ENGINEERING BOREHOLE LOG

Queensland Government

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

BOREHOLE No **BH15**
SHEET 1 of 2
REFERENCE No **H11025**

PROJECT Moreton Bay Rail Link
LOCATION Halpine Lake Bridge, Bridge 9, Ch.6100 COORDINATES 502912.9 E; 6986533.2 N
PROJECT No FG5921 SURFACE R.L. 16.90m PLUNGE DATE STARTED 5/5/11 GRID DATUM MGA94 Zone 56
JOB No 250/120/3 HEIGHT DATUM AHD BEARING DATE COMPLETED 5/5/11 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	16.90				**Clayey SAND** Mottled red, moist, loose.							Based on Driller's logs only		
1	15.90			A	**Sandy CLAY (Residual)** Light grey and yellow scattered with orange mottles, iron stained, moist, soft to stiff. High plasticity. Sand fraction is fine to medium grained.		(CH)					0,1,1 N=2	SPT	
2				B	Nodule and sand content increasing with depth; trace of stiff, angular to subangular gravel.							3,8,11 N=19	SPT	
3	13.90			C	**Clayey SAND (Residual)** Grey white, slightly moist, medium grained, medium dense. Quartz feldspathic sand. Medium plasticity.							6,9,13 N=22	SPT	
4				D	Orange iron stained bands throughout.							6,10,17 N=27	SPT	
5				E			(SP-SM)					8,12,16 N=28	SPT	
6				F								10,12,17 N=29	SPT	
7	9.90			G	**SANDSTONE** **Medium to fine grained, massive, poorly cemented, sedimentary rock mainly comprising sand-sized particles.** **HW:** Mottled grey with bands of red, fine grained, low strength.							13,30/75mm N>50	SPT	
8			(43) 100 (95)		Iron stained bands throughout. Defects: Generally rare.		HW					Silty CLy band		
9	7.45				**MW:**		MW							
10			100		See over									

REMARKS

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10	6.90		(0)		**SANDSTONE**									
			100		**MW:** (Cont'd)									
			(72)		Yellow red to grey, massive, coarse grained, low to medium strength.									
					Contains quartz feldspathic sand in a matrix of clay cement.							Is(50) = 0.55MPa	x	
11												Is(50) = 0.68MPa	o	
					Defects:									
					- Drilling-induced fracture @ 5-10° (1-4/m)									
					- Joint @ 25° (1-2/m)									
			100		-Joints @40-45° (1-2/m)									
			(88)									Is(50) = 2.08MPa	x	
12					Defect surfaces are generally closed, planar and clay infilled.			MW				Is(50) = 1.53MPa	o	
												DD = 2.18t/m^3; MC = 5.8%; UCS=19.4MPa		UCS
					Becoming high strength below 12m.							Is(50) = 1.02MPa	x	
												Is(50) = 1.11MPa	o	
13					SW Conglomeratic sandstone bands below 13.5 app. 500mm thick.									
			100											
			(50)									Is(50) = 3.06MPa	x	
												Is(50) = 3.42MPa	o	
14	2.70		100								Carb band			
			(60)		**MUDSTONE**									
					Fine grained, laminated, sedimentary rock mainly comprising of mud-sized particles									
					SW: Dark brown to black, laminated, low to mainly medium to high strength.							Is(50) = 0.16MPa	x	
15												Is(50) = 0.92MPa	o	
					Contains siltstone interbeds.							Is(50) = 1.93MPa	x	
												Is(50) = 1.72MPa	o	
					Defects:									
			100		- Joint @ 10°			SW						
			(89)		- Joint @ 75°									
16												Is(50) = 0.58MPa	x	
					Defect surfaces are close to medium spaced, planar, smooth, open and clay infill.							Is(50) = 0.78MPa	o	
											Carb band			
17											Partial water loss	Is(50) = 0.56MPa	x	
												Is(50) = 1.32MPa	o	
	-0.35		100											
			(87)		**SILTSTONE**									
					Fine grained sedimentary rock mainly comprising of silt sized particles							Is(50) = 2.17MPa	x	
					SW: Grey, fine grained, laminated, high strength.							Is(50) = 5.38MPa	o	
18								SW				DD = 2.45t/m^3; MC = 2%; UCS=16.7MPa		UCS
					Contains mudstone interbeds.									
					Defects: As above.									
	-1.85		100									Is(50) = 2.65MPa	x	
												Is(50) = 3.55MPa	o	
19					Borehole terminated at 18.75m									
20														

