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## ENGINEERING BOREHOLE LOG

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

BOREHOLE No <u>BH56</u>

SHEET \_\_1\_ of \_2\_

REFERENCE No <u>H11095</u>

**PROJECT** Moreton Bay Rail Link Halpine Lake Bridge 9, Abutment A, Ch.6000 COORDINATES 502868.4 E; 6986475.0 N LOCATION PROJECT No\_FG5921\_\_\_\_\_ DATE STARTED 21/7/11 GRID DATUM MGA94 Zone 56 SURFACE R.L. <u>17.00m</u> PLUNGE \_\_\_\_\_ DATE COMPLETED 21/7/11\_ JOB No 250/120/3 HEIGHT DATUM AHD BEARING DRILLER R&D Drilling Pty Ltd R.L. RQD INTACT DEFECT ADDITIONAL DATA STRENGTH **SPACING** ()% (m) DEPTH (m) MATERIAL ÒRILL AND GRAPHIC SAMPLE **DESCRIPTION** TESTS SAMPL WEAT

WEAT

WEAT

VL

VL

VL

VL

S000

S000

S000 CORF **TEST RESULTS** nsc <u>17.00</u>₹8 REC % 0 Silty SAND (Topsoil) Based on Driller's logs only Dark grey, moist, soft. 16.40 Sandy SILT (Residual) Yellow red brown, moist, stiff to very stiff. Sand fraction fine to medium grained; 3,5,6 SPT ferrigenous iron stained nodules <10mm. Becoming more sandy below 2m depth. (CL-ML) 5.7.8 SPT В FG5921 MORETON BAY RAIL LINK.GPJ <<DrawingFile>> Datgel CPT Tool gINt Add-In 06/10/2011 14:46 14.00 Minor clay fraction and iron staining SANDSTONE 16,27,30/110mm С SPT Fine to medium grained, massive, poorly XW cemented sedimentary rock mainly 13.50 comprising of sand sized particles XW: Generally exhibits engineering properties of yellow and grey, moist, fine to medium grained, mainly medium dense silty sand HW: White grey and red brown, fine to 75 medium grained, massive with slightly laminated, very low to low strength. 54 Contains highly iron stained bands below - 5 5.6m depth. Occasional subangular, high strength 100 BZ with CLy infill quartzitic gravel sizing <40mm; soft clay bands between 6m - 7.5m approx. 200mm Highly FeSt 100 -6 - Soft CLy bands Broken zone below 5.3m approx. 350mm Is(50) = 0.72MPalong. Is(50) = 0.42MPa0 Defects: 01A.GLB LOG A\_ENGINEERING BOREHOLE LOG W LITHOLOGY - Drilling-induced bedding / lamination HW partings @ 0-5° (2-3/m)
- Joint @ 20° (1/m)
- Joint @ 45° (2-3/m) Is(50) = 0.50MPa100 Defect surfaces are close to medium Is(50) = 0.52MPaspaced, irregular, slightly rough, open, closed, clay infilled or iron stained. Is(50) = 0.17MPa-8 Is(50) = 0.15MPaContains ferruginous iron stained bands ucs DD = 2.02t/m<sup>3</sup>; WD = 2.22t/m<sup>3</sup>; MC = 9.8%; UCS - 1.4 MPa throughout. х Is(50) = 0.06MPa0 J. 45°. Cly infill Is(50) = 0.13MPa100 - 9 Is(50) = 0.08MPaIs(50) = 0.16MPa0 8 Is(50) = 0.86MPaХ -.L 20° Carb infill Is(50) = 1.05MPa0 (See over) LOGGED BY REMARKS\_ BW/LVD



