G102
W101

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Site	Borehole Number
M1 WIDENING JUNCTION 21 TO 30 PRELIMINARY GI - CONTRACT 2	RC1201

Machine:	Casing Diameter	Ground Level (mOD)	Client	Job Number
Flush :	140mm cased to 1.30m	169.95	Highways Agency	WAL060099
Core Dia: mm				
Method :	Location	Dates	Engineer	Sheet
	444930 E 359997 N	07/11/2006-08/11/2006	Arup	1/2

Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00					Groundwater was not apparent during boring(1) at 0.00m.					
1.30-1.68	PIT		0	0	B1			Dark brown slightly sandy CLAY with subangular to angular gravel sized fragments of mudstone and sandstone.		▽1
0.00-0.50					C1					
0.15					K2					
0.15	OH		0	0	C3		(1.20)			
0.50					K4					
0.50					B2					
0.50-1.20					C5					
1.15					K6					
1.15	20	0	0	0		168.75	1.20			
1.20								Poor recovery. Recovered as grey brown CLAY with angular to subangular fine to coarse gravel sized fragments of mudstone and sandstone.		
1.30										
	91	27	0	0			(1.80)			
					25/38,50					
2.60-2.78					SPT 25*/75					
2.60					88/102					
			0	0						
3.00						166.95	3.00	Moderately weak to moderately strong grey brown fine grained SANDSTONE. Heavy orange and red brown discolouration frequently penetrating throughout. With black speckling on fracture surfaces. Discontinuities are horizontal to subhorizontal (5-20 degrees) very closely and closely spaced ((50/90/170), smooth, planar, occasionally with soft slightly sandy clay infill up to 2mm. Subvertical From 3.90m to 4.10m; thin bed of moderately strong blue-grey fine-grained sandstone. From 4.10m to 4.25m; non-intact. fractures apparently closely spaced, planar.		
	84	60	40	0			(2.10)			
4.10			0	0						
4.25										
	86	24	14	0	25/50					
5.05-5.16					50/32					
5.00					SPT 25*/75					
5.05			0	0	P1					
5.10						164.85	5.10	Generally moderately weak (variably weak) light and dark grey thinly and thickly colour laminated SILTSTONE. With grey brown discolouration penetrating throughout. Locally red brown and black discolouration on fracture surfaces. Locally weak and non-intact. Fractures are horizontal very From 5.80m to 6.00m; non-intact. closely and closely spaced (40/70/170) smooth, planar, frequently with clayey/sandy infill of subangular fine and medium gravel sized fragments up to 60mm. Vertical fractures planar.		
5.45					W401					
	93	49	7	0			(1.85)			
5.85					P2					
6.00					D10					
6.00										
			0	0						
6.95						163.00	6.95	Moderately strong light and dark grey thinly colour laminated fine grained SANDSTONE. With orange brown discolouration penetrating up to 30mm on fracture surfaces, locally moderately weak. Fractures are horizontal, closely spaced (60/70/105), smooth, planar, occasionally with soft From 7.60m to 7.85m; vertical fracture. clay infill up to 2mm. Vertical fractures are rough, planar.		
7.40	98	30	8	0	P3		(0.90)			
7.50										
			0	0						
7.85						162.10	7.85	Moderately weak to moderately strong blue grey MUDSTONE with widely spaced very thin beds of strong brown ironstone. Occasional orange brown discolouration on fracture surfaces. Fractures are horizontal, extremely closely to closely spaced smooth, planar. Subvertical fractures are locally very closely spaced smooth planar. Vertical fractures are smooth, planar, open. At 8.20m; very thin bed of ironstone.		
	82	13	0	0	P4					
8.65					25/9,18,36,50					
					SPT 25*/75		(2.25)			
9.00					07/11/2006:DRY					
9.00-9.32					07/11/2006:			At 9.25m; very thin bed of ironstone.		
					113/246					
9.00					D11					
	82	0	0	0	07/11/2006:					
					08/11/2006:					

Remarks	Scale (approx)	Logged By
	1:50	TL
	Figure No.	

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Machine:	Casing Diameter	Ground Level (mOD)	Client	Job Number
Flush :	140mm cased to 1.30m	169.95	Highways Agency	WAL060099
Core Dia: mm				
Method :	**Location**	**Dates**	**Engineer**	**Sheet**
	444930 E 359997 N	07/11/2006-08/11/2006	Arup	2/2

Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						159.85	(2.25)			
10.10 10.10-10.42 10.10	97	38	38	0	25/17,19,29,50 SPT 25*/75 115/241 D12		10.10	Very weak to weak dark grey MUDSTONE. Generally recovered non-intact as angular fine to coarse gravel sized fragments in clayey matrix.		
							(1.25)			
11.00 11.00-11.31			0	0	25/14,27,41,50 SPT 25*/75 132/238 D13	158.60	11.35	From 11.10m to 11.35m; strong black mudstone with frequent shell fragments. With rare cobble sized fragments of strong ironstone.		
11.00 11.35 11.70	95	80	71	0	P5			Moderately strong to strong grey SILTSTONE with very frequent becoming occasional black carbonised fossil plant remains. Fractures are horizontal (5-15 degrees) closely and medium spaced (120/245/350) smooth planar with soft slightly sandy clay infill up to 2mm. With rare subvertical fractures, rough to irregular.		
12.00 12.00-12.11					25/50 SPT 25*/75 50/39		(2.15)			
12.75-13.00	97	89	54	0	U6					
13.50 13.50-13.65					25/50 SPT 25*/75 50/75	156.45	13.50	Moderately strong to strong light and dark grey thinly and thickly colour laminated MUDSTONE. Fractures are closely and medium spaced (180/210/340) smooth planar open.		
			0	0			(1.30)			
14.40-14.60					U7					
14.80	93	51	19	0		155.15	14.80	Generally moderately strong (variably moderately weak) thinly to thickly laminated MUDSTONE. Fractures are horizontal, very closely to closely spaced (45/105/185) smooth, planar occasionally with soft clay infill up to 2mm. Subhorizontal fractures (20-30 degrees) apparently widely spaced, smooth, planar. Subvertical fractures (70-75 degrees) are smooth, planar and undulating.		
15.00 15.00	100	67	24	0	D14					
16.15					P8		(3.20)			
16.50								From 16.50m to 16.75m; recovered non-intact as angular fine to coarse gravel sized fragments of mudstone in clay matrix with rare rounded cobbles sized fragments of very strong ironstone.		
	Sample / Tests		**Casing Depth (m)**	**Water Depth (m)**						
17.80	P9									
					08/11/2006:DRY	151.95	18.00	Complete at 18.00m		
					08/11/2006:					

Remarks

Scale (approx)	Logged By
1:50	TL

Figure No.