








 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL						Site M1 WIDENING JUNCTION 21 TO 30 PRELIMINARY GI- CONTRACT 2		Borehole Number RC1228		
Machine: Flush : Core Dia: mm Method :		Casing Diameter 140mm cased to 14.20m		Ground Level (mOD) 94.65		Client Highways Agency		Job Number WAL060099		
		Location 445389 E 368076 N		Dates 23/11/2006- 27/11/2006		Engineer Arup		Sheet 1/3		
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00	PIT		0	0	Groundwater was not apparent during boring(1) at 0.00m. B1 B2	94.45	(0.20)	MADE GROUND. Soft grey brown sandy gravelly clay with some rootlets. Sand is medium, gravel is subangular to subrounded of sandstone, slate and limestone.		V1
0.20							(0.20)			
0.50							(0.30)			
	17	0	0	0		94.15	0.50	MADE GROUND. Yellow brown sandy gravel. Gravel is angular to subangular medium to coarse of sandstone.		
							(0.70)			
1.20	27	0	0	0	B3	93.45	1.20	MADE GROUND. Firm brown and grey slightly sandy slightly gravelly clay. Gravel is subangular fine of sandstone, mudstone and coal.		
1.20										
								Poor recovery. MADE GROUND. Recovered as soft to firm grey locally mottled light brown slightly gravelly clay. Gravel is subangular to subrounded fine to coarse of mudstone, siltstone and ironstone, with rare coal and rare dolomite.		
2.70-3.15	33	0	0	0	1/2,2,1,3 SPT N=8					
2.70										
4.20-4.65	27	0	0	0	1,1/2,3,3,4 SPT N=12					
4.20										
5.70-6.15	47	0	0	0	2,2/3,5,6,7 SPT N=21					
5.70										
7.20-7.65	42	0	0	0	1,3/3,5,5,6 SPT N=19					
7.20										
							(13.00)			
8.70	19	0	0	0	3,4/5,5,7,7 SPT N=24 23/11/2006: 23/11/2006: 24/11/2006:					
8.70-9.15										
Remarks								Scale (approx) 1:50	Logged By OP	
								Figure No.		



 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL								Site M1 WIDENING JUNCTION 21 TO 30 PRELIMINARY GI- CONTRACT 2		Borehole Number RC1228	
Machine: Flush : Core Dia: mm Method :		Casing Diameter 140mm cased to 14.20m		Ground Level (mOD) 94.65		Client Highways Agency		Job Number WAL060099		Sheet 2/3	
		Location 445389 E 368076 N		Dates 23/11/2006- 27/11/2006		Engineer Arup					
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
10.20 10.20-10.65					3.4/4,7,7,7 SPT N=25			MADE GROUND (as previous sheet).			
	28	0	0	0							
11.70 11.70-12.15					4.3/4,5,6,7 SPT N=22		(13.00)				
	31	0	0	0							
12.70 12.70-13.15					2.5/2,4,4,6 SPT N=16						
	67	0	0	0							
14.20					4.3/6,6,6,8 24/11/2006:12.30m	80.45	14.20 (0.50)	Assumed zone of core loss.			
14.20-14.65					24/11/2006: SPT N=26 24/11/2006: 27/11/2006:	79.95	14.70 (1.00)	Firm mottled grey brown and orange brown sandy CLAY.			
	37	0	0	0							
15.70 15.70-16.15					3.5/8,6,7,7 SPT N=28	78.95	15.70 (0.94)	Assumed zone of core loss.			
			0	0							
16.64			0	0		78.01	16.64 (0.20)	Very weak grey MUDSTONE. Locally weathered to clay and recovered non-intact. Discontinuities: where intact, extremely closely spaced, randomly orientated, rough and smooth microfractures.			
16.84			0	0		77.81	16.84 (0.26)				
17.10 17.20 17.20-17.65	100	19	0	0	3.4/5,5,8,7 SPT N=25	77.55	17.10	Very weak, black vitreous COAL. Discontinuities: extremely closely spaced, vertical and horizontal, planar, smooth and rough, clean.			
	100	33	0	0				Very weak grey MUDSTONE with occasional fossilised plant remains. Discontinuities: extremely closely to very closely spaced, randomly orientated, rough and smooth microfractures. Extremely closely to closely spaced, horizontal and subhorizontal, smooth, clean. Vertical to 60 degrees, undulating, rough and smooth, clean. From 17.10m to 17.45m; weathered to very stiff clay. At 18.00m; very thin bed of ironstone.			
18.70 18.70-18.87 18.90					25/34,16 SPT 25'/75 50/93 P1		(3.62)	At 19.40m; very thin bed of ironstone. At 19.60m; very thin bed of ironstone.			
	90	53	23	0							
Remarks								Scale (approx) 1:50		Logged By OP	
								Figure No.			



 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL						Site M1 WIDENING JUNCTION 21 TO 30 PRELIMINARY GI- CONTRACT 2			Borehole Number RC1228	
Machine: Flush : Core Dia: mm Method :		Casing Diameter 140mm cased to 14.20m		Ground Level (mOD) 94.65		Client Highways Agency		Job Number WAL060099		
		Location 445389 E 368076 N		Dates 23/11/2006- 27/11/2006		Engineer Arup		Sheet 3/3		
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
20.06					P2					
20.20					25/50		(3.62)	At 20.20m; very thin bed of ironstone.		
20.20-20.30			0	0	SPT 25'/75					
20.67-20.86					50/27	73.93	20.72	Moderately strong, light grey SILTSTONE, with occasional thin wispy carbonaceous laminae. Discontinuities: very closely to closely spaced, subhorizontal, rough, clean.		
20.72			0	0	U3					
			0	0						
21.19							(1.21)	Between 21.34m and 21.70m; thinly interlaminated to very thinly interbedded with grey mudstone. From 21.40m to 21.55m; recovered non-intact.		
21.34	91	60	31	0						
			0	0						
21.70					25/50	72.72	21.93	Moderately weak grey MUDSTONE, with thin and thick laminae of moderately strong siltstone locally with thin wispy carbonaceous laminae. Discontinuities: extremely closely to		
21.70-21.79					SPT 25'/75					
21.93			0	0	50/15		(0.87)	At 22.41m; very thin bed of ironstone. closely spaced, horizontal and subhorizontal, rough and smooth, clean.		
21.80			0	0	P4					
22.43										
			0	0						
22.70					27/11/2006:	71.85	22.80	Complete at 22.80m		
					27/11/2006:					
					27/11/2006:					
Remarks								Scale (approx) 1:50	Logged By OP	
								Figure No.		