

 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL								Site M1 WIDENING JUNCTION 21 TO 30 PRELIMINARY GI- CONTRACT 2		Borehole Number RC1214	
Machine: Flush : Core Dia: mm Method :		Casing Diameter 140mm cased to 1.50m		Ground Level (mOD) 139.45		Client Highways Agency		Job Number WAL060099		Sheet 1/3	
		Location 445206 E 363271 N		Dates 16/10/2006- 17/10/2006		Engineer Arup					
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.			Inspection Pit.			▽1
	O/H		0	0			(1.20)				
1.20					4.8/7.7,11,16 SPT N=41	138.25	1.20	Open Hole.			
1.50-1.95	67	12	0	0		137.95	(0.30) 1.50	Assumed zone of core loss.			
1.50							(0.50)				
				0		137.45	2.00	Moderately strong yellow brown medium grained SANDSTONE with occasional black discolouration. Recovered as cobble sized fragments. Possibly			
2.54					25.7/5.9,8,11 SPT N=33	136.91	2.54	Black carbonaceous MUDSTONE and COAL recovered as subangular to subrounded, fine to coarse gravel sized fragments.			
3.00-3.45	57	0	0	0		136.45	(0.46) 3.00	Assumed zone of core loss. Possible			
3.00							(0.65)				
				0		135.80	3.65	Black carbonaceous MUDSTONE and COAL recovered as subangular to subrounded, fine to coarse gravel sized fragments.			
					25.13/17,19,31,20 SPT 87/233		(0.72)				
4.50-4.88						135.08	4.37	Very weak, locally stiff to weak grey MUDSTONE with some fossilised plant fragments. Fractures are extremely closely to very closely spaced randomly orientated micro fractures throughout stratum, smooth and rough generally stained yellow, red brown and orange.			
4.37	100	9	0	0							
4.50											
					25.19/26,44,11 SPT 81/152		(2.30)				
	100	10	0	0							
6.00-6.30											
6.00				0							
					85	132.78	6.67	Weak locally very weak and moderately weak grey MUDSTONE with closely to widely spaced very thin and thin beds of ironstone. Many areas extremely closely micro fractured. Fractures are extremely closely to closely spaced horizontal and subhorizontal, smooth. Occasional clay infill up to 1mm thick. Widely spaced, 60 degrees, rough with occasional clay infill. Vertical and subvertical, rough and smooth.			
6.67		21	7	0							
							(2.24)				
7.50				0							
					25/50 SPT 25/75 50/32			From 8.47m to 8.58m; coal, recovered as angular to subrounded fine to coarse gravel sized fragments.			
8.48				0		130.54	8.91	At 8.90m; assumed zone of core loss.			
9.00-9.11	100	53	0	0				Very weak grey MUDSTONE, locally stiff clay with some black fossilised plant fragments.			
8.91								From 9.10m to 9.25m; assumed zone of core loss.			
9.00								From 9.40m to 19.95m; weak grey siltstone.			
								From 9.50m to 9.57m; ironstone.			
10.00	100	25	7	0	P1		(1.84)				
Remarks								Scale (approx) 1:50	Logged By OP	Figure No.	



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Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.50			0	0			(1.84)			
10.75			0	0		128.70	10.75	Very weak grey MUDSTONE with occasional thin and thick laminae of dark grey carbonaceous mudstone. Fractures are extremely closely randomly orientated micro fractures, common orange staining with occasional black surface coating. From 11.35m; occasional thin laminae of coal.		
11.65	70	27	18	0	25/50 16/10/2006: DRY	127.80	11.65	Moderately strong light grey brown fine grained SANDSTONE locally weak. From 12.00m to 12.45m; assumed zone of core loss.		
12.00					16/10/2006: SPT 25/75			From 12.45m to 13.20m; recovered non-intact. Driller notes core dropped; lost 0.45m.		
12.00-12.09	123	105	61	0	50/10 16/10/2006:					
					17/10/2006:					
13.50	93	87	80	0	U2		(4.35)	From 13.20m to 14.20m; very closely to medium spaced horizontal and subhorizontal, rough, clean. Vertical and subvertical, rough with some black surface coating and orange iron staining. From 13.72m to 14.18m; thinly interlaminated with brown mudstone and siltstone.		
14.22-14.50										
14.70								From 14.70m to 14.83m; iron staining. From 14.72m to 14.81m; iron stained. From 14.83m; occasional thin laminae of dark grey brown siltstone. From 15.20m to 16.00m; extremely closely to very closely spaced cross laminations of brown siltstone.		
15.55-15.82					U3					
16.00	100	29	17	0		123.45	16.00	Moderately weak brown MUDSTONE. Fractures locally		
16.20			0	0			(0.94)	At 16.20m; moderately strong orange brown ironstone. 2 No vertical fractures planar, smooth with black surface coating. From 16.44m to 16.54m; ironstone. From 16.54m to 16.64m; thinly interlaminated with light yellow grey siltstone.		
16.94	100	9	0	0		122.51	16.94	From 16.66m to 16.94m; fractures are extremely closely spaced randomly orientated micro fractures closely fractured, 70 degrees smooth, undulating, iron stained.		
17.70	86	42	0	0			(3.26)	Very weak locally stiff and weak grey MUDSTONE. Generally extremely closely spaced, randomly orientated micro fractures. From 17.52m to 17.80m; weak grey siltstone.		
19.10										
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Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					17/10/2006: 17/10/2006:	119.25	(3.26) 20.20			
								Complete at 20.20m		
Remarks									Scale (approx) 1:50	Logged By OP
									Figure No.	