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ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND
SYMBOLS REFER FORM F:GEOT 017/6-2010

BOREHOLE No BH104
SHEET 1 of 3
REFERENCE No H10870

PROJECT Ipswich Motorway Upgrade - Rocklea to Darra
LOCATION Service road from Granard Road COORDINATES 500733.1 E; 6951829.9 N
PROJECT No FG5779 SURFACE R.L. 7.87m PLUNGE -90° DATE STARTED 21/10/10 GRID DATUM GDA94
JOB No 140/U16/902 HEIGHT DATUM AHD BEARING DATE COMPLETED 22/10/10 DRILLER R&D Drilling Pty Ltd

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	INTACT STRENGTH							DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
							USC	WEATHERING	EH	VH	H	M	J				
0	7.87					Possible FILL (?)									Non-destructive digging up to 1.6m depth. Based on Drillers logs only.		
1																	
2	6.27				A	Silty CLAY (Alluvium) Mottled grey-brown, moist, soft.									1,1,2 N=3	SPT	
					B	High plasticity. Minor sand fraction in parts.	(CH)									U100	
3	4.87				C	Gravelly Silty CLAY (Alluvium) Mottled grey, moist, mainly very stiff.									6,9,9 N=18	SPT	
					D	Medium to high plasticity. Gravel fraction subangular to subrounded high strength quartzitic fragments sizing up to 63mm.	(CI-CH)								12,10,16 N=26	SPT	
						Occasional subrounded high strength rock kernels; also minor trace of black carbonaceous material below 3m depth.											
5	2.87				E	Brown iron staining in parts. SHALE FINE GRAINED, FISSILE, THINLY LAMINATED SEDIMENTARY ROCK. XW: Generally exhibits engineering properties of greyish green, moist, fissile, stiff to hard silty clay.									5,10,17 N=27	SPT	
					F	Mainly medium to high plasticity. Rock fabric visible.									4,6,6 N=12	SPT	
					G										9,25,30 N>50	SPT	
							XW										
					H										11,13,13 N=26	SPT	
10	-2.13					(See over)											

QLD_DMR_LIB_01.GLB Log A:ENGINEERING BOREHOLE LOG FG5779 IPSWICH MWY ROCKLEA TO DARRA.GPJ <-DrawingFiles> Datagel CPT Tool gINI Add-in 14/02/2011 17:33

REMARKS _____

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DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	USC WEATHERING	INTACT STRENGTH						DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
								EH	VH	H	M	J	VL				
10	-2.13				J	SHALE XW: (Cont'd)	XW								30/110mm N>50	SPT	
11					K										8,12,14 N=26	SPT	
12	-4.13				L	Carbonaceous SHALE HW: Generally exhibits engineering properties of greyish green to dark black, moist, fissile, hard silty clay. Mainly medium to high plasticity.									18,30/80mm N>50	SPT	
13					M	Gradually grading into low strength rock with depth.	HW								16,30/120mm N>50	SPT	
14					N										30/80mm N>50	SPT	
15																	
16	-8.63																
17			(73)			SW: Greyish green, fine grained, mainly massive and faint laminations in parts, low to medium strength. Contains interbeds of carbonaceous Shale and Mudstone bands in parts. Generally defects are rare: - Drilling induced / lamination partings @ 5 - 10°(2-3/m) - Irregular fracture @ 45 - 55° (1-2/m) Defects are mainly medium to wide spaced, planar and stepped, smooth, open and clean.	SW								Fractured carbonaceous Shale and Mudstone (MW). Numerous drilling induced fracture. Is(50) = 0.22MPa Is(50) = 0.32MPa DD = 1.45t/m ³ ; MC = 31.4%; UCS=7.32MPa	x o	
18			100												Carbonaceous Shale and Mudstone bands app. 200mm thick.		
19			(93)												DD = 1.59t/m ³ ; MC = 24.8%; UCS=6.17MPa	x o	
20	-12.13		100												Is(50) = 0.39MPa Is(50) = 0.38MPa	x o	
			(70)			(See over)									Is(50) = 0.56MPa Is(50) = 0.46MPa	x o	

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DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	USC WEATHERING	INTACT STRENGTH						DEFECT SPACING (mm)			GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
								EH	VH	H	M	J	VL	EL	20	60			
20	-12.13					Carbonaceous SHALE (CONT'D) SW: Carbonaceous Shale and Mudstone interbeds below 22m depth app. 400mm thick. Becoming more slickensided and polished surfaces below 21m depth. Numerous drilling induced fractures.	SW											Is(50) = 0.85MPa Is(50) = 0.84MPa DD = 1.72t/m ³ ; WD = 2.06t/m ³ ; MC = 19.2%; UCS=9828KPa Is(50) = 0.23MPa Is(50) = 0.26MPa Is(50) = 0.23MPa Is(50) = 0.17MPa Irregular fracture @ 45°. Irregular fracture @ 45-55°. Is(50) = 0.14MPa Is(50) = 0.28MPa Is(50) = 0.04MPa Is(50) = 0.06MPa Is(50) = 0.18MPa Is(50) = 0.21MPa	x o x o x o x o x o x o
21			100	(64)												Possible shear zone.			
22			100																
	-14.58					Borehole terminated at 22.45m													
23																			
24																			
25																			
26																			
27																			
28																			
29																			
30																			

QLD_DMR_LIB_01.GLB Log A: ENGINEERING BOREHOLE LOG FG5779 IPSWICH MWY ROCKLEA TO DARRA.GPJ <<DrawingFile>> Datigel CPT Tool (gINI Add-in 14/02/2011 17:33

REMARKS _____

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Borehole No: **BH 104**

Start Depth: 16.50m

Finish Depth: 22.45m

Project No: FG5779

H No: H10870



SCALE 1:5

F:GEO43/1