FG5921 MORETON BAY RAIL LINK.GPJ

## **ENGINEERING BOREHOLE LOG**

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

**BOREHOLE No** BH56 \_2\_ of \_2\_ SHEET \_\_H11095\_\_ REFERENCE No

**PROJECT** Moreton Bay Rail Link Halpine Lake Bridge 9, Abutment A, Ch.6000 COORDINATES 502868.4 E; 6986475.0 N LOCATION DATE STARTED 21/7/11 GRID DATUM MGA94 Zone 56 PROJECT No FG5921 SURFACE R.L. 17.00m PLUNGE JOB No 250/120/3 HEIGHT DATUM AHD BEARING DATE COMPLETED 21/7/11 DRILLER R&D Drilling Pty Ltd R.L. RQD INTACT DEFECT ADDITIONAL DATA STRENGTH **SPACING** ()% (m) DEPTH (m) MATERIAL Ä K AND SAMPLE **DESCRIPTION** WEAT WEAT CHAPT CH TESTS CORF **TEST RESULTS** <u>7.00</u>₹8 REC % 10 I I I I I ISANDSTONE HW: (Cont'd) Is(50) = 0.14MPaIs(50) = 0.06MPaх о 100 HW BZ with coarse sand 100 5.40 MW: Mottled yellow red grey, fine to medium grained, massive and laminated, DD = 2.08t/m<sup>3</sup>; WD = 2.24t/m<sup>3</sup>; MC = 7.4%; UCS - 2.1MPa low to medium strength. UCS HW, very low strength bands below 14.4m, Is(50) = 0.26MPaapprox. 900mm long; iron staining along Is(50) = 0.24MPa0 <<DrawingFile>> Datgel CPT Tool gINt Add-In 06/10/2011 14:46 lamination. -J, 20° Is(50) = 0.20MPaDark black carbonaceous (coal seams) Is(50) = 0.13MPa100 bands below 14.75m, approx. 250mm long. MW Is(50) = 0.29MPa Is(50) = 0.18MPa - J. 45°. Fest 0 100 HW, very low strength Carb bands 2.00 Interbedded MUDSTONE and SILTSTONE SW: Dark grey to black, fine grained, laminated, mainly high strength. Is(50) = 0.88MPaIs(50) = 1.49MPa Is(50) = 1.08MPaContains thin bands of coal seams below 0 X 100 Is(50) = 3.35MPa−3 x Js, 20° - Drilling-induced lamination and bedding partings @ 0-5° (3-4/m) - Joint @ 20° (1-2/m) SW Log A\_ENGINEERING BOREHOLE LOG W LITHOLOGY Defect surfaces are planar and irregular, smooth and slightly rough, open and Is(50) = 0.48MPa100 Is(50) = 1.43MPaclosed, clay or carbonaceous infill. Is(50) = 0.42MPa0 Is(50) = 2.12MPaIs(50) = 0.93MPa Is(50) = 4.23MPa0 18 Is(50) = 0.86MPaυĝs Is(50) = 3.49MPa 100 -1.50 Borehole terminated at 18.5m MC = 2.6%; UCS - 21.7MPa LIB\_01A.GLB - 19 9 LOGGED BY REMARKS\_ BW/LVD



	Government			
Project Name	Moreton Bay Rail Link (MBRL)			
Project No	FG5921	Date	21/07/11	
Borehole No	BH 56	TMR H No		
Location	Halpine Lake Rail Bridge	Start Depth (m)	3.50	
Detail	Abutment A Structure	Finish Depth (m)	18.50	
Chainage	6006	Submitted By	BW	
Remarks				
5 CGFE L 0.250	0.9 0.9	on COR	E Loss o	
		0L.	88	
<u>Qt</u>			Section 1	
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0 100	) 200 300 400 SCALE 1:5	500 600	mm	



			yerimiene
Project Name	Moreton Bay Rail Link (MBRL)		
Project No	FG5921	Date	21/07/11
Borehole No	BH <b>56</b>	TMR H No	
Location	Halpine Lake Rail Bridge	Start Depth (m)	3.50
Detail	Abutment A Structure	Finish Depth (m)	18.50
Chainage	6006	Submitted By	BW
Remarks			
0 100	200 300 400	500 600	
	SCALE 1:5		
	JOALL 1.0		