ENGINEERING BOREHOLE LOG

Queensland Government

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

BOREHOLE No **BH20**
SHEET 1 of 3
REFERENCE No **H11031**

PROJECT Moreton Bay Rail Link
LOCATION Fill 16, Ch.8750 COORDINATES 504515.5 E; 6988609.5 N
PROJECT No FG5921 SURFACE R.L. 1.30m PLUNGE DATE STARTED 28/6/11 GRID DATUM MGA94 Zone 56
JOB No 250/120/3 HEIGHT DATUM AHD BEARING DATE COMPLETED 28/6/11 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	1.30				**Silty CLAY (Topsoil)** Grey, moist, soft.							Based on Driller's logs only		
	0.80			A	**Silty CLAY (Estuarine)** Yellow grey and dark grey to black, moist, mainly very soft to soft.							DD = 1.00t/m^3; WD = 1.60t/m^3; MC = 62.8%		U100
1				B	High plasticity.							Su(kPa)=18		FSV
				C	High organic content; contains minor plant materials at top. Becoming dark grey to black below 1.5m depth.							DD = 0.80t/m^3; WD = 1.50t/m^3; MC = 90.6%; LL-75%, PI=50%, LS=18+		U100
2				D		(CH/OH)						Su(kPa)=19-2		FSV
				E								DD = 0.80t/m^3; WD = 1.50t/m^3; MC = 97.2%		U100
3				F								Su(kPa)=28-3		FSV
	-2.20			G	**Clayey SAND (Alluvial)** Dark grey and yellow brown, moist, fine grained, very loose.									U100
4				H	Iron stained in parts. Becoming wet at 4m.							2,1/150 N>50		SPT
5				J		(SM/SP)						HW,2,2 N=4		SPT
6				K								4,10,10 N=20		SPT
	-5.20				**SAND** Yellow brown, moist, medium grained, mainly medium dense.									
7				L	Minor clay fraction in parts; wet at 8m.							7,9,10 N=19		SPT
8				M		(SM)						6,9,8 N=17		SPT
9				N								6,6,6 N=12		SPT
10														

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REMARKS

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BOREHOLE No **BH20**
SHEET 2 of 3
REFERENCE No **H11031**

PROJECT Moreton Bay Rail Link
LOCATION Fill 16, Ch.8750 COORDINATES 504515.5 E; 6988609.5 N
PROJECT No FG5921 SURFACE R.L. 1.30m PLUNGE DATE STARTED 28/6/11 GRID DATUM MGA94 Zone 56
JOB No 250/120/3 HEIGHT DATUM AHD BEARING DATE COMPLETED 28/6/11 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
10	-8.70													
	-8.95			P	**Clayey SAND (Alluvial)** Pale grey, moist, fine grained, medium dense.		(SM)					8,4,5 N=9		SPT
11				Q	Low plasticity.		(SM/SP)					4,7,7 N=14		SPT
	-10.20				**Clayey SAND (Residual)** Yellow brown, moist, medium grained, medium dense.									
12				R	Iron staining throughout.							6,10,18 N=28		SPT
13				S			(SM/SP)					5,8,11 N=19		SPT
	-12.50													
14				T	**SANDSTONE** **Fine to medium grained, massive, poorly cemented sedimentary rock mainly comprising sand-sized particles** **HW:**Mottled yellow brown, moist, dense to very dense silty sand.							11,19,35 N>50		SPT
15				U	Relict rock fabric structure visible throughout. Becoming very low strength below 16m.		HW					10,10,27 N=37		SPT
16			(0)											
	-15.20				**CLAYSTONE** **Fine grained sedimentary rock mainly comprising clay-sized particles** **MW:** Grey to dark grey, thickly bedded and slightly laminated; mainly low strength.							Coal seams		
17			100 (74)											
18			90 (81)		Contains thin carbonaceous bands (coal) below 16.5m, approx. 150mm thick; displays cracking and desiccated structure on drying. Defects: - Drilling-induced bedding / lamination partings @ 5-10° (4/m)		MW							
19			100 (46)		Defect surfaces are mainly medium to closely spaced, planar, smooth, closed, clean or minor iron stained.						Coal seams	DD = 2.24t/m^3; WD = 2.38t/m^3; MC = 6.6%; UCS=7.5MPa Is(50) = 0.32MPa Is(50) = 0.63MPa		UCS x o
20					**(See over)**						Mudstone interbeds			

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REMARKS

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BOREHOLE No **BH20**
SHEET 3 of 3
REFERENCE No **H11031**

PROJECT Moreton Bay Rail Link
LOCATION Fill 16, Ch.8750 COORDINATES 504515.5 E; 6988609.5 N
PROJECT No FG5921 SURFACE R.L. 1.30m PLUNGE DATE STARTED 28/6/11 GRID DATUM MGA94 Zone 56
JOB No 250/120/3 HEIGHT DATUM AHD BEARING DATE COMPLETED 28/6/11 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
20	-18.70				**CLAYSTONE** **MW:** (Cont'd)			MW				Mudstone interbeds V Fr		
	-19.20				**SANDSTONE** **SW:** Pale grey, fine to medium grained, massive with slightly laminated; medium to high strength. Contains thin carbonaceous bands below 24m. Defects: - Drilling-induced lamination partings @ 5° Defect surfaces are mainly medium to widely spaced, planar and irregular, slightly rough, closed and clean.			SW				Is(50) = 0.94MPa Is(50) = 0.99MPa	x o	
21			100 (100)									Is(50) = 0.61MPa Is(50) = 1.03MPa	x o	
22			100 (100)									DD = 2.30t/m^3; MC = 2.1%; UCS=17.4MPa Is(50) = 0.40MPa Is(50) = 0.87MPa	 x o	
23												Is(50) = 1.11MPa Is(50) = 1.33MPa	x o	
24			100 (98)									Is(50) = 2.89MPa Is(50) = 3.71MPa	x o	
	-23.52		100									Is(50) = 0.36MPa Is(50) = 0.45MPa	x o	
25					Borehole terminated at 24.82m									
26														
27														
28														
29														
30														

REMARKS

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Project Name	**Moreton Bay Rail Link (MBRL)**		
Project No	FG5921	**Date**	28/06/11
Borehole No	BH 20	**TMR H No**	11012
Location	Hays Inlet Rail Bridge	**Start Depth (m)**	16.00
Detail	Abutment B	**Finish Depth (m)**	24.82
Chainage	**8745 Approx**	**Submitted By**	**BW**
Remarks			

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