










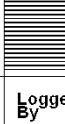
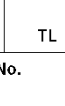



 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL						Site M1 WIDENING JUNCTION 21 TO 30 PRELIMINARY GI-CONTRACT 2			Borehole Number RC1231	
Machine: Flush : Core Dia: mm Method :		Casing Diameter 140mm cased to 3.00m		Ground Level (mOD) 92.90		Client Highways Agency		Job Number WAL060099		
		Location 445187 E 369057 N		Dates 07/09/2006		Engineer Arup		Sheet 1/2		
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00			0	0	Groundwater was not apparent during boring(1) at 0.00m.	92.70	(0.20) 0.20	TOPSOIL.		✓1
	100	88	0	0				Very weak red brown/brown highly weathered SILTSTONE with very frequent extremely closely spaced very narrow clay filled fissures. Clay is generally stiff, variably soft to firm.		
1.20							(1.90)	Between 1.20m and 1.60m; plant rootlets.		
			0	0						
2.10						90.80	2.10	Very weak (variably weak) grey brown thinly laminated weathered SILTSTONE. Weathering: Frequent dark brown and orange discolouration penetrating throughout. Fractures: Horizontal (0 to 15 degrees) extremely closely to At 2.60m; pocket soft grey gravelly clay. (40mm). very closely spaced (5/15/40), smooth planar, frequently irregular, others subhorizontal to vertical, extremely closely		
3.00	100	49	0	0				Between 3.00m and 3.40m; Non-intact.		
3.40			0	0			(3.00)	to very closely spaced and irregular. Apparently random strike.		
3.75			0	0				Between 3.75m and 4.00m; Non-intact.		
4.00					D101					
4.20			0	0						
5.10						87.80	5.10	At 5.00m; very thin bed ironstone. (30mm).		
5.35			0	0	P1			Weak (variably very weak) dark grey black thinly laminated MUDSTONE with rare very thin beds of moderately strong ironstone (50mm). Orange brown discolouration penetrating <1mm on fracture surfaces. Fractures: Horizontal (5 to 20 degrees) extremely closely and very closely spaced smooth, planar to irregular, tight to open, others, subvertical, vertical and irregular.		
5.70	100	50	0	0	D102					
5.65			0	0			(3.10)			
6.00			0	0				Between 7.20m and 7.45m; slightly carbonaceous. At 7.20m; very thin bed ironstone. (50mm).		
6.15			0	0				Between 7.70m and 8.00m; non-intact, slightly carbonaceous, variably clayey.		
6.80			0	0						
7.00			0	0						
8.20	100	95	0	0	D103	84.70	8.20	Weak thinly laminated grey MUDSTONE. Thinly to medium interbedded with weak and occasionally moderately weak light and dark grey thinly colour laminated SILTSTONE. Siltstone contains occasional beds <30mm moderately strong brown ironstone. Occasional heavy red brown discolouration penetrating up to 2mm on fracture surfaces. Fractures: Horizontal (5 to 15 degrees) very closely to medium spaced, smooth, planar, irregular, moderately open, subvertical smooth, planar and irregular, typically very open, others vertical smooth and irregular.		
8.70					P2			Between 8.50m to 8.75m; vertical and irregular fracturing.		
8.80										
9.00										
9.50					P3					
Remarks								Scale (approx) 1:50	Logged By TL	
								Figure No.		



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			Location 445187 E 369057 N		Dates 07/09/2006		Engineer Arup			Sheet 2/2	
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
10.20	100	85	0	0	D104						
11.45					P4						
11.70					D105		(5.50)				
12.00											
			0	0							
13.15					P5			At 13.00m; very thin bed ironstone (60mm).			
13.70	Sample / Tests		Casing Depth (m)	Water Depth (m)		79.20	13.70	Weak thinly laminated dark grey to black carbonaceous MUDSTONE with rare very thin beds ironstone (30mm). Fractures: Horizontal (0 to 15 degrees) extremely closely to closely spaced, smooth, planar, occasionally stepped and incipient to open.			
14.70	D106						(1.30)				
14.90	P6										
					07/09/2006:	77.90	15.00	Complete at 15.00m			
					07/09/2006:						
Remarks								Scale (approx) 1:50	Logged By TL		
								Figure No.			