450 17.40 DRY 18.50-18.95 U 67 60/ 450 18.40 DRY 18.50-18.95 U 67 60/ 450 18.40 DRY 19.00-19.45 B 70 821 Medium dense brown silty fine SAND with occasional subangular fine chalk gravel and rare chalk cobbles. 19.00				-					subrounded fine to coarse sandstone, mudstone and or	of chalk, ccasional coal.			· · · · · ·
13.40 DRY 14.00-14.45 B 623 14.40 DRY 14.00-14.45 B 50 14.40 DRY 14.50-14.95 U 51 14.40 DRY 15.0-15.95 U 52 15.40 DRY 15.00-16.45 B 58 16.00-16.45 B 58 515 16.40 DRY 17.00-17.45 B 62 16.40 DRY 17.50-17.95 U 63 16.40 DRY 18.50-18.95 U 65 16.40 DRY 18.50-18.95 U 67 450 450 450 450 16.40 DRY 17.00-17.45 B 62 17.40 DRY 18.50-18.95 U 67 450 450 450 450 18.40 WT 19.00-19.45 B 70 18.40 WT 19.00-19.45 B 70 18.40 WT 19.00-19.45 B 70 18.40 WT		13.40	DRY	13.50-13.95	υ	46		60/ 450					0.0.0 0.000
13.40 DRY -14.00-14.35 B DRY 50 14.40 DRY -14.50-14.95 U 50 60/ 14.40 DRY -15.00-15.45 B 54 S21 15.40 DRY -15.50-15.95 U 55 60/ 16.00-16.45 B 58 S11 60/ 16.00-16.45 B 58 515 60/ 16.00-16.45 B 58 S13 60/ 16.40 DRY -16.50-16.95 U 53 60/ 16.40 DRY -17.50-17.95 U 53 35/ 17.40 DRY -18.00-18.45 B 66 518 18.40 DRY -18.00-18.45 B 66 518 18.40 DRY -18.00-18.45 B 66/ 518 18.40 DRY -18.00-18.45 B 60/ 400 18.40 DRY -19.00-19.45 B 70 S21 Medium dense brown silty fine SAND with occasional subangular fine chalk gravel and rare chalk cobbles. </td <td></td> <td></td> <td></td> <td>- - </td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>				- - 									
14.40 DRY 14.00 V 50 $60/$ 14.40 DRY $15.00-15.45$ B 54 821 (7.20) 15.40 DRY $15.50-15.95$ U 55 $60/$ 450 16.40 DRY $16.50-16.45$ B 58 815 $0/$ 16.40 DRY $16.50-16.95$ U 53 $0/$ 50 16.40 DRY $17.50-17.95$ U 63 $35/$ 450 17.40 DRY $18.50-18.95$ U 67 $60/$ 450 18.40 DRY $18.50-18.95$ U 67 $60/$ 450 18.40 DRY $18.50-18.95$ U 67 $60/$ 400 Medium dense brown silty fine SAND with occasional subangular fine chalk gravel and rare chalk cobbles. 19.00 450		13.40	DRY	14.00-14.45 14.00 14.00	B CD K	49 50 50	S23						0.0.0 0. <u>0</u> .0
14.40 DRY 15.00-15.45 B 54 S21 450 15.40 DRY 15.50-15.95 U 55 0/ 450 (7.20) (7.20) 16.40 DRY 16.50-16.45 B 58 515 0/ 450 16.40 DRY 16.50-16.95 U 59 0/ 50 16.40 DRY 17.00-17.45 B 62 518 17.40 DRY 18.00-18.45 B 66 518 18.40 DRY 18.00-18.45 B 66 518 18.40 DRY 18.00-18.45 B 70 521 Medium dense brown silty fine SAND with occasional subangular fine chalk gravel and rare chalk cobbles. 19.00		14.40	14.00 14.50-14.95	V U	50 51		60/			E F		0.0.0	
14.40 DRY -15.00-15.45 B 54 S21 15.40 DRY -15.50-15.95 U 55 20/ 450 15.40 DRY -15.50-16.95 U 55 20/ 450 16.40 DRY -16.50-16.95 U 59 0/ 750 16.40 DRY -17.00-17.45 B 62 S18 17.40 DRY -17.50-17.95 U 63 35/ 450 17.40 DRY -18.00-18.45 B 66 S18 18.40 DRY -19.00-19.45 B 70 S21 Medium dense brown silty fine SAND with occasional subangular fine chalk gravel and rare chalk cobbles. 19.00				-				450					0 <u>0 0</u> 0
$15.40 DRY = 15.50-15.95 U = 55 \qquad 407 \\ -16.00-16.45 = B = 58 = 515 \\ 16.00 - 16.45 = B = 58 = 515 \\ 16.00 - 16.45 = B = 58 = 515 \\ 16.00 = 16.50-16.95 = U = 59 \\ 16.40 DRY = 17.00-17.45 = B = 62 = 518 \\ 17.40 DRY = 17.50-17.95 = U = 63 = 357 \\ 17.40 DRY = 18.00-18.45 = B = 66 = 518 \\ 18.40 DRY = 18.00-18.45 = B = 66 = 518 \\ 18.40 DRY = 18.00-19.45 = B = 70 = 521 \\ \hline Medium dense brown silty fine SAND with occasional subangular fine chalk gravel and rare chalk cobbles. \\ \hline 19.00 = 19.00 = 19.45 = 19.00 = 19.00 = 19.45 \\ \hline 19.00 = 19.00 = 19.45 = 19.00 = 19.45 \\ \hline 19.00 = 19.00 = 19.45 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.45 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.45 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.00 = 19.00 = 19.00 \\ \hline 19.00 = 19.$		14.40	DRY	_ 15.00-15.45	в	54	S21				Ē		0 0 0 0
16.00-16.45 B 58 515 16.40 DRY 16.50-16.95 U 59 0/ 16.40 DRY 16.50-16.95 U 59 0/ 16.40 DRY 17.00-17.45 B 62 518 17.40 DRY 17.50-17.95 U 63 35/ 17.40 DRY 18.00-18.45 B 66 518 18.40 DRY 18.50-18.95 U 67 60/ 18.40 WET 19.00-19.45 B 70 S21 Medium dense brown silty fine SAND with occasional subangular fine chalk gravel and rare chalk cobbles.		15.40	DRY	15.50-15.95	U	55		-10/	Y		(7.20)		0 0 0 0
16.00-16.45 B 58 515 16.40 DRY 16.50-16.95 U 55 0/ 16.40 DRY 17.00-17.45 B 62 S18 17.40 DRY 17.50-17.95 U 63 35/ 17.40 DRY 18.00-18.45 B 66 S18 18.40 DRY 18.50-18.95 U 67 60/ 18.40 WET 19.00-19.45 B 70 S21 Medium dense brown silty fine SAND with occasional subangular fine chalk gravel and rare chalk cobbles. 19.00				-				450			ŀ		o. <u></u>
16.40 DRY 16.50-16.95 U 59 0/ 150 16.40 DRY 17.00-17.45 B 62 \$18 17.40 DRY 17.50-17.95 U 63 35/ 450 17.40 DRY 18.00-18.45 B 66 \$18 18.40 DRY 18.50-18.95 U 67 60/ 400 18.40 WET 19.00-19.45 B 70 \$21 Medium dense brown silty fine SAND with occasional subangular fine chalk gravel and rare chalk cobbles. 19.00 19.00					в	58	S15	X					·····
18.40 DRY 18.50-18.95 0 55 10/ 150 16.40 DRY 17.00-17.45 B 62 S18 1 17.40 DRY 17.50-17.95 U 63 35/ 450 450 1 17.40 DRY 18.00-18.45 B 66 S18 1<		16 40	557										
16.40 DRY 17.00-17.45 B 62 \$18 17.40 DRY 17.50-17.95 U 63 35/ 450 17.40 DRY 18.00-18.45 B 66 \$18 18.40 DRY 18.50-18.95 U 67 60/ 400 18.40 WET 19.00-19.45 B 70 \$21 Medium dense brown silty fine SAND with occasional subangular fine chalk gravel and rare chalk cobbles. 19.00 19.00		10.40	DRI	10.50-10.95	U	59		450					0 0 0
$17.40 DRY = 17.50-17.95 U = 63 \qquad 35/ 450 17.40 DRY = 18.00-18.45 B = 66 S18 = 60/ 18.40 DRY = 18.50-18.95 U = 67 = 60/ 18.40 WET = 19.00-19.45 B = 70 S21 = 60/ 18.40 WET = 19.00-19.45 B = 70 S21 = 60/ Medium dense brown silty fine SAND with occasional subangular fine chalk gravel and rare chalk cobbles. = 19.00 = 19.00 = 19.00 = 10.00 = $		16.40	DRY	_ 17.00-17.45	в	62	S18				E F		0.0.0
$ \begin{array}{c cccc} 17.40 & DRY & 17.50-17.95 & U & 63 & 35/ \\ 17.40 & DRY & 18.00-18.45 & B & 66 & 518 \\ 18.40 & DRY & 18.50-18.95 & U & 67 & 60/ \\ 18.40 & WET & 19.00-19.45 & B & 70 & 521 \\ \end{array} $ $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$											Ę		
17.40 DRY $18.00-18.45$ B 66 518 18.40 DRY $18.50-18.95$ U 67 $60/4$ 18.40 WET $19.00-19.45$ B 70 521 Medium dense brown silty fine SAND with occasional subangular fine chalk gravel and rare chalk cobbles. 19.00 40.0		17.40	DRY	17.50-17.95	υ	63		35/ 450			Ē		
18.40 DRY 18.50-18.95 U 67 $\frac{60}{400}$ 18.40 WET 19.00-19.45 B 70 S21 Medium dense brown silty fine SAND with occasional subangular fine chalk gravel and rare chalk cobbles.		17.40	DRY	_ 18.00-18.45	в	66	S18				È		
18.40DRY18.50-18.95U67 $60/400$ 19.0018.40WET19.00-19.45B70S21Medium dense brown silty fine SAND with occasional subangular fine chalk gravel and rare chalk cobbles.19.00				F F F							ŧ		· · · · · ·
18.40 WET 19.00-19.45 B 70 S21 Medium dense brown silty fine SAND with occasional subangular fine chalk gravel and rare chalk cobbles.		18.40	DRY	18.50-18.95	υ	67		60/ 400			ŧ		0.0.0.
Medium dense brown silty fine SAND with occasional subangular fine chalk gravel and rare chalk cobbles.		18.40	WRT	19.00-19 45	в	70	S21				19 00		· · · · · · · · · · · · · · · · · · ·
rare chalk cobbles.		10110			2		521		Medium dense brown silty for a second subangular fine	fine SAND with e chalk gravel an	.d		<×
				[rare chalk cobbles.		Ę		×
				-							Ē		<×
19.90 7.00 20.00-20.45 D 71 C25	Dome	19.90	7.00	_ 20.00-20.45	D	71	C25				-		
Kemarks (See notes & kevsheets)	(See not & keysh	es eets)											
Scale 1:50 Project Contract No. contract No.	Scale 1:	50					Projec	•t		Contract	10	002120	
HULL COLLEGE, KINGSTON UPON HULL Hull College			Tu	GRO			i i ojec	HULL C	OLLEGE, KINGSTON UPON HULL College		. con	061130	
Faber Maunsell Figure No. BH14 (2 of 6)				Â				Faber	Maunsell	Figure No.	BH14 (2	of 6)	