REMARKS

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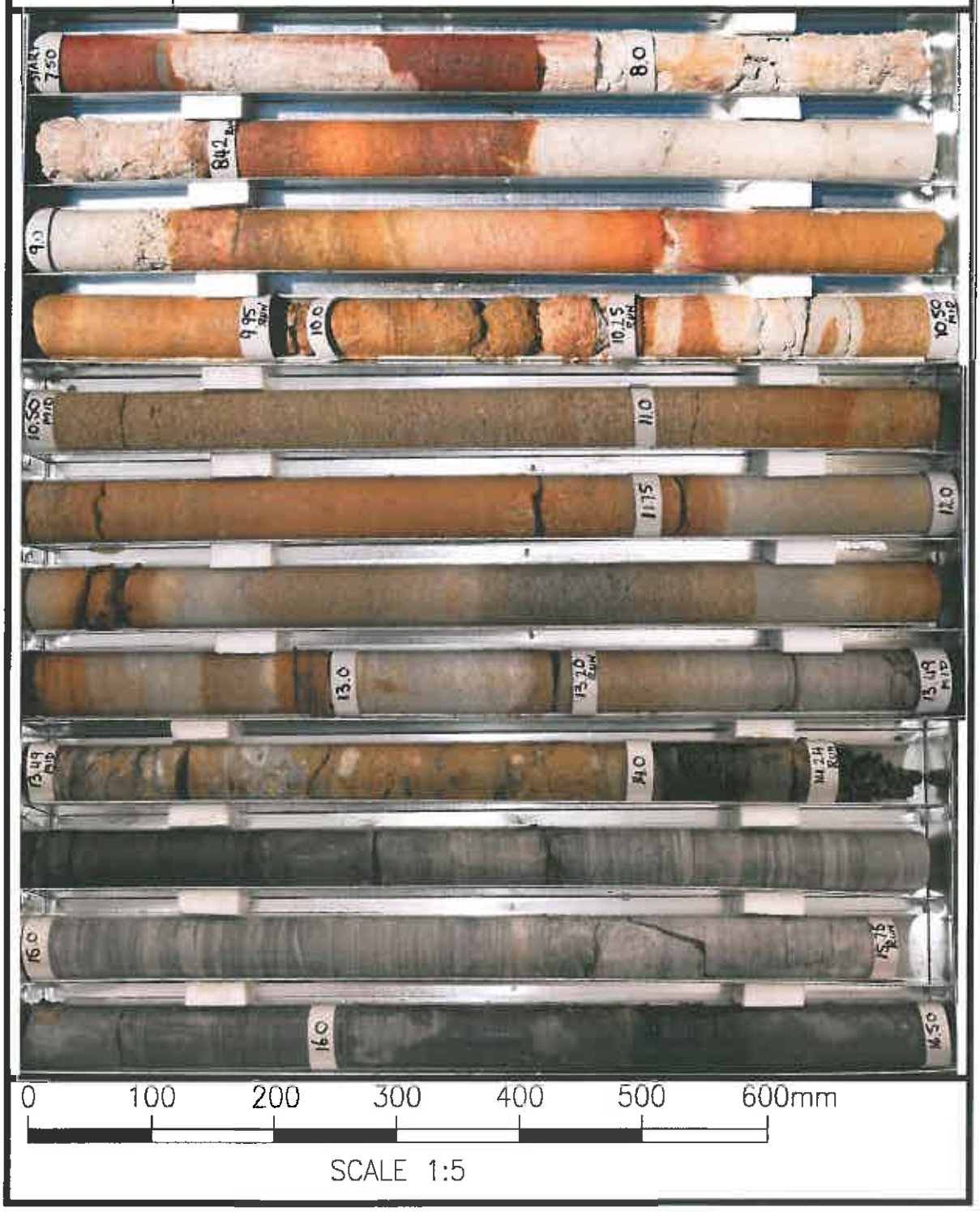
QLD_DMR_LIB_01A.GLB Log A_ENGINEERING BOREHOLE LOG W LITHOLOGY FG5921 MORETON BAY RAIL LINK.GPJ <<DrawingFile>> Datgel CPT Tool gINT Add-In 06/10/2011 14:45

Project Name	**Moreton Bay Rail Link (MBRL)**		
Project No	FG5921	**Date**	05/05/11
Borehole No	BH 15	**TMR H No**	11025
Location	Bridge over Halpine Lake	**Start Depth (m)**	7.50
Detail	Structure	**Finish Depth (m)**	18.75
Chainage	**Approx**	**Submitted By**	**BW**
Remarks			



CORE PHOTO LOG
DEPARTMENT OF TRANSPORT & MAIN ROADS
Geotechnical Branch
35 Butterfield Street, HERSTON Qld 4006
Phone 07 3115 3035 Fax 07 3115 3011

GEOT043/1

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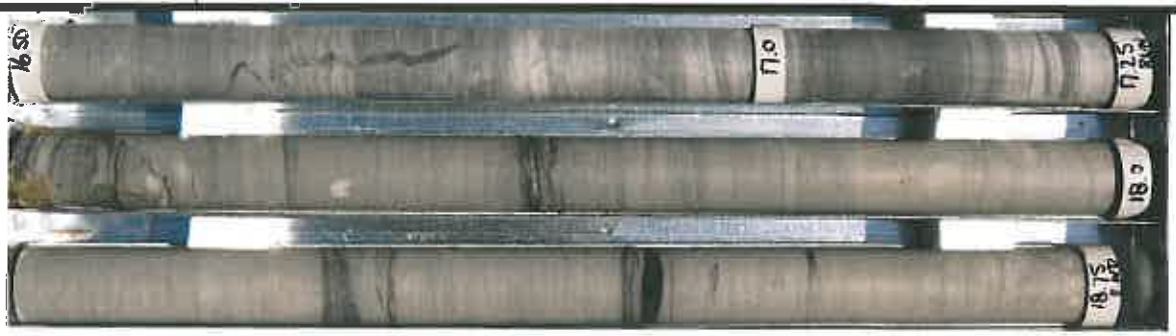

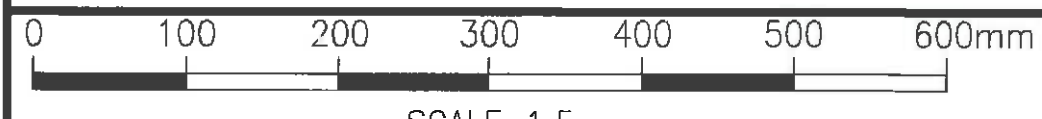

SCALE 1:5