









 <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> RC1239			
<b>Machine:</b> <b>Flush :</b> <b>Core Dia: mm</b> <b>Method :</b>			<b>Casing Diameter</b> 140mm cased to 3.00m			<b>Ground Level (mOD)</b> 74.50		<b>Client</b> Highways Agency		<b>Job Number</b> WAL060099A	
			<b>Location</b> 444768 E 372505 N			<b>Dates</b> 09/11/2006-13/11/2006		<b>Engineer</b> Arup		<b>Sheet</b> 1/2	
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.00	O/H		0	0	Groundwater was not apparent during boring(1) at 0.00m. D1	74.00	(0.50)	MADE GROUND. Light yellow brown slightly clayey gravelly sand with occasional rootlets. Gravel is fine to coarse, angular to subangular of weak grey mudstone.		V1	
0.25							0.50				
4.50	61	0	0	0		70.00	(4.00)	Open Hole.			
6.00	81	0	0	0	/26,39,35 SPT 0'/0 09/11/2006:	69.28	4.50	MADE GROUND. Stiff black, grey with some brown mottling gravelly clay. Gravel is subangular to subrounded, fine to coarse of mudstone and ironstone.			
							(0.72)				
6.00-6.20					09/11/2006: 100/197 09/11/2006:	69.08	5.22 (0.20)	Stiff light orange brown with occasional light grey mottling sandy CLAY. Sand is fine and medium. (Possible Made Ground).			
6.54	77	31	23	0	13/11/2006:	68.50	5.42 (0.58)	Assumed zone of core loss.			
							6.00	(0.54)	Firm grey brown with some grey mottling, locally sandy CLAY, with extremely closely spaced thin silty partings.		
7.50-7.75					/20,29,37,14 SPT 0'/0 100/248	67.96	6.54	Very weak locally stiff clay orange brown, occasionally grey SILTSTONE interlaminated with weathered mudstone below 8.15m. Discontinuities: extremely closely spaced, randomly orientated, rough, with much black and orange staining.			
							(1.87)	From 7.22m to 7.85m; assumed zone of core loss.			
8.41	59	27	0	0	/50 50/0 SPT 0'/0 P1	66.09	8.41	Moderately strong orange brown and grey medium grained SANDSTONE and very weak mudstone, with occasional fine to medium gravel sized vugs and ironstone nodules. Discontinuities: closely spaced, horizontal, with some sandy clay infill approximately 1mm thick.			
(0.69)							From 9.00m to 9.10m; vertical, rough, with some brown staining.				
9.00-9.00						65.40	9.10	Assumed zone of core loss.			
8.95							(0.77)				
9.00			0	0		64.63	9.87	Moderately weak locally stiff clay dark grey and light grey			
9.10			0	0							
9.87			0	0							
9.97											
<b>Remarks</b> Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. Services were not encountered.;No visual or olfactory indication of contamination was observed.;									<b>Scale (approx)</b> 1:50	<b>Logged By</b> OP	
									<b>Figure No.</b>		



 <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>RC1239</b>	
<b>Machine:</b> <b>Flush :</b> <b>Core Dia: mm</b> <b>Method :</b>			<b>Casing Diameter</b> 140mm cased to 3.00m		<b>Ground Level (mOD)</b> 74.50		<b>Client</b> Highways Agency		<b>Job Number</b> WAL060099A	
			<b>Location</b> 444768 E 372505 N		<b>Dates</b> 09/11/2006- 13/11/2006		<b>Engineer</b> Arup		<b>Sheet</b> 2/2	
<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>
10.25	100	70	42	0	P2			thinly interlaminated to very thinly interbedded MUDSTONE and SILTSTONE. With some fossilised plant remains. Discontinuities: very closely to closely spaced, horizontal, rough, with occasional clay infill <1mm thick.		
10.50 10.50-10.60					/39,50 SPT 0*/0 89/102		(1.88)	From 10.77m to 10.98m; moderately strong light grey siltstone, with occasional thin wispy carbonaceous laminae, intact.		
10.95			0	0	P3					
11.50					P4					
11.75	97	70	0	0		62.75	11.75	Moderately strong, thinly and thickly interlaminated dark grey MUDSTONE and light grey SILTSTONE, with very closely to closely spaced thick laminae of ironstone. Some mudstone laminae very weak. Discontinuities: very closely to closely spaced, horizontal, rough and smooth, with some clay infill, generally approximately 1mm thick but up to 5mm thick.		
12.00 12.00-12.09			0	0	/47,50 SPT 0*/0 97/89		(0.80)	From 12.00m to 12.06m; vertical, rough, clay coating generally <1mm thick.		
12.55 12.64					P5	61.95	12.55	Weak, locally very weak, dark grey MUDSTONE, with extremely closely to medium spaced thick laminae of ironstone. Discontinuities: extremely closely to closely spaced, horizontal and subhorizontal, rough and smooth, occasional clay infill, generally <1mm thick.		
13.33 13.50	97	50	0	0				From 12.55m to 12.75m; extremely closely spaced thin laminae of light grey siltstone.		
	<b>Sample / Tests</b>		<b>Casing Depth (m)</b>	<b>Water Depth (m)</b>	P6		(2.45)	From 12.70m to 12.77m; vertical, rough, clean.		
13.50-13.62	SPT 0*/0 89/116		3.00		/39,50			From 12.91m to 12.96m; 60 degrees, rough, clean.		
14.60	P7							From 13.50m to 13.54m; assumed zone of core loss.		
					13/11/2006: 13/11/2006:	59.50	15.00	Complete at 15.00m		
<b>Remarks</b>								<b>Scale (approx)</b> 1:50	<b>Logged By</b> OP	<b>Figure No.</b>