Drilling	g Metho	Od Cable Percussion & Rotary Dando 2000 Knebel B.Hawes				Boreho 250mm	ble Diam	eter Casing Diameter 20m 250mm to 2.20m	BOREHOLE No.		BH1	6
Equipn	nent	Dando Knebe	2000 1			200mm 120mm	to 25. to 46.	200m 200mm to 25.00m 00m 120mm to 32.45m				
Drill Ci Dates	rew Drilled	в.наw Start End	ves 10/11/2008 26/11/2008			Logged TW 17/11/	d by (12008 1	Compiled by Checked by en .0/11/2008				
Date	Casing Depth	Depth to	Sample D	etails		SPT Blows/N Drive	U100 Blows/ Recovery	Description of	Strata	Depth (Thick-	Level	Legend
Time	(m)	Water (m)	Depth (m) From To	Туре	No.	⁻ mm Test	Result	•	Ondia	ness) (m)		
10/11			-					MADE GROUND: Tarmacadam.	/	(0.05)		
			- - - -					MADE GROUND: Composed of fine to coarse sand. Gra to subrounded fine to coar brick and concrete.	brown gravelly vel is subangular rse of limestone, //	(0.55) (0.60 (0.30)		
			- 1.00 -	ES	1			MADE GROUND: Composed of 1 to subrounded fine to coa and clinker. Sand is fine	black sandy angular rse gravel of slag / to coarse of ash. /	0.90		
10/11	1.40	DRY	- 1.50-1.95 - 1.50-1.95 - 1.60	D B W	2 3 4	C10		MADE GROUND: Composed of a gravelly clay. Gravel is subangular fine to coarse and brick	soft brown slightly angular to of chalk, flint	- (1.30)		
10/11	1.40	DKI	/= 									
13/11	2.50	1.60	2.50-2.95	D	5	C1/		MADE GROUND: Insitu brick	•	(0.30)		
			- 2.50-2.95 2.50 2.50 - 2.50 - 2.50	B CD K V	6 7 7 7	450*		MADE GROUND: Composed of gravelly silt. Gravel is coarse of brick.	black clayey angular fine to	(1.00)		
			3.50	в	8			_		3.50		
			3.50	CD K	9			MADE GROUND: In tu brick		(0.50)		
	3.90	WET	4.00-4.15	D	10	C1/ 150		MADE GROUPS: Composed of	soft brown silty	4.00		
			4.00-4.45 4.50	B CD	11 12			angula fine o coarse of fine to medam.	lay. Gravel is brick. Sand is	- -		
			4.50 4.50	к V	12 12					(1.40)		
	4.90	DRY	5.00-5.45	υ	13		15/ 450					
			5.50-5.95	в	16	S 6		Very soft brown silty same	dy CLAY. Sand is	5.40		
			5.50 5.50 5.50	V CD K	17 17 17			fine to coarse.				· · · · ·
	5.90	DRY	6.00-6.45 6.00-6.45	U#B B	18 20		\mathbf{N}					
	6.40	DRY	6.50-6.85	в	22	53/				- -		
			-			200				(3.10)		······································
	6.90	WET	_ 7.00-7.45	υ	23	Ť	12/ 450					
	6.90	WET	7.50-7.95	в	26	S1/						
			-			225						
	7.90	WET	_ 8.00-8.45	υ	27		12/ 450					
	7.90	WET	8.50-8.95	в	30	S4		Soft thinly laminated brow	m grou gandu STIT	8.50		· · ·
			-					Sand is fine to coarse.	wn grey sandy Sibi.	(0.50)		× × × × × × × × × × × × × × × × × × ×
	8.90	WET	9.00-9.45 9.00	U W	31 98		20/ 450	Firm brown organic CLAY w pockets/partings of fibro	ith many us peat.	9.00		
	8.90	WET	9.50-9.95	в	34	S9			-	- -		
					25		20/			(1.60)		
Remar	9.90	WET	_ 10.00-10.45	U	35		30/				1	2.0
(See note & keyshe	es eets) 2	depth The bo	and rescanned orehole was adv	using vance	g the d by	CAT to Chisell	check	for services. Services were chods from 2.20m to 2.50m (4)	e not located. 5 mins) and 3.50m to	4.00m (1	hour 2	20m
	3	mins). The bo	orehole was ad	vance	d by	chisell	ing met	hods from 22.90m to 24.10m	(3 hours) and 25.00m	to 26.00	(2.5 h	ours).
	4	Aquife reduce See in	er protection w ed diameter cas estallation des	was ca sing. taile	on f	d out b inal sh	oy seali neet.	ng the base of the hole at a	a depth of 26.00m and	continui	ing in	
Scale 1:5	50 -					Projec	st .		Contract No.	CON	083130	
			u K U			-	HULL C Hull C	COLLEGE, KINGSTON UPON HULL College				
							Faber	maunsell	Figure No.	BH16 (1	of 6)	301/04

