ENGINEERING BOREHOLE LOG

Queensland Government

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

BOREHOLE No **BH52**
SHEET 1 of 3
REFERENCE No **H11091**

PROJECT Moreton Bay Rail Link
LOCATION Bridge 4, Ch.3430 COORDINATES 500580.0 E; 6985405.9 N
PROJECT No FG5921 SURFACE R.L. 11.40m PLUNGE DATE STARTED 11/7/11 GRID DATUM MGA94 Zone 56
JOB No 250/120/3 HEIGHT DATUM AHD BEARING DATE COMPLETED 11/7/11 DRILLER R&D Drilling Pty Ltd

DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( )% CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (mm) (20 60 200 600 2000)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
0	11.40				**Gravelly CLAY (Non-engineered Fill)** Mottled grey red yellow, moist, very stiff. Gravel fraction is subangular, high strength sizing <60mm. Quartzitic rock fragments in parts.							Based on Driller's logs only		
1				A								5,10,16 N=26		SPT
	9.90				**Silty CLAY (Residual)** Mottled grey red, moist, stiff. Medium plasticity. Contains iron concretionary nodules throughout.		(CI)							
2				B								3,5,7 N=12		SPT
3				C								5,7,10 N=17		SPT
	7.90				**Interbedded SILTSTONE and CLAYSTONE** **Fine grained sedimentary rock mainly comprising of silt and clay sized particles** **XW:** Generally exhibits engineering properties of grey yellow, moist, laminated, very stiff silty clay.									
4				D								6,8,10 N=18		SPT
					Medium to high plasticity.		XW							
5				E	Relict rock texture visible throughout; minor iron concretionary nodules in parts.							4,8,10 N=18		SPT
	5.40				**SANDSTONE** **Fine to medium grained, massive, poorly cemented sedimentary rock mainly comprising of sand sized particles** **XW:** Generally exhibits engineering properties of grey, moist, fine grained, medium dense silty sand.									
6				F								3,5,8 N=13		SPT
7				G	Minor clay fraction throughout.		XW					2,7,10 N=17		SPT
8				H								5,7,12 N=19		SPT
	2.90				**Interbedded SILTSTONE and MUDSTONE** **XW:** Generally exhibits engineering properties of dark grey to black with yellow bands, moist, fine grained, laminated, very stiff to mainly hard silty clay.									
9				J			XW					5,14,15 N=29		SPT
10					**(See over)**									

QLD_DMR_LIB_01A.GLB Log A_ENGINEERING BOREHOLE LOG W LITHOLOGY FG5921 MORETON BAY RAIL LINK.GPJ <<DrawingFile>> Datgel CPT Tool gINT Add-In 06/10/2011 14:46

REMARKS

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10	1.40			K	**Interbedded SILTSTONE and MUDSTONE** **XW:** (Cont'd) Relict rock fabric structure visible throughout.							8,17,30 N=47	SPT	
11				L	Contains fine grained sandstone interbeds below 11m depth. Displays cracking and dessicated structure on drying.		XW					12,20,25 N=45	SPT	
12	-0.60			M	**HW:** As above		HW					30/65mm N>50	SPT	
	-1.10		(70)		**MW:** Dark grey to black, fine grained, laminated, low to mainly medium strength.							Is(50) = 0.29MPa Is(50) = 0.49MPa	x o	
13					Contains very low strength bands below 14.7m depth, approx 200mm thick.									
			100		Displays cracking on drying.							Is(50) = 0.56MPa Is(50) = 0.23MPa	x o	
			(65)		Claystone interbeds below 14.9m, approx. 200mm thick.							DD = 2.22t/m^3; WD = 2.34t/m^3; MC = 5%; UCS - 11.4MPa	UCS	
14					Defects: - Drilling-induced lamination partings @ 5° (3/m) - Joint @ 45° (<1/m) - Joint @ 80-90° (<1/m)		MW					J, 45°, CA infill		
			100									Very low strength band		
15			(50)		Defect surfaces are mainly medium spaced, planar, smooth, open, clean and clay or minor secondary mineral and iron stained infill.							Vertical Fr		
												Is(50) = 0.40MPa Is(50) = 0.33MPa	x o	
16	-4.80				**MUDSTONE** **Fine grained sedimentary rock mainly comprising of clay and mud sized particles**									
			100		**SW:** Dark grey to black, massive to laminated, medium strength.							FZ		
			(45)		Contains interbeds of siltstone below 17m approx. 150mm thick.		SW					CLy seams 5mm thick		
17												Is(50) = 0.38MPa Is(50) = 0.54MPa	x o	
	-6.30				Defects: - Drilling-induced lamination partings and irregular fracture @ 5° (3/m) - Joint @ 15-20° (<1/m) - Joints @ 45° (1-2/m) - Joint @ 80-90° (1/m)							Siltstone I/Bs		
18			100											
			(33)		Defect surfaces are close to medium spaced, planar, smooth, open, clean or clay infilled.							FZ		
19					**SANDSTONE**		SW					CLy seams, approx. 20mm thick		
			100		**SW:** Grey to dark grey, fine to medium grained, massive and laminated, medium to high strength.							Mudstone		
			(68)									Is(50) = 1.24MPa Is(50) = 2.09MPa Is(50) = 1.18MPa Is(50) = 3.08MPa	x o x o	
20					**(See over)**							Coal seam		

