
 <b>British Geological Survey</b> NATURAL ENVIRONMENT RESEARCH COUNCIL						<b>Site</b> M1 WIDENING JUNCTION 21 TO 30 PRELIMINARY GI - CONTRACT 2		<b>Borehole Number</b> RC1258	
<b>Boring Method</b> Cable Percussion		<b>Casing Diameter</b> 140mm cased to 18.00m		<b>Ground Level (mOD)</b> 127.70		<b>Client</b> Highways Agency		<b>Job Number</b> WAL060099	
		<b>Location</b> 445303 E 363150 N		<b>Dates</b> 15/11/2006-16/11/2006					
						<b>Engineer</b> Arup		<b>Sheet</b> 1/4	
<b>Depth (m)</b>	<b>Sample / Tests</b>	<b>Casing Depth (m)</b>	<b>Water Depth (m)</b>	<b>Field Records</b>	<b>Level (mOD)</b>	<b>Depth (m) (Thickness)</b>	<b>Description</b>	<b>Legend</b>	<b>Water</b>
				Groundwater was not apparent during boring(1) at 0.00m.			Rotary follow on from CP1258. For likely material description, see cable percussion borehole CP1258.		▽1

[illegible]

British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL							Site M1 WIDENING JUNCTION 21 TO 30 PRELIMINARY GI - CONTRACT 2		Borehole Number RC1258		
Machine:			Casing Diameter			Ground Level (mOD)		Client		Job Number	
Flush :			140mm cased to 18.00m			127.70		Highways Agency		WAL060099	
Core Dia: mm			Location			Dates		Engineer		Sheet	
Method :			445303 E 363150 N			15/11/2006-16/11/2006		Arup		3/4	
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
20.60-20.70	93	31	19	0	25/50 SPT 25'/75						
20.60			0	0	50/27						
20.78			0	0							
20.84											
21.00			0	0	P2		(4.10)	From 20.78m to 20.84m; strong light brown ironstone. Discontinuities: vertical, rough, very closely spaced, clean continues from previous stratum.			
21.60	74	0	0	0	25/16,21,19,14 SPT 25'/75 N=70	105.60	22.10	From 21.60m to 21.82m; weakened with extremely closely spaced microfractures infilled with clay. From 21.90m to 22.00m; weakened with extremely closely spaced microfractures infilled with clay.			
22.10-22.48			0	0			(0.30)	Recovered as soft grey gravelly CLAY.			
22.10			0	0			22.40				
22.33											
22.40	89	29	21	0	25/50 SPT 25'/75 50/44	105.30	(0.60)	Very weak (variably stiff clay) grey MUDSTONE. Discontinuities: extremely closely spaced, randomly orientated microfractures.			
23.00-23.12						104.70	23.00	Recovered as gravelly CLAY and black, subangular, fine to coarse gravel of COAL.			
23.00			0	0			(0.57)				
23.72			0	0		104.13	23.57	Weak (variably stiff clay to moderately weak) grey MUDSTONE. Discontinuities: extremely closely spaced, randomly orientated microfractures, some clay infill.			
24.07	92	54	38	0		103.63	24.07	Moderately strong grey MUDSTONE becoming SILTSTONE, with some fossilised plant remains. Discontinuities: very closely to medium spaced, horizontal, generally clean but			
24.60								At 24.48m; 25mm thick bed of ironstone.			
24.84-25.10					U3		(1.63)	At 24.65m; pocket of ironstone approximately 45mm x 90mm.			
			0	0				occasional gravelly clay infill up to 20mm thick. Very closely to widely spaced 60 degrees to 70 degrees, planar, occasional clay coating (<1mm thick). Vertical and subvertical, rough and smooth, occasional clay infill.			
25.70			0	0		102.00	25.70	At 25.55m; 25mm thick bed of ironstone.			
25.83	92	61	59	0	25/50 SPT 25'/75 50/30			Moderately strong, grey MUDSTONE with extremely closely to very closely spaced thin discontinuous laminae of light grey siltstone, with medium to widely spaced very thin beds and lenses of ironstone. Discontinuities: closely to widely spaced, horizontal, rough, clean bedding fractures. 75 degrees, undulating, rough, clean.			
26.20-26.31					U4		(2.35)				
26.20											
26.60-26.95											
27.18	91	43	26	0	P5			From 26.83m to 26.91m; thinly interlaminated mudstone and siltstone.			
								From 27.03m to 27.13m; moderately strong grey siltstone.			
27.80			0	0		99.65	28.05				
28.05							(0.47)	Strong, light grey SILTSTONE, with extremely closely to very closely spaced thin discontinuous laminae of light grey siltstone, with medium to widely spaced very thin beds and lenses of ironstone. Discontinuities: closely to widely spaced, horizontal, rough, clean bedding fractures. 75 degrees, undulating, rough, clean.			
	84	14	0	0		99.18	28.52				
29.40-29.51					25/50 SPT 25'/75 50/37		(1.68)	Moderately weak, variably clay/very weak grey MUDSTONE. Discontinuities: very closely spaced 60 degrees, planar, smooth, clean. Very closely spaced horizontal, rough, occasional clay infill approximately 1mm thick. Extremely closely to very closely spaced, randomly orientated, occasional clay coating <1mm thick microfractures.			
29.40											
29.81			0	0	P6			From 28.72m to 28.82m; strong light grey brown ironstone. Discontinuities: vertical, rough, clean. 70 degrees, planar, smooth, clean.			
								From 29.40m to 29.61m; assumed zone of core loss.			
Remarks									Scale (approx)	Logged By	
									1:50	OP/TL	
									Figure No.		