Equipment Dando 2000 Knebel 200mm to 25.00m 200mm to 25.00m Drill Crew B.Hawes Logged by Compiled by Checked by Dates Drilled Start 10/11/2008 TW ren D7/11/2008 10/11/2008 10/11/2008 I/1/2008	
Drill Crew B. Hawes Logged by Compiled by Checked by Dates Drilled Start 10/11/2008 TW ren 17/11/2008 10/11/2008 10/11/2008	
Date Casing Deptn to Sample Details SPT Blows/N U100 Blows/ Depth Blows/ Depth Devel Depth (Thick- Description of Strata Depth (Thick- Description of Strata	∟egend
Time (m) Water Depth (m) Type No. mm mm Time (m) From To Test Result (m)	
450	
9.90 WET 10.50-10.95 B 38 S14	
10.60 Stiff brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine	
10.90 WET - 11.00-11.45 U 40 30/ to coarse of chalk, chert, mudstone and 450 sandstone. Sand is fine to coarse.	· · · · · · · · · · · · · · · · · · ·
10.90 WET - 11.50-11.95 B 43 S22	
	0.0.0 0.0
- 12.00-12.45 U 44 30/ - 12.00 W 69 450	······
	· · · · · · · · · · · · · · · · · · ·
	· · · · · ·
- 13.00 CD 48	······
13.00 V 48 12.90 DRY 13.00-13.45 U 49 80/	<u>.</u>
13.00 DRY - 13.50-13.95 B 52 S28 450	0. <u>0.0</u> .0
13.50 DRY 14.00-14.45 U 53 80/	· · · · · · · · ·
	0.0.0
13.90 $DRY = 14.50-14.95$ B 56 S32 [(7.90)	0.0.0
14.90 DRY 15.00-15.45 U 57 50/	
	0 0 0 0 0
14.90 DRY 15.50-15.95 B 60 S15	0.0.0.
15.90 WET 16.00-16.45 U 61	· · · · · · · · · · · · · · · · · · ·
45	· · · · · ·
15.90 WET 16.50-16.95 B 64 S15	· · · · · · · · · · · · · · · · · · ·
	· · · · · · ·
350	0. <u></u> .
13/11 16.90 WET 14/11 16.90 12.00 17.50-17.95 B 68 520	
	·····
18.00 8.00 18.50-18.95 B 73 S23 Medium dense slity sandy subangular and	· · · · · · ·
subrounded fine to coarse GRAVEL of flint, chalk and sandstone. Sand is fine to coarse.	, a ,
18.90 8.90 19.00-19.45 U 74 60/ 19.00 CD 78 400	
19.00 V 78 18.90 8.90 19.50-19.95 B 77 S25	o
19.90 9.20 20.00-20.45 U 79 60/	• • • • •
Remarks 6 Groundwater was encountered at 16.00m during boring as a seepage. (See notes 7 Groundwater was encountered at 18.50m during boring and rose to 12.70m after 5 mins,10.90m after 10 mins,9	00m
8 Groundwater was encountered at 2.20m during boring and rose to 2.15m after 5 mins,2.05m after 10 mins,2.02 after 15 mins 1 96m after 20 mins 1 94m after 25 mins 1 89m after 30 mins 1 85m after 35 mins 1 83m after	1 10
mins,1.80m after 45 mins,1.78m after 50 mins,1.76m after 55 mins,1.77m after 60 mins.	-
Scale 1:50	
TUGRO HULL COLLEGE, KINGSTON UPON HULL Contract No. CON083130 Hull College Hull College Hull College Hull College	
Faber Maunsell Figure No. BH16 (2 of 6)	

Drilling	g Metho	d Cable	Percussion			Boreho	ble Diamo	eter Casing Diameter	BORE	HOLE No.		BH1	7
Equipr	nent	Dando	2000										
Drill C Dates	rew Drilled	Start End	03/11/2008 03/11/2008			Logge MW 04/11/	d by (m /2008 0	Compiled by Checked by ^{Id} 15/11/2008					
Date &	Casing Depth	Depth to	Sample D	etails	1	SPT Blows/N Drive	U100 Blows/ Recovery	Description of	Strata		Depth (Thick-	Level	Legend
Time	(m)	(m)	Depth (m) From To	Туре	No.	Test	Result				(m)		
03/11			-					MADE GROUND: Tarmacadam.		/	(0.10)		
			-					MADE GROUND: Subbase and b description).	brick (D	riller's			
			- - -								(1.10)		
			- -								 -		
				_				MADE GROUND: Composed of 1	black cl	ayey	1.20		
	1.40	DRY	- 1.50-1.95 1.50-1.95 1.50	D B CD	23	CII		Gravel is subangular to re coarse of coke, ash and by	coarse s ounded f rick.	and of ash. ine to	-		
			1.50 1.50	K V	3 3						-		
			-								(1.80)		
	2.40	DRY	2.50-2.95	D B	4 5	C16					-		
			2.50 2.50	CD K	6 6								
			_ 2.50	v	6			MADE GROUND: Composed of	firm br	own sandy	_ 3.00 (0.40)		
	3.40	DRY	3.50-3.95	D	7	C5		subrounded fine to coarse fine to coarse.	brick.	Sand is	3.40		
			3.50-3.95 3.50	B CD	8 9			MADE GROUND: posed of	firm lo	cally soft	-		
			3.50	ĸ	9			and subrounded fin and me sandstone and coke. Fand	edium br is fine	ick, chalk, to coarse.	-		
			-								-		
	4.40 DRY 4.50-4.88 D					C1/ 150		Below 50m Strong hydrod	carbon o	dour.	(2.40)		
	4.40 DRY 4.50-4.88 D 4.50-4.95 B 4.50 CD - 4.50 K							\sim			-		
			4.50	v	12						-		
	5.40	DRY	5.50-5.95	D	13	C1/					-		
			5.50-5.95 5.50	B CD	14 15	223					5.80		
			5.50 5.50	к V	15 15			MADE GROUND: Composed of sized fragments of brick a	cobble and conc	and boulder rete.	-		
	5 40	עפת	6 50-6 95	п		C17					-		
	0.10	DRI	6.50-6.95 6.50	B CD	17 18						-		
			6.50 6.50	к V	18 18						(2.00)		
			-								-		
	7.40	DRY	7.50-7.84	D	19	C50/ 185					-		
02/11	° 00	DBV	7.50-7.95	B CD	20 21 21			MADE CROINID. Composed of	brick	aonaroto	7.80		
03/11	8.00	DRI	- 7.50	v	21			obstruction (Driller's des	scriptio	n).	8.00		
			-					End of Borel	hole		-		
			- -								-		
			- -								- 		
			-								-		
			-								-		
			- - 								-		
Remar	ks 1	Prior	to boring a Ca	able	Avoid	ance To	DOl (CAT) survey was carried out. A	An inspe	ction pit was	hand-dug	g to 1.	2 0 m
(See not & keyshe	es eets) 2	depth The bo	and rescanned rehole was bac	usin ckfil	g the led o	CAT to n compl	o check Letion w	for services. Services were with materials arising.	e not lo	cated.			
	3 4	See in Ground	stallation det water was not	appa	on f rent	ınal sh during	boring.						
Scale 1:5	0					Proied	t			Contract No.	CON)83130	
			GRO				HULL C Hull C	OLLEGE, KINGSTON UPON HULL College			2014		
]		Y					Faber	Maunsell		Figure No.	BH17 (1	of 2)	

