

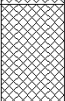

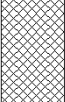



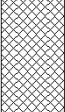










 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL					Site A6182/M1 Junction 29A - Phase 2, Markham Employment Growth Zone		Borehole Number BH103				
Boring Method Cable Percussion		Casing Diameter 121mm cased to 8.70m		Ground Level (mOD) 88.80		Client Norwest Holst Limited - Civils Division		Job Number F15042			
		Location 444659.5 E 370364 N		Dates 21/11/2007- 26/11/2007		Engineer Norwest Holst Limited - Civils Division		Sheet 1/3			
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water		
					88.70	(0.10)	TOPSOIL.				
					88.45	0.10 (0.25)	MADE GROUND: Brown and dark grey slightly sandy slightly gravelly clay with occasional cobbles. Sand sized fragments are fine to coarse. Gravel sized fragments are subangular to subrounded fine to coarse of limestone, siltstone and mudstone. Cobble sized fragments are subangular of brick.				
					88.10	0.35 (0.35)					
0.70 0.70-1.20	D001 B002					0.70					
1.20-1.65	U003			50 blows			MADE GROUND: Yellow fine to coarse sand sized fragments and subangular fine to coarse gravel sized fragments of limestone. With low cobble content. Cobble sized fragments are subangular of limestone.				
1.70	D004						MADE GROUND: Grey and brown locally mottled brown slightly sandy slightly gravelly clay with low cobble content. Sand sized fragments are fine to coarse. Gravel sized ---from 2.00m to 2.65m band of black fibrous locally amorphous peat with occasional rootlets fragments are subangular to subrounded fine to coarse of coal, sandstone, limestone and mudstone. Cobble sized fragments are subangular of mudstone and limestone.				
2.00 2.20-2.65 2.20-2.65 2.20-2.65	D005 B007 SPT N=7 D006	1.50		1,2/1,3,2,1							
3.00	D008										
3.20-3.65	U009			70 blows		(5.30)					
3.70	D010										
4.00 4.20-4.65 4.20-4.65 4.20-4.65	D011 B013 SPT N=16 D012	3.00	0	3,4/3,4,4,5							
		73.00									
		100.00	73.00								
5.00	D014										
5.20-5.65	U015			60 blows							
5.70	D016			21/11/2007:							
6.00	D017			22/11/2007:	82.80	6.00					
6.50-6.95 6.50-6.95 6.50-6.95	B019 SPT N=16 D018	3.00		2,3/4,3,4,5			MADE GROUND: Thinly laminated grey and brown locally black and locally grey mottled brown slightly sandy slightly gravelly clay. Sand sized fragments are fine to coarse. Gravel sized fragments are subangular fine to coarse of mudstone, siltstone, sandstone and locally of ironstone.				
7.50	D020					(2.70)					
8.00-8.45	U021			82 blows							
8.60-8.70 8.50 8.60-8.68	D022			D023 25/50 SPT 25'/40 50/40 22/11/2007:							
8.70		100.00	100.00	73.00	0	80.10	8.70			MADE GROUND: Light grey concrete 50-60% aggregate angular to subangular fine to coarse of limestone and flint 0% voids.	
9.25						(2.50)					
Remarks 1. Service inspection pit hand excavated from GL to 1.20m. 2. Cable Percussive boring complete at 8.70m. 3. 19mm piezometer installed, with response zone from 16.50m to 20.00m and tip at 20.00m. 4. Rotary Coring complete at 20.50m.							Scale (approx) 1:50		Logged By MPB		
							Figure No.				



 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL						Site A6182/M1 Junction 29A - Phase 2, Markham Employment Growth Zone			Borehole Number BH103	
Machine: Flush :		Casing Diameter 121mm cased to 8.70m		Ground Level (mOD) 88.80		Client Norwest Holst Limited - Civils Division		Job Number F15042		
Core Dia: mm		Location 444659.5 E 370364 N		Dates 21/11/2007- 26/11/2007		Engineer Norwest Holst Limited - Civils Division		Sheet 2/3		
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.75	93.00	75.00	49.00	0			(2.50)			
12.00-12.03	97.00	77.00	41.00	0	50/ SPT 50'/30	77.60	11.20	Very weak thinly laminated light grey and black MUDSTONE. Discoloured. Discontinuities: 1) closely to widely spaced 0-10 deg planar smooth clean.		
12.25							(2.55)	---from 12.15m to 12.25m assumed zone of core loss		
13.75	96.00	80.00	55.00	0	Seepage(1) at 13.00m.	75.05	13.75	---from 13.70m to 13.75m assumed zone of core loss		
14.32			0	0		74.61	(0.44)	Weak light grey and black thinly laminated SILTSTONE. Discontinuities: closely and medium spaced 0-10 deg planar smooth clean.		
15.00-15.05	100.00	77.00	71.00	0	50/ SPT 50'/45	74.48	14.19	Very weak thinly laminated black COAL.		
15.25							14.32	Weak light thinly laminated grey SILTSTONE. Discontinuities: closely and widely spaced planar smooth clean.		
16.75	95.00	86.00	80.00	0			(6.18)	---from 15.20m to 15.25m assumed zone of core loss		
18.00-18.01	100.00	91.00	73.00	0	50/ SPT 50'/5			---from 18.20m to 18.25m assumed zone of core loss		
18.25										
19.75	100.00	100.00	50.00	0						
Remarks								Scale (approx) 1:50	Logged By MPB	
								Figure No.		



 British Geological Survey <small>NATURAL ENVIRONMENT RESEARCH COUNCIL</small>							Site A6182/M1 Junction 29A - Phase 2, Markham Employment Growth Zone			Borehole Number BH103	
Machine: Flush : Core Dia: mm Method :			Casing Diameter 121mm cased to 8.70m		Ground Level (mOD) 88.80		Client Norwest Holst Limited - Civils Division			Job Number F15042	
			Location 444659.5 E 370364 N		Dates 21/11/2007- 26/11/2007		Engineer Norwest Holst Limited - Civils Division			Sheet 3/3	
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
					26/11/2007:19.80m 26/11/2007:	68.30	(6.18) 20.50	Complete at 20.50m			
Remarks											
									Scale (approx) 1:50	Logged By MPB	
									Figure No.		