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# ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH21  
SHEET 1 of 3  
REFERENCE No H11032

PROJECT Moreton Bay Rail Link  
LOCATION Bridge 13, Ch.9300 COORDINATES 504981.9 E; 6988899.4 N  
PROJECT No FG5921 SURFACE R.L. 1.50m PLUNGE        DATE STARTED 16/5/11 GRID DATUM MGA94 Zone 56  
JOB No 250/120/3 HEIGHT DATUM AHD BEARING        DATE COMPLETED 17/5/11 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	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
0	1.50					<b>Silty CLAY (Estuarine)</b> Grey, moist, soft to firm.  <b>Organic content.</b>							— Based on Driller's logs only	
1	0.50				A	<b>CLAY (Estuarine)</b> Blue-grey, moist, very soft to soft.  High plasticity.  Contains some organic material.							DD = 0.86t/m <sup>3</sup> ; WD = 1.54t/m <sup>3</sup> ; MC = 80.6%; LL-84%, PI=54%, LS=17+	U100
2					B								DD = 0.80t/m <sup>3</sup> ; WD = 1.50t/m <sup>3</sup> ; MC = 85.6%; LL-84%, PI=55%, LS=17+	U100
					C								Su (kPa)=26.7-4.6	FSV
3					D								19.32, <2; DD = 0.96t/m <sup>3</sup> ; WD = 1.62t/m <sup>3</sup> ; MC = 70.2%; LL-57%, PI=34%, LS=14+	U100
					E		(CH/OH)						Su (kPa)=21-2	FSV
4					F	Becoming light grey and red brown scattered with iron stained nodules.							DD = 1.36t/m <sup>3</sup> ; WD = 1.78t/m <sup>3</sup> ; S <sub>u</sub> = 32kPa; LL-69%, PI=40%, LS=15+	U100
5	-4.00				G	<b>Sandy CLAY (Alluvial)</b> Light grey, moist, mainly stiff.  High plasticity.  Sand fraction is angular, fine grained.							2.4, 10 N=14	SPT
6							(CH)							
7	-5.50				H	<b>Silty CLAY (Residual)</b> Pale grey red scattered, moist, mainly very stiff.  Medium to mainly high plasticity.  Red iron stained nodules throughout.							4.8, 12 N=20	SPT
8														
9					J		(CI/CH)						5.9, 14 N=23	SPT
10						(See over)								

REMARKS \_\_\_\_\_

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# ENGINEERING BOREHOLE LOG

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BOREHOLE No BH21  
SHEET 2 of 3  
REFERENCE No H11032

PROJECT Moreton Bay Rail Link  
LOCATION Bridge 13, Ch.9300 COORDINATES 504981.9 E; 6988899.4 N  
PROJECT No FG5921 SURFACE R.L. 1.50m PLUNGE \_\_\_\_\_ DATE STARTED 16/5/11 GRID DATUM MGA94 Zone 56  
JOB No 250/120/3 HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 17/5/11 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	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
10	-8.50				K	<b>Silty CLAY (Residual)</b> (Cont'd)							6,11,13 N=24	SPT
11							(Cl/CH)							
12	-10.00				L	<b>Sandy CLAY (Residual)</b> Yellow brown, moist, hard.  Low plasticity.  Sand fraction is mainly fine grained (quartz feldspathic).							9,17,26 N=43	SPT
13	-11.50				M	<b>SANDSTONE</b> Fine to medium grained, massive, poorly cemented, sedimentary rock mainly comprising sand-sized particles <b>HW:</b> Dark yellow brown with white, black and grey mottles, moist, fine to medium grained, very dense, clayey sand.  Low plasticity; quartz feldspatic.							16,30/120mm N>50	SPT
14					N	Fe & Mn nodules and clay content increasing with depth.							15,30/80mm N>50	SPT
15	-13.50					<b>MW:</b> Yellow brown with brown, yellow, white and black mottles, fine to medium grained, bedded, low to medium strength.  Contains mudstone clasts <60mm throughout.							Mudstone interlaminated band approx. 100mm thick	
16	-14.50					<b>SW:</b> Light grey with dark brown, fine to medium grained, massive with slightly laminated, low strength.  Slight discolouration.  Defects: Almost nil or rare.							Is(50) = 0.23MPa Is(50) = 0.31MPa	x o
17		100											DD = 2.28t/m <sup>3</sup> ; MC = 5.8%; 16.7-17.5m: No Ls UCS=8.78MPa Is(50) = 0.36MPa Is(50) = 0.38MPa	UCS x o
18	-16.50					<b>Interbedded MUDSTONE &amp; SANDSTONE</b> <b>SW:</b> Black to dark grey, fine grained, laminated, medium to high strength.  Defects: Generally rare.							Conglomerate zone	
19		100											Is(50) = 0.49MPa Is(50) = 0.47MPa	x o
20	-18.50												Is(50) = 1.70MPa Is(50) = 1.74MPa Is(50) = 2.07MPa	x x o

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BOREHOLE No BH21  
SHEET 3 of 3  
REFERENCE No H11032

PROJECT Moreton Bay Rail Link  
LOCATION Bridge 13, Ch.9300 COORDINATES 504981.9 E; 6988899.4 N  
PROJECT No FG5921 SURFACE R.L. 1.50m PLUNGE \_\_\_\_\_ DATE STARTED 16/5/11 GRID DATUM MGA94 Zone 56  
JOB No 250/120/3 HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 17/5/11 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	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
20	-18.50					<b>SANDSTONE (Quartz Feldspathic)</b> <b>SW:</b> Light grey to dark brown , medium grained, laminated, low to medium strength.  Defects: Nil.		SW					DD = 2.19t/m <sup>3</sup> ; MC = 7.3%; UCS=5.44MPa Is(50) = 0.48MPa Is(50) = 0.48MPa	UCS x o
	-19.43		100			Borehole terminated at 20.93m								
21														
22														
23														
24														
25														
26														
27														
28														
29														
30														

REMARKS \_\_\_\_\_

LOGGED BY  
BW / JSM

<b>Project Name</b>	<b>Moreton Bay Rail Link (MBRL)</b>		
<b>Project No</b>	FG5921	<b>Date</b>	06/05/11
<b>Borehole No</b>	BH 21	<b>TMR H No</b>	11032
<b>Location</b>		<b>Start Depth (m)</b>	15.00
<b>Detail</b>	Structure	<b>Finish Depth (m)</b>	20.93
<b>Chainage</b>	2110 Approx	<b>Submitted By</b>	BW
<b>Remarks</b>			