Method of Ex Surface Dime	ccavati ensions	on JCB 3 5 1.85	CX 5m x 0.60m			Plan					TRI	AL PIT	No.		TP1	
Date Excava	ted S E	tart 06/11 nd 06/11	/2008 /2008							°						
Logged by	C	ompiled by	Checke	d by												
06/11/2008 In-sit	u Testi	9/12/2008 ng	Samp	les										Depth (Thick		
Depth (m)	Туре	Result	Depth (m)	Туре	No.			Des	cription c	of Stra	ita			(Thick- ness) (m)	Level	Legend
Remarks 1 (See notes 2	The	walls of t	0.30 0.50 0.50 0.50 0.60 1.00 1.00 1.00	ES ES ES B ES D ES D	1 2 3 4 5 6 7 8 9 10 11 12	MADE MADE silty is an chalk sized wall Top o MADE grave coars (outs MADE Grave coars (outs MADE ios a clink ashy.	GROUND: GROUND: GROUND: gravel gravel gravel brick f Dock GROUND: ic surv wall. (GROUND: l is ar e of br ide doc GROUND: l is ar e of br ide doc GROUND: I IS A IS A IS A IS A IS A IS A IS A IS	E Brick Concre Compositive Compositive Compositive Compositive Service pipe Control of Service Serv	s carrie	rey br fine tcc ck. Eth sid avel fing pravely avelly ngular ine tcd avelly ngular ine tcd avelly avello	rown sl sand. o coarss Rare co des of fill ar arallel y clay. r fine o coars y clay. r fine to coars vel. Gr to coa to coa	ightly Gravel e bble dock ound with to e to e. avel res of rse		(0.08) 0.08 (0.12) 0.20 - (0.60) 0.80 (0.20) - 1.00 (0.20) 1.20 -		
3 4	On c Grou	ompletion ndwater wa	the trial pit as not apparer	: was l nt dur:	backf ing e	illed w xcavati	ith com on.	npacted	arisings	з.						
Scale 1:25	-6	Icor		P	roject							Contract	No.	CON	083130	
						HULL CO Hull Co Faber M	LLEGE, llege aunsell	KINGSTO	N UPON H	HULL		Figure N	0.			
												J		TP1 (1	of 1)	302/03

Method of Ex	cavati	ion JCB 3	CX			Plan				TRI	AL PIT No) .	TP2	2
Date Excavat	ed S E	tart 06/11 nd 06/11	/2008											
Logged by	c	ompiled by	Checke	d by					→ 0°					
MW 06/11/2008	c 1	lm 3/11/2008												
In-sit	ı Testi	ing	Samp	les				Descr	ption of Str	ata		Depth (Thick-	Level	Legend
Depth (m)	Туре	Result	Depth (m)	Туре	No.			Deser		utu		ness) (m)	2000	Legena
Depth (m)	Туре	Result	Depth (m)	ES ES ES	No.	MADE MADE Sligh sand. coars slag. At 0. with wall)	GROUND: GROUND: Uly sil Ground: Ground	Brick se Compose ty gravel l is angu , brick, ional col ck wall a ey brown nal chalk End of	Trial Pit	brown d mediu nded fi rtz, cc ick. e servi elly si inside	m ne to ke and ce lt dock	ness) (m) (0.08) (0.12) 0.20 (1.00) 1.20 1.20		
Remarks 1 (See notes 2 & keysheets) 2 3 4	The Pric On c Grou	walls of t or to excav completion indwater wa	the pit were s vation a Cable the trial pit is not apparen	table Avoid was l t dur:	duri dance backf ing e	ng exca Tool (illed w xcavati	vation. CAT) su ith com on.	rvey was pacted ar	carried ou isings.	t.				
50010 1.25				P	roject						Contract No	. cor	1083130	
						HULL CO Hull Co	LLEGE, llege	KINGSTON	UPON HULL					
	V					Faber M	aunsell				Figure No.	TP2 (1	of 1)	
L														302/03

Method of E	xcavat	ion JCB 3	СХ			Plan				TRI	AL PIT No.	1	TP3	6
Date Excava	ted S	tart 09/12 nd	/2008			1			٦					
Logged by		ompiled by	Checke	d by					▶ 0	0				
	r C	en 9/12/2008												
In-sit Depth	u Test	ing	Samp Depth	les I -	<u>.</u>			Desc	ription of S	trata		Depth (Thick- ness)	Level	Legend
(m)	туре	Result	(m)	туре	NO.		~~~~~					(m)		
			-			grave	GROUND:	: Compos	sed of yell	Low brown	1 fine	(0.20) 0.20		
			0.30	ES	1	MADE grave suban	GROUND: lly cla gular f	: Compos ay. Grav fine to c	ed of firm rel is angu	n brown s lar to prick S	andy and is	(0.30)		
			0.50	ES	2	fine	to coar	rse.				0.50		
			-			sandy round	gravel ed fine	: Compos lly clay. e to coar	Gravel i Gravel i se of sand	is angula is angula istone, b	own ar to prick,	-		
			 - -			and c	halk.	Sand is	s fine to c	coarse.		(0.70)		
			1.00	ES	3							- - 		
			-									1.20		
			-					End of	Trial Pit	-		-		
			-									- - -		
												-		
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Remarks (See notes 2 & keysheets) 2 3 4	The Pric On c Grou	walls of t or to excav completion indwater wa	he pit were s ation a Cable the trial pit s not apparen	table Avoi was l t dur	duri dance backf ing b	ng exca Tool (illed w oring.	vation. CAT) su ith com	irvey was mpacted a	s carried c risings.	put.		1		<u>.</u>
Socia 4:05														
Scale 1:25	- F	JGRO		P	roject		T.T.POP	KINGGRO			Contract No.	COM	1083130	
						Hull CO Faber M	llege aunsell	KINGSTON	I UPUN HULI	-	Figure No.			
												TP3 (1	of 1)	302/03