 <b>British Geological Survey</b> NATURAL ENVIRONMENT RESEARCH COUNCIL						<b>Site</b> M1 WIDENING JUNCTION 21 TO 30 PRELIMINARY GI- CONTRACT 2			<b>Borehole Number</b> <b>RC1258</b>	
<b>Machine:</b> <b>Flush :</b>		<b>Casing Diameter</b> 140mm cased to 18.00m		<b>Ground Level (mOD)</b> 127.70		<b>Client</b> Highways Agency		<b>Job Number</b> WAL060099		
<b>Core Dia: mm</b>		<b>Location</b> 445303 E 363150 N		<b>Dates</b> 15/11/2006- 16/11/2006		<b>Engineer</b> Arup		<b>Sheet</b> 4/4		
<b>Depth (m)</b>	<b>TCR</b>	<b>SCR</b>	<b>RQD</b>	<b>FI</b>	<b>Field Records</b>	<b>Level (mOD)</b>	<b>Depth (m) (Thickness)</b>	<b>Description</b>	<b>Legend</b>	<b>Water</b>
30.20	100	12	0	0		97.50	(1.68) 30.20	From 30.10m; carbonaceous.		
							(0.55)	Moderately weak, black vitreous COAL with occasional pyrite mineralisation.		
30.75					15/11/2006:	96.95	30.75	Weak, fissured grey MUDSTONE, with occasional fossilised plant remains. Discontinuities: breaks along extremely closely spaced, polished, rough microfractures.		
					15/11/2006: 15/11/2006:14.37m					
31.05	77	30	26	0	16/11/2006: P7		(1.50)			
32.25			0	0		95.45	32.25	Moderately weak, grey SILTSTONE. Discontinuities: 60 degrees, rough, occasional pyrite mineralisation but generally clean.		
32.50			0	0	P8		(0.61)			
32.60-32.94						94.84	32.86	Moderately weak locally clay grey MUDSTONE. Discontinuities: very closely to medium spaced, horizontal and subhorizontal, rough with occasional clay infill up to 30mm thick. Subvertical to 75 degrees.		
32.86	100	23	17	0						
33.80										
34.50-34.74	119	110	87	0	U9		(3.04)			
35.00										
35.30-35.75			0	0	U10					
35.90	97	77	52	0		91.80	35.90	Moderately strong, grey SILTSTONE. Discontinuities: vertical, undulating, rough, clean. Closely to medium spaced, horizontal and subhorizontal, rough, clean. Widely spaced 60 degrees, planar, rough, clean.		
36.30										
	91	74	46	0						
37.80					P11		(3.55)			
37.85					U12					
37.85-38.10										
					16/11/2006:	88.25	39.45			
					16/11/2006:			Complete at 39.45m		
<b>Remarks</b>								<b>Scale (approx)</b> 1:50	<b>Logged By</b> OP/TL	
								<b>Figure No.</b>		