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ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH102
SHEET 1 of 2
REFERENCE No H10904

PROJECT Ipswich Motorway Upgrade - Rocklea to Darra
LOCATION Granard Road off ramp COORDINATES 500919.6 E; 6952075.5 N
PROJECT No FG5779 SURFACE R.L. 5.34m PLUNGE -90° DATE STARTED 22/11/10 GRID DATUM GDA94
JOB No 140/U16/902 HEIGHT DATUM AHD BEARING DATE COMPLETED 23/11/10 DRILLER R&D Drilling Pty Ltd

DEPTH (m)	R.L. (m)	CASING OTHER 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				
0	5.34					Gravelly Sandy CLAY (Engineered Fill) Mottled orange-brown, moist, very soft to soft. Low plasticity. Sand fraction fine grained. Gravel fraction subangular sandstone fragments sizing up to 20mm.								Based on Drillers logs only		
					A		(CL)									U100
	1.84					Silty SAND Mottled orange brown, moist, very loose. Sand fraction fine to medium grained.								1,1,2 N=3	SPT	
					B		(SM)									
	0.84					Silty CLAY (Estuarine) Dark grey to black, moist, mainly very soft to soft. Mainly high plasticity. Contains high organic content; minor trace of compressed wood fragments at 5.5m depth. Minor traces of silty sand bands below @9.5m depth in parts.								1,1,2 N=3	SPT	
					C		(OH)									
						D E								U100		
					D											
						F G								U100		
					E											
						H (See over)								U100		
					F											
10																

REMARKS SHALE: FINE GRAINED FISSILE THINLY LAMINATED SEDIMENTARY ROCK.
 MUDSTONE: FINE GRAINED SEDIMENTARY ROCK MAINLY COMPOSED CLAY SIZED PARTICLES.

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ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH102
SHEET 2 of 2
REFERENCE No H10904

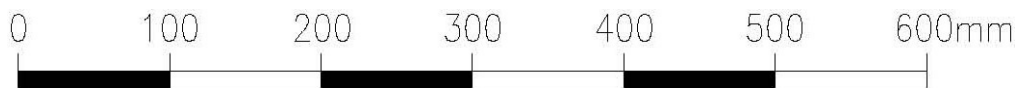
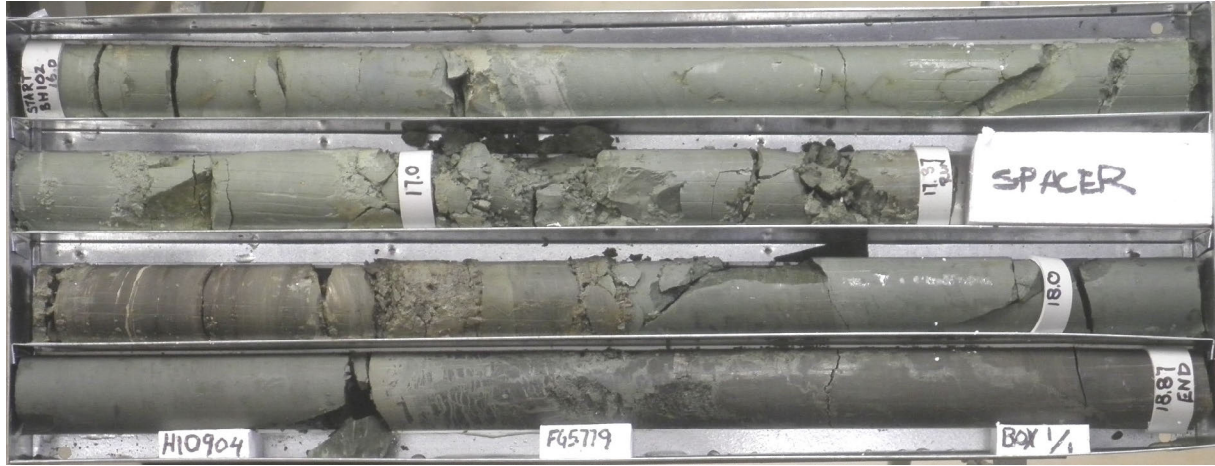
PROJECT Ipswich Motorway Upgrade - Rocklea to Darra
LOCATION Granard Road off ramp COORDINATES 500919.6 E; 6952075.5 N
PROJECT No FG5779 SURFACE R.L. 5.34m PLUNGE -90° DATE STARTED 22/11/10 GRID DATUM GDA94
JOB No 140/U16/902 HEIGHT DATUM AHD BEARING DATE COMPLETED 23/11/10 DRILLER R&D Drilling Pty Ltd

DEPTH (m)	R.L. (m)	CASING OTHER 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
10	-4.66					Silty CLAY (Estuarine) CONT'D					Peat at 10m (based on Drillers logs)	
11					J	Becoming firm below 11.5m depth.	(OH)				HW,HW,3 N=3	SPT
12	-6.66				K						HW,2,4 N=6	SPT
13	-7.66				L	Sandy CLAY (Alluvium) Orange-brown, moist, mainly stiff. Mainly low plasticity. Sand fraction mainly fine to medium grained.	(CL-ML)				2,4,7 N=11	SPT
14					M	Silty SAND (Alluvium) Grey, moist, medium dense to dense silty sand. Sand fraction mainly medium grained.					13,17,18 N=35	SPT
15					N		(SM)				7,11,14 N=25	SPT
16	-10.16 -10.66				P	SHALE HW: Generally exhibits engineering properties of greyish green, moist, fissile, hard silty clay. Gradually grading into low strength rock.	HW				30/55mm N>50	SPT
17			(22)			MW: Greyish green, fine grained, massive with minor inter laminations, mainly low strength. Contains XW clay bands up to 70mm thick in parts. Defects: - Drilling induced / lamination partings @ 5-10° (2/m). - Joint / irregular fracture @ 45° (1-2/m). Defects are mainly close to wide spaced, planar, smooth, open to closed with clay infill.	MW			Joint @ 45° Clay seam Joint @ 45° Drilling induced fractures. BZ Possible shear zone Joint @ 45°	Is(50) = 0.11MPa Is(50) = 0.21MPa Is(50) = 0.55MPa Is(50) = 0.08MPa Is(50) = 1.07MPa Is(50) = 0.17MPa Is(50) = 0.78MPa	x o x o x o
18	-13.06		100	(43)		MUDSTONE (MW): Dark grey to black, laminated, low to medium strength.	MW				Is(50) = 0.16MPa Is(50) = 0.29MPa DD = 1.41t/m ³ ; WD = 1.88t/m ³ ; MC = 33.2%; UCS=2582KPa Is(50) = 0.11MPa Is(50) = 0.68MPa	x o x o
19	-13.56		100			Borehole terminated at 18.9m						
20												

REMARKS SHALE: FINE GRAINED FISSILE THINLY LAMINATED SEDIMENTARY ROCK.
MUDSTONE: FINE GRAINED SEDIMENTARY ROCK MAINLY COMPOSED CLAY SIZED PARTICLES.

LOGGED BY
BW / SG

Project: **Ipswich Motorway Upgrade - Rocklea to Darra**
Borehole No: **BH 102**
Start Depth: 16.0m
Finish Depth: 18.87m
Project No: FG5779
H No: H10904



SCALE 1:5

F:GEOT043/1