Method of Ex	d of Excavation JCB 3CX xcavated Start 06/11/2008 End 06/11/2008					Plan					TRI	AL PIT I	No.		TP4	•
Date Excavat	ted S	tart 06/11	L/2008]							
Logged by	C	compiled by	Checke	d by						➤ 0 °	5					
MW 06/11/2008	c 1	lm 13/11/2008											<u> </u>			
In-sit	u Test	ing	Samp	les					Descript	ion of Str	ata		D (Т	epth hick-	Level	Legend
Depth (m)	Туре	Result	Depth (m)	Туре	No.				p				n	iess) (m)		
			-			MADE	GROU	UND: Tar	macadar	n.			((0.08) 0.08		
			-			MADE	GROU	UND: Con	crete.				(0.22)		
			0.30	ES	1	MADE	GRO	UND: Co	mposed	of brown	gravel	.ly wlar	(0.30		
			- 0.50	ES	2	medi	umai	nd coars	se limes	stone (Su	ib-base)	•	<u>-</u> {E	0.50		
			-			MADE fine	GROI to d	UND: Co coarse s	mposed and of	of black ash. Gr	gravel avel is	ly loarge	Ł			
			0.80	ES	3	suba slag Top	, cl: of Do	inker an ock Wall	d brick at 0.	red medic c. 7m		Jaise	((0.70)		
			- 1.00	ES	4	1							Ē			
			-											1 20		
			-					En	nd of T	rial Pit			Ē	1.10		
			-										Ē			
			-										F			
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Remarks 1 (See notes 2 & keysheets) 3 4	The Pric On c Grou	walls of to or to excav completion undwater wa	L the pit were s vation a Cable the trial pit as not apparen	l table Avoid was l t dur:	duri dance backf ing e	ng exc Tool illed xcavat	avat: (CAT) with ion.	ion.) survey compact	v was ca ced aris	arried ou sings.	ıt.		1		L	1
Scale 1:25				P	roject							Contract	No.	COM	083130	
		JGRO				HULL C Hull C	OLLEG	GE, KING ge	STON U	ON HULL						
	.	Â				Faber	Mauns	sell				Figure No	т	P4 (1	of 1)	
[*********		}													302/03

Method of Ex	cavati	on JCB 3	CX			Plan					TRI	AL PIT	No.		TP5	;
Date Excavat	ed S E	tart 06/11 nd 06/11	/2008													
Logged by	С	ompiled by	Checked	by						► 0°						
MW 06/11/2008	c 1	lm 3/11/2008														
In-situ	ı Testi	ng	Sample	s										Depth (Thick-		
Depth (m)	Туре	Result	Depth (m)	Туре	No.				Descriptio	on of Stra	ata			ness) (m)	Level	Legend
						MADE	GRO	UND: Tar	macadam	•				(0.10)		
						MADE	GRO	UND: Com	posed of	f light l	brown w	very		0.10		
						cobb subr	le co ound	ontent. ed fine	Gravel to coars	is angui se of br:	lar to ick and	1		(0.40)		
			-			conc	rete m x '	. Cobble 70mm x 5	s are su Omm) and	ubangula: d concret	r of bi te (<70	nick).		0.50		
						MADE	GRO	UND: Com	posed of	f light o	orange	brown		(0.20)		
			-			silt angu	. San lar	nd is fi to round	ne to co led fine	barse. G to coar	ravel i se of f	s lint,		- 0.70		
			-			bric	k, c	oncrete	and sand	dstone.		-	/	(0.40)		
						At b suba	ase: ngul	Occasio ar concr	nal cobb ete (<80	oles of a Omm).	angular	to				
						MADE blac	GRO k gr	UND: Com avellv f	posed of ine and	f very da medium a	ark gre sand.	ey Gravel		- 1.10		
			-			is s bric	ubang k, m	gular fi asonry a	ne to me nd rare	edium of shells a	concre and cer	ate, amic	/	-		
			_ 1.50	ES	1	frag (<5m	ment m).	s with o	ccasiona	al roots	and ro	otlets		-		
						MADE	GRO htlv	UND: Com	posed of	f black of sand. G	organic ravel i	s		-		
			-			suba bric	ngul k, c	ar to ro oncrete,	unded f: clinke	ine to me slag,	edium c flint	of and		-		
				_		quar (<15	tz w mm).	ith occa	siona'	roots and	d root]	ets		(1.70)		
			2.00	в	2									-		
														-		
														-		
			2.50	ES	3		•							-		
														-		
			2.80	ES	4	\frown		X —						2.80		
			2.80	в		MAT S'	GRO	UN: Com btly sa	posed of ndy loca	f firm to ally sand	o stiff dy slig	brown htly		-		
			-			toar	y cla se. (ay with Gravel i m of bri	rare gra s angula	avel. Sam ar to sul	nd 15 1 brounde	d fine		(0,70)		
						cett Betw	mic. een	2.80m an	d 2.90m	: Interm:	ixed wi	.th				
						angu of w	lar eak	to subro chalk wi	unded f: th rare	ine to co cobbles	oarse of sti	ravel ong		-		
			-			Chal	K (<	120mm). En	d of Tr	ial Dit				3.50		
			-											-		
														-		
			-											-		
														-		
														-		
			-											-		
			-											-		
														-		
			-											-		
														-		
Remarks 1	The	walls of t	he pit were st	able	duri	ng exc	avat	ion.								
(See notes 2 & keysheets) 2	or to excav	ration a Cable	dance backf	Tool illed	(CAT with) survey	was can ed arig	rried out	t.							
4	Grou	ndwater wa	as not apparent	dur	ing e	xcavat	ion.	2		-						
Scale 1:25																
June 1.23				roject							Contrac	ct No.	CON	1083130		
						HULL C Hull C	OLLE	GE, KING ge	STON UPO	ON HULL						
	*	~				Faber	Maun	sell				Figure I	No.	TP5 (1	of 1)	
																302/03

Method of Ex	cavat	ion				Plan					TRI/	AL PIT	۲No.		TP6	5
Date Excavat	ed S	tart 06/11	/2008			ſ	1									
Logged by	С	ompiled by	Checke	d by			1			► 0 [°]						
MW 14/11/2008	c 1	lm 2/11/2008														
In-site Depth (m)	u Test Type	ing Result	Samp Depth (m)	es Type	No.			De	escriptio	on of Stra	ata			Depth (Thick- ness) (m)	Level	Legend
()						MADE claye coars fine flint	GROUND by to c se sand to coa: c. Rare	: Compo layey : . Gray rse of brick	osed of slight] vel is chalk, fragme	grey b ly grave angular brick, ents (<1	rown ve lly fin to rou concre 00mm).	ry e to nded te and		(0.75)		
			-			MADE brown fine	GROUND h/black to coa:	: Compo very a rse gra	osed of sandy a avel of	E dark g angular E quartz	rey to roun , brick	ded , slag		0.75		
			-			and c Occas (<70m	linker sional (m).	. Sand cobble:	d is fi s of bi	ine and s rick and	medium. slag		/	1.05		
			- - - - 1.50 - 1.50	ES	1	MADE silty is su of qu	GROUND grave bangul artz,	: Compo lly fin ar to s flint a	osed of ne and subrour and bri	E brown medium ided fin ick.	slightl sand. e to co	y Gravel arse		(0.65)		
				5	2	Light	c orange led gra	e brown vel of	n silty flint	/ fine S	AND wit	h rare		1.70		× × ×
			- 2.00 - 2.00	ES B	3 4									(0.50)		×
								End	o Tri	al Pit				- 2.20		
			- - - - - -				V							-		
						$\boldsymbol{\boldsymbol{\zeta}}$								- - - - -		
														-		
														-		
			- - - - -											- - - - -		
			- - - - - -											-		
			- 											- - - - -		
			- - - - -											- - - -		
Remarks (See notes & teysheets) 2	The Grou	walls of t indwater wa	the pit were s as encountered	l table at 1	duri .00m	ng exca during	vation excava	tion a:	s a see	epage.						<u>I</u>
Scale 1:25	-F	ÜGRO		Pi	roject	HULL CC Hull Co	DLLEGE,	KINGS	TON UPO	ON HULL		Contra	ct No.	CON	1083130	
		Â				Faber M	[aunsel]	1				Figure	No.	TP6 (1	of 1)	302/03

