



 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL							Site M1 WIDENING JUNCTION 21 TO 30 PRELIMINARY GI- CONTRACT 2			Borehole Number RC1198	
Machine: Flush :		Casing Diameter 140mm cased to 6.00m		Ground Level (mOD) 160.80		Client Highways Agency		Job Number WAL060099			
Core Dia: mm		Location 444982 E 359135 N		Dates 06/11/2006- 07/11/2006		Engineer Arup		Sheet 1/3			
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.00			0	0	Groundwater was not apparent during boring(1) at 0.00m.			Inspection Pit.		▽1	
			0	0			(1.20)				
1.20					D1	159.60	1.20	Open Hole.			
2.00											
3.00						D2					
	56	38	0	0			(4.80)				
4.00					D3						
5.00					D4						
6.00					D5	154.80	6.00	No recovery.			
6.00			0	0			(0.50)				
6.50			0	0		154.30	6.50	MADE GROUND. Soft to firm light grey brown mottled black slightly gravelly clay. Gravel is subrounded coarse of sandstone, with cobble size fragment of timber.			
6.70	93	80	45	0	/10,31,49,10 SPT 0*/0 100/236	154.10	(0.20) 6.70				
7.00-7.24					U1		(1.05)	Moderately strong light grey brown fine to medium grained SANDSTONE with very narrow dark brown wispy interlaminae. With orange brown discolouration. Fractures: horizontal, very closely to closely spaced, rough, planar and undulating.			
7.00			0	0							
7.75-8.05					U2	153.05	7.75	Moderately strong to strong light grey brown fine and medium grained SANDSTONE with occasional very narrow dark brown wispy interlaminae widely very thinly and thinly interbedded with weak thinly laminated dark grey mudstone. Weathering: occasional orange brown discolouration penetrating up to 50mm; black discolouration on fracture surfaces. Fractures: horizontal, medium spaced, rough, planar, open. Between 8.50m and 8.85m; assumed zone of core loss. Between 9.25m and 9.45m; weak mudstone.			
7.75	77	60	53	0		/36,52,12 SPT 0*/0 100/157					
8.50-8.66			0	0							
8.50											
8.85	98	81	73	0							
10.00-10.35											
10.00	Remarks							Scale (approx) 1:50	Logged By TL	Figure No.	



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Flush :			140mm cased to 6.00m			160.80		Highways Agency		WAL060099	
Core Dia: mm			Location			Dates		Engineer		Sheet	
Method :			444982 E 359135 N			06/11/2006-07/11/2006		Arup		2/3	
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
10.00-10.18					SPT 0'/0 100/177						
	83	75	65	0				At 10.50m; occasional well rounded medium and coarse gravel size dissolution vugs.			
11.50 11.50-11.62					/39.61 SPT 0'/0 100/115		(6.05)	Between 11.35m and 11.55m; weak mudstone.			
12.05-12.45	95	72	54	0	U3						
13.00 13.00-13.12					/46.54 SPT 0'/0 100/119						
13.50-13.80			0	0	U4						
13.80						147.00	13.80	Weak thinly to thickly laminated grey and grey brown MUDSTONE. Fractures: generally horizontal and subhorizontal, very closely spaced, irregular.			
14.30	93	24	0	0	P5 /25.47,28 06/11/2006:		(0.95)				
14.50			0	0							
14.75 14.50-14.69					06/11/2006: SPT 0'/0 100/187 06/11/2006:	146.05	14.75	Moderately weak thinly laminated dark grey black carbonaceous MUDSTONE with rare orange brown surface discolouration. Fractures: horizontal, very closely to closely spaced, smooth, planar; subvertical, smooth, planar.			
	91	47	15	0	07/11/2006:	145.50 145.35 145.10	15.30 (0.15) 15.45 (0.25) 15.70	Recovered as grey black slightly clayey subangular fine to coarse gravel of coal, sandstone and carbonaceous MUDSTONE (possibly broken ground/collapsed workings). Weak brittle black COAL. Generally non-intact.			
16.00 16.00-16.16					/29.49,22 SPT 0'/0 100/163 P6		(1.20)	Very weak dark grey MUDSTONE with rare thin interlamination of weak black coal.			
16.05			0	0							
16.90						143.90	16.90	At 16.70m; subrounded coarse gravel size ironstone nodule.			
17.40 17.50 17.50-17.65 17.80 17.90	97	59	23	0	/37.59,4 SPT 0'/0 100/150 P7		(1.80)	Moderately weak to moderately strong light grey SILTSTONE with very frequent black carbonised fossil plant remains. Fractures: horizontal, closely spaced, smooth, planar; subvertical, smooth, planar and undulating; frequent others, irregular, apparently random strike.			
								Between 18.00m and 18.45m; 1 no vertical fracture, smooth, planar.			
18.70 18.90 19.00 19.00-19.09	95	85	77	0	P8 /40.60 SPT 0'/0 100/94	142.10	18.70	Generally moderately strong (variably strong) light and dark grey thinly cross colour laminated SILTSTONE, with orange brown surface discolouration. Fractures: horizontal, closely and medium spaced, smooth, planar, open; subvertical, smooth, planar, open.			
19.60-19.80	80	29	27	0	U9		(2.50)				
Remarks									Scale (approx) 1:50	Logged By TL	
									Figure No.		

Machine:						Casing Diameter	Ground Level (mOD)	Client		Borehole Number
Flush :						140mm cased to 6.00m	160.80	M1 WIDENING JUNCTION 21 TO 30 PRELIMINARY GI - CONTRACT 2		RC1198
Core Dia: mm										Job Number
Method :						Location	Dates	Engineer		Sheet
						444982 E 359135 N	06/11/2006- 07/11/2006	Arup		3/3
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
20.35 20.50 20.50-20.50			0	0	P10 /100 SPT 0'/0 100/0		(2.50)	Between 20.20m and 20.50m; medium bed of strong light grey brown fine grained sandstone with occasional black carbonised fossil plant remains.		
21.20	57	40	0	0		139.60	21.20	Generally moderately strong (variably moderately weak) thinly laminated dark grey MUDSTONE with rare black carbonised fossil plant remains.		
21.90 22.00 22.00-22.08			0	0	P11 /95.5 SPT 0'/0 100/75		(2.50)			
22.80	96	76	59	0				Between 22.80m and 23.50m; assumed zone of core loss.		
23.50 23.50-23.62 23.70			0	0	/51.49 SPT 0'/0 100/115	137.10	23.70	Moderately weak to moderately strong grey MUDSTONE with frequent black carbonised fossil plant remains and occasional subrounded coarse gravel size ironstone nodules. Fractures: horizontal, medium spaced, smooth, planar; vertical, rough, planar.		
24.10-24.35			0	0	U12		(1.00)			
24.70	94	60	37	0		136.10	24.70	Moderately weak to moderately strong thinly laminated dark grey MUDSTONE with rare very thin beds of strong brown ironstone. Fractures: horizontal, closely to medium spaced, smooth, planar; subvertical, smooth, planar; others irregular, apparently random strike.		
25.00 25.00-25.23 25.20					/25.30,44.1 SPT 0'/0 100/225 P13					
	100	80	58	0				Between 25.95m and 26.10m; locally carbonaceous.		
26.50	Sample / Tests		Casing Depth (m)	Water Depth (m)						
26.50-26.61 27.25-27.50	SPT 0'/0 100/112 U14		6.00		/49.51			Between 26.85m and 27.60m; variably grading to siltstone.		
					07/11/2006: 07/11/2006:	132.80	28.00	Complete at 28.00m		

Remarks

Scale (approx)
1:50

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TL

Figure No.