REMARKS

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20	-8.60				**SANDSTONE (Cont'd)** **SW:** Contains black mudstone interbeds below 19.4m, approx. 400mm thick. Defects: - Drilling-induced bedding lamination partings @ 5-10° (3/m) - Joint @ 45° (1/m) - Joint @ 70° (≤1/m)		SW					Mudstone Is(50) = 5.80MPa Is(50) = 4.48MPa Is(50) = 0.63MPa Is(50) = 1.93MPa Carbonaceous (coal seam) bands 19.8m, approx. 400mm thick.		x o x o
21	-9.95		100 (50) 100		Defect surfaces are mainly medium spaced, irregular, slightly rough, open, clean, minor clay or carbonaceous infill. Borehole terminated at 21.35m									
22														
23														
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25														
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28														
29														
30														

REMARKS

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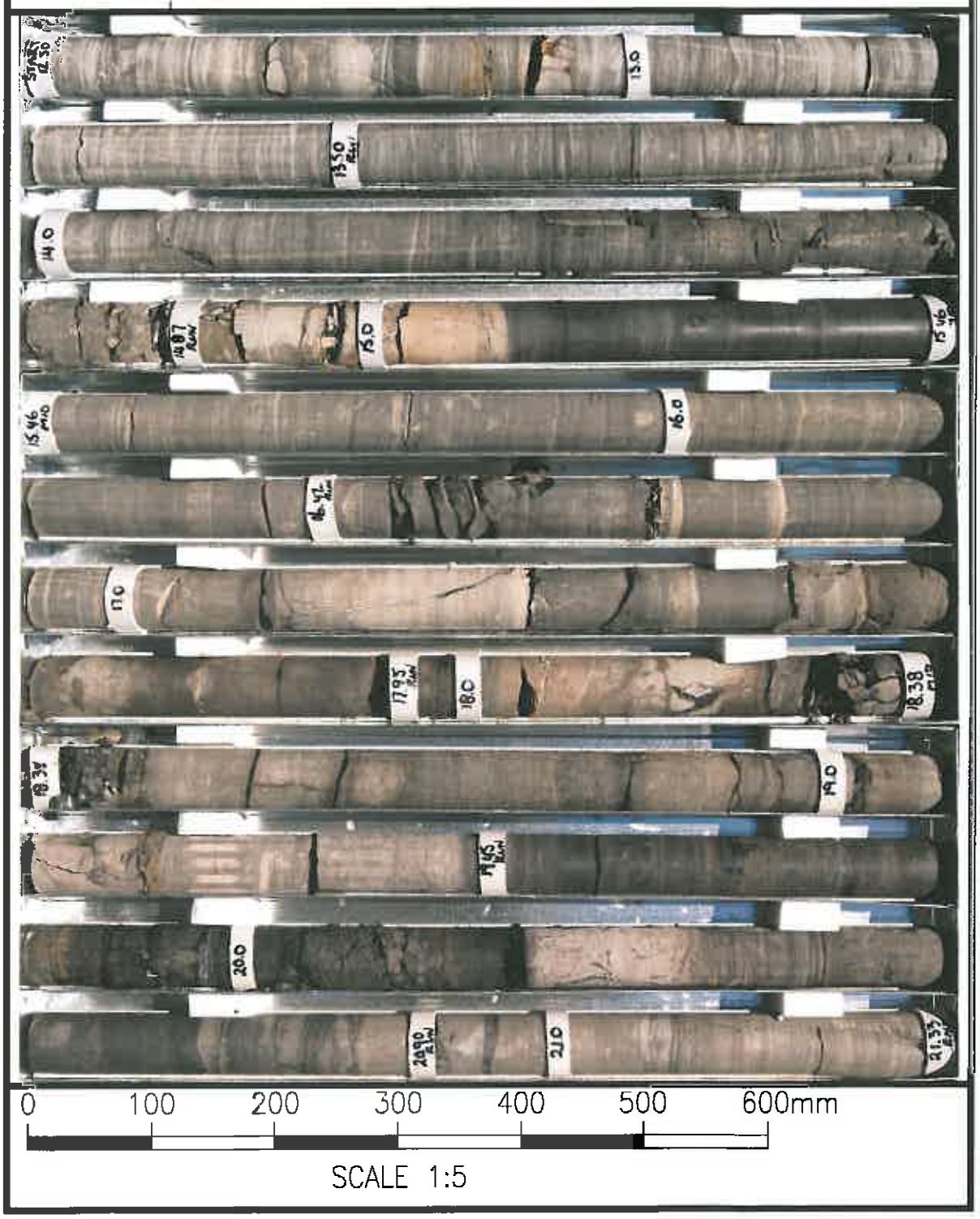
Project Name	**Moreton Bay Rail Link (MBRL)**		
Project No	FG5921	**Date**	11/07/11
Borehole No	BH 52	**TMR H No**	
Location	Bunbury Street Rail Bridge	**Start Depth (m)**	12.50
Detail	Structure	**Finish Depth (m)**	21.35
Chainage	**3430 Approx**	**Submitted By**	**BW**
Remarks			



CORE PHOTO LOG
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