Drilling	g Metho	d Windo	w Sampler			Borehole Diam	eter Casing Diameter	r BOI	REHOLE No.		WS	1
Equipr	nent	Windo	w Sampler									
Drill C	rew	T.War	riner			Logged by (Compiled by Checked	l bv				
Dates	Drilled	Start End	09/12/2008			TW r 09/12/2008 0	ren 09/12/2008	,				
Date	Run	Run Time	Sam	nple/T	est De	etails				Depth		
& 	Depth	(secs) (Recov-	Depth (m)				Descrip	ption of Strata	I	(Thick- ness)	Level	Legend
Time	(m)	ery) (%)	From To	Туре	No.	Results				(m)		
			-				MADE GROUND: Paving	slab.		(0.10) 0.10		
			-				MADE GROUND: Compo coarse sand.	sed of brown	fine to	(0.10) 0.20		~~~~~~
			-				MADE GROUND: Compo	sed of black	clayey sand	-		
			- 				fine to coarse of b	rick and con	crete. Sand	(0.60)		
			-				15 1110 00 000150.			-		
			-				At 0.80m: Concrete.		/	- 0.80		
			-				End o	f Borehole	/	-		
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Rema	rks 1 tes	Ground	water was not	appa	rent	during boring.	.			. <u> </u>		
& keysh	ieets)											
Scale 1:2	25					Project			Contract No.			
		-fu	GRO			HULL C	COLLEGE, KINGSTON UPON	HULL	Contract NO.	CON	083130	
		Į				Hull C Faber	COIlege Maunsell		Figure No.			
										WS1 (1 d	ot 1)	307/03

Drilling	g Metho	d Windo	w Sampler			Borehole Diam	eter Casing Diameter	BOREHOLE No.		WS	4
Equipn	nent	Windo	w Sampler								
Drill Cı Dates	rew Drilled	Start End	17/11/2008 17/11/2008			Logged by MW 17/11/2008	Compiled by Checked by md 26/11/2008				
Date	Run	Run Time	Sam	nple/Te	est De	tails			Depth	Laval	Lonord
& Time	Depth (m)	(Secs) (Recov- ery) (%)	Depth (m) From To	Туре	No.	Results	- Description of	Strata	(Thick- ness) (m)	Levei	Legena
17/11	0.00		0.30	ES	9		MADE GROUND: Composed of medium angular over sandy Gravel is fine to coarse, subangular.	brown gravel limestone gravel. angular to	(0.40)		
							MADE GROUND: Composed of b Concrete wall on south fac	prick rubble. e of pit.	. 0.40		
	1.00		- 1.00 - 1.00-1.45 - 1.10	B ES	1 10	S4	MADE GROUND: Composed of with some gravel of brick to coarse angular to suban	brown sandy silt and chalk medium gular.	1.00 (0.20) 1.20		
			- - - - -				MADE GROUND: Composed of b sandy silt with occasional wood. Gravel is angular t to coarse of coke and slag Below 1.20m: Becomes very	plack gravelly fragments of so subrounded fine sandy and very	(0.30) - - - 1.50 - (0.10)		×. ×.
			-				gravelly Soft to firm brow very sa fine.	ndy SILT. Sand is	1.60 (0.50)		× × × × × × × × × × × × × × × × × × ×
	2.00		- 2.00 - 2.00-2.45	в	2	S4	Soft brown gry liv sandy is fine to coarse. Soft hown gry slightly s	andy to sandy	2.10		
				P	3		CLAY. Vancers fine to coa	rse.			
	3.00		- 3.00-3.45 	H		55			L		
	4.00		4.00 4.00-4.45	в	4	S7	Below 4.00m: Occasional or	ganic fragments.	· · · · · · · · · · · · · · · · · · ·		
			-				Between 4.70m and 4.80m: L organic fragments.	ocally frequent	-		
			5.00	в	5		Below 5.00m: Grades into s	andy silt/clay.	-		
Remai (See not & keysh Scale 1:2	rks 1 tes 2 leets) ² 3 4	Prior Hole t See in Ground	to window sam erminated at stallation de water was not	pling 6.00m tails appar	a Cal (clic on f: rent o	ble Avoidance ents decision inal sheet. during boring	Tool (CAT) survey was carrie) due to hole collapsing betw	ed out. Services were reen 3.00m and 5.00m.	not loca	ated.	
		-Fu	GRO			Project HULL (Hull (COLLEGE, KINGSTON UPON HULL College	Contract No.	CON	083130	
						rader	Madilbell	Figure No.	WS4 (1 0	of 3)	307/03

Drilling	g Metho	d Windo	w Sampler			Borehole Diam	nole Diameter Casing Diameter BOREHOLE No. W					WS	WS4	
Equipment Window Sampler														
Drill C	rew					Logged by	Compiled	by Cheo	cked by					
Dates	Drilled	Start End	17/11/2008 17/11/2008			MW n 17/11/2008 2	nd 26/11/200	08	·					
Date	Run	Run Time	Sam	nple/Tes	st De	tails						Depth	Laural	
& Time	Depth	(secs) (Recov-	Depth (m)	Tune	No	Populto	-	De	scription of	Strata		(Thick- ness)	Levei	Legena
Time	(11)	ery) (%)	From To	туре	NO.	Results						(m)		
	5.00		5.00-5.45			S5						(6 20)		
			-									- (0.20)		
			-									-		· · · · · · · · ·
												-		
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	6 00		- 6.00 - 6.00-6.45	в	6	95						-		
	0.00		0.00-0.45			55						-		· · · · · · · · · · · · · · · · · · ·
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			-						K			-		· · · · ·
			- 7.00 7.00-7.45	в	7	S7						-		. —
			-									-		· · · · · · · · · ·
			- - -					V				-		
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			-									-		
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			8.00 8.00-8.45	в	8	S6						-		
17/11	8.30		- - -			Ť						-		
			-			\mathbf{V}		Er	nd of Boreh	nole		8.30		
			-									-		
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Rema	rks	<u> </u>	L				<u> </u>					<u> </u>		<u> </u>
(See not & keysh	ieets)													
Scale 1:2	5	@######				Project					Contract No.	<i>c</i>	092120	
		-Tu	GRO			HULL (LL COLLEGE, KINGSTON UPON HULL				CON083130			
		!				Faber	Figure No.			Figure No.	WS4 (2 of 3)			
											WS4 (2 of 3)			

Drilling Method Window Sampler	Borehole Diameter	Casing Diameter	BOREHOLE No. WS4	
Equipment Window Sampler				
Delli Cresse	Langed by Comm	ilad hu Chashad hu		
Dates Drilled Start 17/11/2008	MW md			
	1//11/2008 28/11	Depth Leve	I	
Description		(m)		
Bentonite Seal			Flush stopcock box cover. Pipe diameter 50mm to 1.50m.	
		0.50		
Gravel Filter				
		1.50		
Bentonite Seal				
		Y		
		-		
		8.30		
Remarks	<u> </u>		Base of Hole	
(See notes & keysheets)				
Not to Scale	Droinst		Contract No.	
-fugro	HULL COLLE	GE, KINGSTON UPON H	ULL CONTRACT NO. CON083130	
	Hull Colle Faber Maun	ge sell	Figure No.	
\sim			WS4 (3 of 3)	309/03

