

 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL							Site Nottinghamshire/ Derbyshire COA NMCS2 Upgrade		Borehole Number M27	
Machine: Flush : Core Dia: mm Method :			Casing Diameter		Ground Level (mOD) 125.14		Client Highways Agency		Job Number F11451	
			Location 445259.4 E 363222.28 N		Dates 20/08/1999- 23/08/1999		Engineer WSP Environmental Ltd		Sheet 1/3	
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30-0.80	0	0	0	98	D01 0 blows	124.84	(0.30) 0.30	TOPSOIL.		
0.80-0.90 0.90					D02 0 blows 20/08/1999:0.00m	124.14	(0.70) 1.00	MADE GROUND: Light brown sandy fine to coarse angular and subangular gravel sized fragments of limestone.		
1.20	35	0	0	98	21/08/1999:			MADE GROUND: Grey sandy clay with much fine to coarse angular to subrounded gravel and occasional cobbles of mudstone, sandstone, quartz and coal. (Colliery Fill)		
2.20-2.65	18	0	0	98	1,1/2,1,5,6 SPT N=14					
2.65										
3.20-3.65 3.65	36	0	0	98	1,1/1,2,3,5 Fast(1) at 3.20m, sealed at 100000.00m. SPT N=11					▽1
4.20-4.65	35	0	0	98	2,3/3,2,4,3 SPT N=12					
4.65										
5.20-5.65	31	0	0	98	2,3/2,4,5,6 SPT N=17					
5.65							(9.00)			
6.20-6.65	56	0	0	98	2,3/5,2,4,6 SPT N=17					
6.65										
7.20-7.65	56	0	0	98	2,3/4,4,5,7 SPT N=20					
7.65										
8.20-8.65	36	0	0	98	5,6/7,6,6,8 SPT N=27					
8.65										
9.20-9.65	100	36	0	98	2,4/5,6,4,5 SPT N=20					
9.65			0	25						
10.00										
Remarks 1. Inspection pit excavated to 0.90m. 2. Borehole openholed to 1.20m. 3. Borehole complete at 24.90m. 4. 50mm slotted standpipe installed to 12.00m. 5.Marker Post Ref 224/8 +20 N.								Scale (approx) 1:50	Logged By NBR	
								Figure No.		



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Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
10.43	73	32	22	98	11,14/30,20,0,0 21/08/1999:6.25m	115.14 114.94	10.00 (0.20) 10.20	Grey thinly cross laminated subhorizontal highly weathered MUDSTONE, very weak with very closely to extremely closely spaced tight random smooth clay smeared fractures. (Coal Measures)			
10.20-10.43			0	1	21/08/1999: SPT 25*/120 50/110 21/08/1999:0.00m		(0.82)	Soft grey sandy CLAY with much fine to coarse angular and subangular gravel of sandstone, siltstone and mudstone. (Workings?) (Coal Measures)			
11.02			0	25	22/08/1999:	114.12	11.02	Grey thinly laminated subhorizontal medium and thinly bedded subhorizontal slightly weathered SILTSTONE, weak and moderately weak with medium and closely spaced subhorizontal fractures open rough irregular. (Coal Measures)			
11.30			0	5							
11.35	50	21	0	99	10,15/26,24,0,0 SPT 25*/130 50/145		(1.33)	---from 11.30m to 11.35m thinly laminated highly weathered mudstone very weak with extremely closely spaced tight random smooth clay smeared fractures			
11.60-11.88	93	51	16	25							
11.87						112.79	12.35	Grey thinly laminated subhorizontal highly to moderately weathered MUDSTONE, very weak with extremely closely spaced and very closely spaced subhorizontal and random fractures tight smooth irregular clay smeared. (Coal Measures)			
12.35	78	17	0	25	9,16/28,22,0,0 SPT 25*/105 50/135						
13.10-13.34											
13.34											
	66	0	0	25				---at 13.80m cobble sized ironstone nodule			
14.60-14.83					3,7/45,5,0,0 SPT 50/80						
14.83	92	0	0	25			(5.42)	---from 15.10m to 16.00m fractures become very closely and closely spaced ---at 15.36m coarse gravel sized ironstone nodule ---at 15.67m coarse gravel sized ironstone nodule			
15.35			0	25							
16.10-16.33	100	46	0	0	5,20/27,23,0,0 SPT 25*/110 50/115						
16.32			0	98							
16.33											
16.95	29	16	7	0	25,0/50,0,0,0 SPT 25*/65 50/75 D03 0 blows			---from 16.96m to 17.77m dark grey very clayey fine to medium angular and subangular and carbonaceous mudstone and coal infill			
17.50-17.64			0	25							
17.64						107.37	17.77	Black highly to moderately weathered COAL, weak and very weak. (Coal Measures)			
17.50-17.64	100	74	9	7			(1.10)				
17.77											
19.00-19.14					25,0/50,0,0,0 SPT 25*/70 50/70	106.27	18.87 (0.27)	Grey thinly laminated moderately weathered MUDSTONE, weak to moderately weak (non intact). (Possible Workings?) (Coal Measures)			
19.14			0	25		106.00	19.14	Grey thinly cross laminated subhorizontal slightly and moderately weathered fine grained SANDSTONE, moderately weak to locally moderately strong with very closely and closely spaced subhorizontal and random fractures open rough irregular. (Coal Measures)			
19.90								---from 19.15m to 19.30m fossiliferous			
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Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
20.50	93	75	23	99	25,0/50,0,0,0 22/08/1999:8.20m		(2.26)			
20.40-20.51 20.80			0	12	22/08/1999: SPT 25*/40 50/65 22/08/1999:5.06m					
21.90-22.00 21.99	97	88	61	7	23/08/1999: 25,0/50,0,0,0 SPT 25*/35 50/60	103.74	21.40	Grey thinly laminated subhorizontal, thinly and medium bedded subhorizontal moderately to slightly weathered MUDSTONE, weak locally moderately weak with closely and medium spaced subhorizontal fractures open smooth planar and irregular with clay smearing. (Coal Measures)		
22.53 22.63			0	25						
			0	3						
23.40-23.44 23.44	100	82	48	12	25,0/50,0,0,0 SPT 25*/15 50/25		(3.50)	---from 22.57m to 22.63m extremely closely spaced random open smooth irregular fractures with some coarse gravel sized ironstone nodules		
								---from 23.40m very closely and closely spaced fractures subhorizontal to inclined ---at 23.43m coarse gravel sized ironstone nodule ---from 23.90m to 23.95m highly weathered very weak ---from 24.15m becomes dark grey carbonaceous mudstone ---from 24.53m to 24.58m black moderately weathered coal, very weak		
24.90-25.01					25,0/50,0,0,0 23/08/1999:9.80m 23/08/1999: SPT 25*/50 50/60 23/08/1999:8.65m	100.24	24.90	Complete at 24.90m		
Remarks								Scale (approx) 1:50	Logged By NBR	
								Figure No.		