Drilling	g Metho	d Windo	w Sampler			Borehole Dian	neter Casing Diameter	BOREHOLE No.		WS	5			
Equipment Window Sampler														
Drill C Dates	rew Drilled	Start End	05/12/2008 05/12/2008			Logged by MW 05/12/2008	Compiled by Checked by md 26/11/2008							
Date	Run	Run	San	nple/T	est De	etails								
& Time	Depth (m)	(secs) (Recov-	Depth (m)	Type	No	Results	Description o	f Strata	(Thick- ness)	Level	Legend			
05/12	0.00	(%)	From To	Type	110.	50/	MADE GROUND. Composed of	clavey gand and	(m)					
00712	0100		-			0*	gravel. Gravel is angula fine to coarse of brick a	r to subangular nd concrete. Sand	(0.20) 0.20					
			0.30	ES	9		MADE GROUND: Composed of		-					
			- 0.50	ES	10		slightly gravelly clay. to subrounded fine to coa	Gravel is angular rse of chalk and						
			0.50	в	12		COAL.		(1.00)					
			- - -						-					
			1.00	ES	11				-					
	1.00		1.00-1.45 1.00	в	13	Sl			1.20					
							MADE GROUND: Composed of grey brown sandy silt wit	very soft black h occasional	-					
			1.50	в	1		angular medium to coarse	gravel of brick.	-					
			1.50-1.95			S8			(1 00)					
			- - -						_ (1.00) _					
			2 00	в	2				-					
	2.00		2.00-2.45	5	-	S5								
			- - -				Firm guy brown sandy CLA subround fine gravel of	Y with rare quartzite.	2.20					
			-					* • • • • • • •	(0.50)					
			 - -						-					
			-				Sof to firm brown veined velly sandy CLAY Sand	grey and locally	2.70					
				_			w 2.90m: Locally very	sandy.	-					
	3.00		3.00 3.00-3.45	в	3	58			-					
			-											
			- - -						-					
			 - -				Below 3.60m: Mottled grey	•	-					
			-						(2.10)					
				_					-		 			
	4.00		4.00-4.45	в	4	S4			-					
			 - -											
			• • •											
			 - 						4.80					
			5.00	R	5		Soft brown sandy to very Sand is fine and medium.	sandy SILT/CLAY.						
Rema	rks 1	Prior	to window sam	pling		ble Avoidance	Tool (CAT) survey was carri	ed out. Services were	not loc	ated				
(See no & keysh	$\frac{1}{10000000000000000000000000000000000$	See in Ground	stallation de water was not	tails	on f rent	inal sheet. during boring		Ca Juc. Belvices were	100 100	aceu.				
Scale 4.0	95													
Scale 1:2		-6.	FRO			Project	CON	083130						
						HULL COLLEGE, KINGSTON UPON HULL Hull College Faber Maunsell								
							Faber Maunsell Figure No.				307/03			

Drilling	g Metho	d Windo	w Sampler			Borehole Diameter Casing Diameter BOREHOLE No.						WS5		
Equipment Window Sampler														
Drill C						l ogged by	Compiled	by Ct	ecked by					
Dates	Drilled	Start End	05/12/2008			MW	md		lecked by					
Dete	Dur	Run	63/12/2000 Son		et De	tails				Depth				
Date &	Run Depth	(secs)	San	ipie/ i e	ist De			Description of Strata				(Thick-	Level	Legend
Time	(m)	ery)	Deptn (m) From To	Туре	No.	Results						(m)		
	5.00	(/0/	5.00-5.45			S1						(0.50)		×
			-									-		× × × ×
							Soft	to firm a	rev brown ve	erv san	dv STLT.	5.30		× × ×
	- - 5.50-5.95					S8	Sand	is fine t	o coarse.	ery bun	ay billi	-		× × × .
												(0.50)		· ·x· · · x · x ·
			-									-		×. × × ×
			-				Soft	to firm g	rey brown sa	andy lo	cally very	5.80		×. ×
			6.00	в	6		sandy Betwe	SILT/CLA en 5.90m	Y. Sand is and 6.00m: S	fine t Silty f	o coarse. ine sand.	(0.30)		× × × ×
	6.00		6.00-6.45			S5						6.10		×××
			-				Dark	grey brow	n silty fine	e SAND.		(0.30)		×
			-									6 4 0		×
			-				Very Sand	soft brow	n sandy to v	very sa	ndy SILT.	_ 0.40		×. × × × .
			-				Dunu					(0.60)		\times
			-									-		× × × ×
			-									-		× × × · · · · · · · · · · · · · · · · ·
	7.00		- 7.00 7.00-7.45	в	7	S 5	Dark g	greyslig	htly sity i	fine SA	ND.	— 7.00 -		×
			-					V				-		
			-									-		
								\nearrow						
	7.60		-				N Y					(1.50)		
			-									[
			8.00	в	8									
			8.00-8.45			S4						:		
	8.30		-									-		
05 /10														
05/12			- 						End of Borol	holo		8.50		
			-						And OI Dole	1016		-		
			-									-		
			 r									F		
			Ē											
												E		
			 -											
			Ē									E I		
												E		
			-									-		
Rema	rks	L	L			L								Щ
(See not & keysh	tes leets)													
Scale 1:2	5													
			r: D0 m			Project					Contract No.	CON	083130	
			ureu			HULL Hull	COLLEGE, College	KINGSTON	UPON HULL					
						Faber Maunsell				Figure No.	WS5 (2 d	of 3)		
												•		307/03

Drilling	g Metho	d Windo	w Sampler			Borehole Diam	eter Casing Diameter	BOREHOLE No.		WS	6		
Equipn	nent	Windo	w Sampler			78mm to 8.0	78mm to 8.00m						
Drill C	rew	.				Logged by (Compiled by Checked by						
Dates	Drilled	Start End	19/11/2008 19/11/2008			TW c 19/11/2008 0	Elm BC 03/12/2008 05/12/2008						
Date	Run	Run Time (secs)	Sam	nple/Te	est De	tails	Description of 6	Strata	Depth (Thick-	Level	Legend		
∝ Time	(m)	(Recov- ery)	Depth (m) From To	Туре	No.	Results	Description of a	bliata	ness)				
19/11	0.00	(70)					MADE GROUND: Composed of li	ight brown	- (<i>)</i>				
			-				sandy gravel. Sand is fine Gravel is angular to subang	to medium of ash. gular fine to	(0.30)				
			-				coarse of brick, concrete, sandstone.	coke, slag,	0.30				
			-				MADE GROUND: Composed of bl silty subangular to subrour	lack ashy locally nded fine to					
			-				medium gravel of coke and s	slag.	(0.70)				
			-						-				
			1.00 1.00-1.45	в	1	S11	MADE GROUND: Composed of so	oft to firm brown	1.00				
			-				silt.		-				
			-										
			-						(1 10)				
			-						(1110)				
			-						-				
			2.00	в	2				-				
	2.00		2.00-2.45			510	MADE COUND: composed of gr	rey brown slighty	2.10 (0.10)				
			-				clayey ocally clayey sandy subround offine to coarse of	y angular to gravel of brick,	2.20				
			- - 				les of increte and bri	ick.	-				
			<u>-</u>				MDE Composed of ve brue very sandy silt with rate cobbles Gravel is and	ery soft grey rare gravel and ular medium of	-				
			-				brit. Cobbles are subangul	lar of concrete.	(1.30)				
			3.00	в	3				-				
	3.00		3.00-3.45			S4			-				
			-						-				
			-			V			3.50				
			-				MADE GROUND: Composed of bl silt. Gravel is angular to	lack gravelly subangular fine	- 5150				
			-				to coarse of brick and ash. strong creosote odour.	. Moderate to	(0.70)				
				_					-				
	4.00		4.00 4.00-4.45	в	4	S5							
			[MADE GROUND: Composed of ve	ery soft grey	4.20				
			-				occasional brick and metal is fine to coarse.	fragments. Sand	(0.50)				
			<u>-</u> - -				MADE GROUND: Composed of gr subrounded to angular fine	rey brown silty to coarse gravel	_ 4.50				
			- - -				of chalk, quartzite, sandst coke.	tone, brick and					
			-						(0.65)				
<u> </u>			5.00	в	5				<u> </u>				
(See not & keysh	Remarks 1 Prior to window sampling a ((See notes & keysheets) ² On completion the window sam					ble Avoidance le borehole wa	Tool (CAT) survey was carried as backfilled with materials a	l out. Services were arising.	not loca	ated.			
	د	Ground	waler was not	арраз	ent	uuring boring.							
Scale 1:2	5					Drainat							
		-Fu	GRO			HULL C	COLLEGE, KINGSTON UPON HULL College	Contract NO.	CON	183130			
						Hull College Faber Maunsell Figure N			WS6 (1 d	of 2)			
l										/	307/03		

Drilling	g Metho	d Windo	w Sampler			Borehole Diameter Casing Diameter BOREHOLE No.					WS6				
Equipn	nent	Windo	w Sampler			78mm to 8.0	0 0m								
Drill Ci Dates	rew Drilled	Start End	19/11/2008 19/11/2008			Logged by (TW c 19/11/2008 (Compiled by	Checked by BC 05/12/2008							
Date	Run	Run Time	Sam	nple/T	est De	etails	., 12, 2000 03, 12/ 2000				Depth	Loval	Logond		
& Time	Depth (m)	(secs) (Recov- ery)	Depth (m)	Туре	No.	Results	1	Description of	Strata		(Thick- ness)	Levei	Legena		
	5.00	(%)	From Io 5.00-5.45			S5					(m) -		****		
							MADE GROUN clay with Gravel is brick. Coh	ND: Composed of s ocasional gravel subangular fine obles are subangu	soft gr and c to coa lar of	ey brown obbles. rse of brick.	5.15 (0.60)				
	6.00		- 6.00 - 6.00 - 6.00-6.45	в	6	<i>\$</i> 5	MADE GROUN dark grey gravelly n angular fi coke and c strata). MADE GROUN occasional	ND: Composed of g silty gravelly 1 nedium sand. Grav Ine to coarse of chalk (slight odo ND: Composed of s I gravel and rare	grey br locally vel is brick, bur at soft gr a cobbl	own locally very rounded to quartzite, base of ey clay with es. Gravel	5.75 (0.25) 6.00				
							is angular slag.	c coarse of brick	c. Cob	bles of	(1.00)				
	7.00		7.00 7.00-7.45	В	7	S10	MADE GROU locally a rounder me quartzie, fragment	5: Composer of d ark brown silve s edito to coarse g alk, sandston of plastic pipe	dark gr sandy a gravel he and (sligh	ey brown ngular to of brick, rare t odour).	- 7.00 				
19/11	8.00		- - - - - - - - - - - - 8.00	в	8	2	Y	End of Boreh	nole		- - - - - - - - - - - - - - - - - - -				
Remai (See noi	rks							End of Boren	1016						
(See noi & keysh	tes neets) 25														
		-โบ	GRO			Project	LL COLLEGE, KINGSTON UPON HULL		Contract No.	CON	083130				
						Faber	Maunsell			Figure No.	WS6 (2	of 2)	307/03		

Drilling	g Metho	d Windo	w Sampler			Borehole Diam	eter Casing Diameter	BOREHOLE No.		WS	7
Equipn	nent					78mm to 5.0 67mm to 8.0	0 0 m				
Drill Cr Dates	rew Drilled	Start	19/11/2008			Logged by C	Compiled by Checked by EC				
Date	Run	End Run Time	19/11/2008 Sam	nple/Te	est De	19/11/2008 0	04/12/2008 05/12/2008		Depth		
& Time	Depth (m)	(secs) (Recov- erv)	Depth (m)	Туре	No.	Results	Description of Strata Results				Legend
19/11	0 00	(%)	From To				MADE GROUND: Composed of w	very soft to soft	(m) -		
13711	0.00		-				brown sandy silt. Sand is fragments.	fine. Rare brick			
			-						-		
			-						(1 00)		
			-						-(1.00)		
			-						-		
			-						-		
			- 1.00 - 1.00-1.45	в	1	S0/	MADE GROUND: Composed of y	ellow brown	1.00		
						450	becoming grey brown slight with rare angular medium t	ly silty fine sand to coarse gravel of	-		
			-				brick and coal.		(0.70)		
			-						-		
			-						-		
			-				Soft grey brown soldy CLAY	with rare	1.70		
			-				subangular mediya gravel o	of chalk.	-		
	2.00		2.00	в	2	S4			(0.70)		
			-								
			-						-		
			-				off w bron sandy CLAY	. Sand is fine to	2.40		
			-				charse	· · · · · · · · · · · · · · · · · · ·	-		
			-						-		
			-						-		
	3.00		3.00 3.00-3.45	в	3	59	Between 3.00m and 4.00m: N	lo recovery.	-		
			-						(1.60)		· · · · · ·
			-						-		
			-						-		· ·
			-						-		
			-						-		
			-						-		
	4.00		4.00 4.00-4.45	в	4	S6	Soft brown veined blue gre	ey CLAY.	4.00 (0.20)		
							Coft brorn CTU		4.20		
			F 5 4				SOIT DROWN SILT.		E I		
			⊦ - 								× × × ×
			- -						(0.80)		× × × × ×
			- -						E		× × × × × × ×
			- -						ŧ I		
			_ 5.00	U#B	5		Grey brown sandy SILT. Sa	nd is fine to	_ 5.00		× .
Remarks 1 (See notes & keysheets)2 3Prior to window sampling a Ca On completion the window samp Groundwater was not apparent					a Ca samp rent	ble Avoidance le borehole wa during boring.	Tool (CAT) survey was carrie as backfilled with materials	d out. Services were arising.	not loca	ated.	
Scale 1:2	5					Project Contract No.				083130	
						HULL COLLEGE, KINGSTON UPON HULL					
						Hull College Faber Maunsell Figure No.			WS7 (1 4	of 2)	
							Figure No.				

Drilling	g Metho	d Windo	w Sampler			Borehole Diam 87mm to 4.0	eter Casin	g Diameter	BORE	HOLE No.		WS	7
Equipn	nent					78mm to 5.0 67mm to 8.0) Om) Om						
Drill C Dates	rew Drilled	Start End	19/11/2008 19/11/2008			Logged by 0 TW 2 19/11/2008 0	Compiled by lm 04/12/2008	Checked by BC 05/12/2008					
Date	Run	Run Time (secs)	Sam	iple/To	est De	etails	Description of Starts				Depth (Thick-	Level	Legend
& Time	Uepth (m)	(Recov- ery)	Depth (m) From To	Туре	No.	Results		Description of	Strata		`ness) (m)		_
	5.00	(%)	5.00-5.45			S7	coarse.				5.00		×. * ×
19/11	6.00 7.00 8.00		6.00 6.00-6.45 7.00-7.45 8.00 8.00-8.45	B	6	54	Below 6.003 brown sands	m: Grades into s y silt. End of Boreh	nole	very soft	8.00		
Remai (See noi & keysh	rks tes teets)										·		
Scale 1.2	fugro					Project	OLLEGE. KING	STON UPON HULL		Contract No.	CON	083130	
		ļ	Â			Hull C Faber	College Maunsell		-	Figure No.	WS7 (2 (of 2)	207/02







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Figure 03: Test Pit 1 Plan & Section

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PN: 1883 Hull College, Hull Figure 05: Test Pit 4 Plan & Section

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PN: 1883 Hull College, Hull Figure 07: Test Pit 6 Plan & Section



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Figure 08: Location of Trenches, Boreholes and Test Pits











Plate 1



Plate 2



Plate 3

