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ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH51
SHEET 1 of 3
REFERENCE No H11090

PROJECT Moreton Bay Rail Link
LOCATION Rail Bridge 4, Abutment A, Ch.3290 COORDINATES 500449.5 E; 6985341.7 N
PROJECT No FG5921 SURFACE R.L. 13.30m PLUNGE DATE STARTED 7/7/11 GRID DATUM MGA94 Zone 56
JOB No 250/120/3 HEIGHT DATUM AHD BEARING DATE COMPLETED 7/7/11 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	13.30				**SAND (Topsoil)**							Based on Driller's logs only		
	12.80				**Silty CLAY (Residual)** Mottled red grey and yellow, moist, firm to stiff.									
1				A	High plasticity.		(CH)					2,3,4 N=7		SPT
					Contains rock kernels in parts; Iron staining throughout.									
2				B								3,6,8 N=14		SPT
	10.80				**CLAYSTONE** **Fine grained sedimentary rock mainly comprising of clay sized particles** **XW:** Generally exhibits engineering properties of grey to dark grey and red, moist, laminated, very stiff silty clay.									
3				C								5,9,13 N=22		SPT
					Highly iron stained zone between 5 - 6m depth.									
4				D	Relict rock fabric structure visible throughout; minor decomposed carbonaceous material 4m depth.							5,10,13 N=23		SPT
5				E								8,12,17 N=29		SPT
							XW							
6				F								8,10,17 N=27		SPT
7				G								6,9,15 N=24		SPT
8				H								5,11,17 N=28		SPT
	4.80				**Interbedded SILTSTONE and MUDSTONE** **Siltstone: Fine grained sedimantary rock mainly comprising of silt-sized particles** **Mudstone: Fine grained sedimentary rock mainly comprising of mud-sized particles** **XW:** Dark grey to black, moist, laminated, verif stiff to mainly hard silty clay.									
9				J			XW					5,7,12 N=19		SPT
10					**(See over)**									

REMARKS

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ENGINEERING BOREHOLE LOG

Queensland Government

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

BOREHOLE No **BH51**
SHEET 2 of 3
REFERENCE No **H11090**

PROJECT Moreton Bay Rail Link
LOCATION Rail Bridge 4, Abutment A, Ch.3290 COORDINATES 500449.5 E; 6985341.7 N
PROJECT No FG5921 SURFACE R.L. 13.30m PLUNGE DATE STARTED 7/7/11 GRID DATUM MGA94 Zone 56
JOB No 250/120/3 HEIGHT DATUM AHD BEARING DATE COMPLETED 7/7/11 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
10	3.30			K	**Interbedded SILTSTONE and MUDSTONE** **XW:** Contains thin bands of fine grained sandstone in parts; iron staining along laminations; vertical fracture with iron staining between 9m - 10m depth.		XW				10,15,28 N=43	SPT
11	2.30			L	Rock fabric structure visbile throughout. **HW:** As above. Displays cracking on drying.		HW				13,26,30/100 N>50	SPT
12	0.80			M	Gradually grading in to low strength rock with depth.						16,30/100 N>50	SPT
13	-0.20		(60)		**MUDSTONE** **MW:** Dark grey to balck, massive with slightly laminated, low strength. Displays dessicated structure on drying. Defects: - Drilling-induced lamination / bedding parting @ 5° (1-2/m) - Joint @ 45° (1/m)		MW				J, 15° DD = 1.98t/m^3; WD = 2.22t/m^3; MC = 12%; UCS - 2.1 MPa	UCS
14			100 (53)		Defcet surfaces are mainly medium spaced, planar, smooth, close and clean or minor iron infilled.						HW siltstone l/Bs Is(50) = 0.45MPa CLy sand Is(50) = 0.59MPa CLy seams Is(50) = 0.33MPa Is(50) = 0.51MPa	x o x o
15	-2.60		100 (80)		**SANDSTONE** **MW:** Light grey, fine to medium grained, laminated, low to medium strength. Contains claystone interbed approx. 120mm thick. Occasional soft clay seams below 14.6m approx. 5mm thin. Defects: - Drilling-induced lamination / bedding partings @ 5-10° (2/m) - Joints @ 10-15° (1-2/m)		MW				Is(50) = 0.50MPa Is(50) = 1.01MPa Is(50) = 0.37MPa Is(50) = 0.37MPa	x o x o
16											Is(50) = 0.39MPa Is(50) = 0.54MPa DD = 2.20t/m^3; WD = 2.38t/m^3; MC = 7.6%; UCS - 8 MPa	x o UCS
17			100 (73)		Defect surfaces are mainly medium spaced, irregular, slightly rough, open, clean or clay infilled.						Is(50) = 0.43MPa Is(50) = 0.80MPa Claystone bands	x o
18					**Interbedded MUDSTONE and SILTSTONE (Siltstone Dominant)** **SW:** Grey to dark grey black, fine grained, laimnated, low to mainly medium strength.		SW				Sandstone l/Bs Is(50) = 0.80MPa Is(50) = 1.71MPa Is(50) = 0.85MPa Is(50) = 1.18MPa DD = 2.96t/m^3; WD = 2.46t/m^3; MC = 4%; Ucs - 22.1MPa	x o UCS
19			100 (71)		Contains sandstone intebeds below 17.5m approx. 250mm thick; occasional claystone bands approx. 100mm thick. Defects: - Joints @ 20° (1-2/m) - Joints @ 45° (1-2/m) - Joint @ 70-80° (1/m)						Is(50) = 0.68MPa J, 70-80°, Pyrite infill Is(50) = 1.58MPa Quartzitic bands	x o
20			100 (75)		**(See over)**						Is(50) = 0.79MPa Is(50) = 1.08MPa	x o

REMARKS

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ENGINEERING BOREHOLE LOG

Queensland Government

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

BOREHOLE No **BH51**
SHEET 3 of 3
REFERENCE No **H11090**

PROJECT Moreton Bay Rail Link
LOCATION Rail Bridge 4, Abutment A, Ch.3290 COORDINATES 500449.5 E; 6985341.7 N
PROJECT No FG5921 SURFACE R.L. 13.30m PLUNGE DATE STARTED 7/7/11 GRID DATUM MGA94 Zone 56
JOB No 250/120/3 HEIGHT DATUM AHD BEARING DATE COMPLETED 7/7/11 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
20	-6.70				**Interbedded MUDSTONE and SILTSTONE (Siltstone Dominant)**									
					SW: (Cont'd) Defect surfaces are medium to widely spaced, planar, smooth to slightly rough, open, clean or secondary minerals (calcite and pyrite) infill.		SW					J, 45° Is(50) = 0.53MPa Is(50) = 1.20MPa		x o
	-7.54		100		Borehole terminated at 20.84m									
21														
22														
23														
24														
25														
26														
27														
28														
29														
30														

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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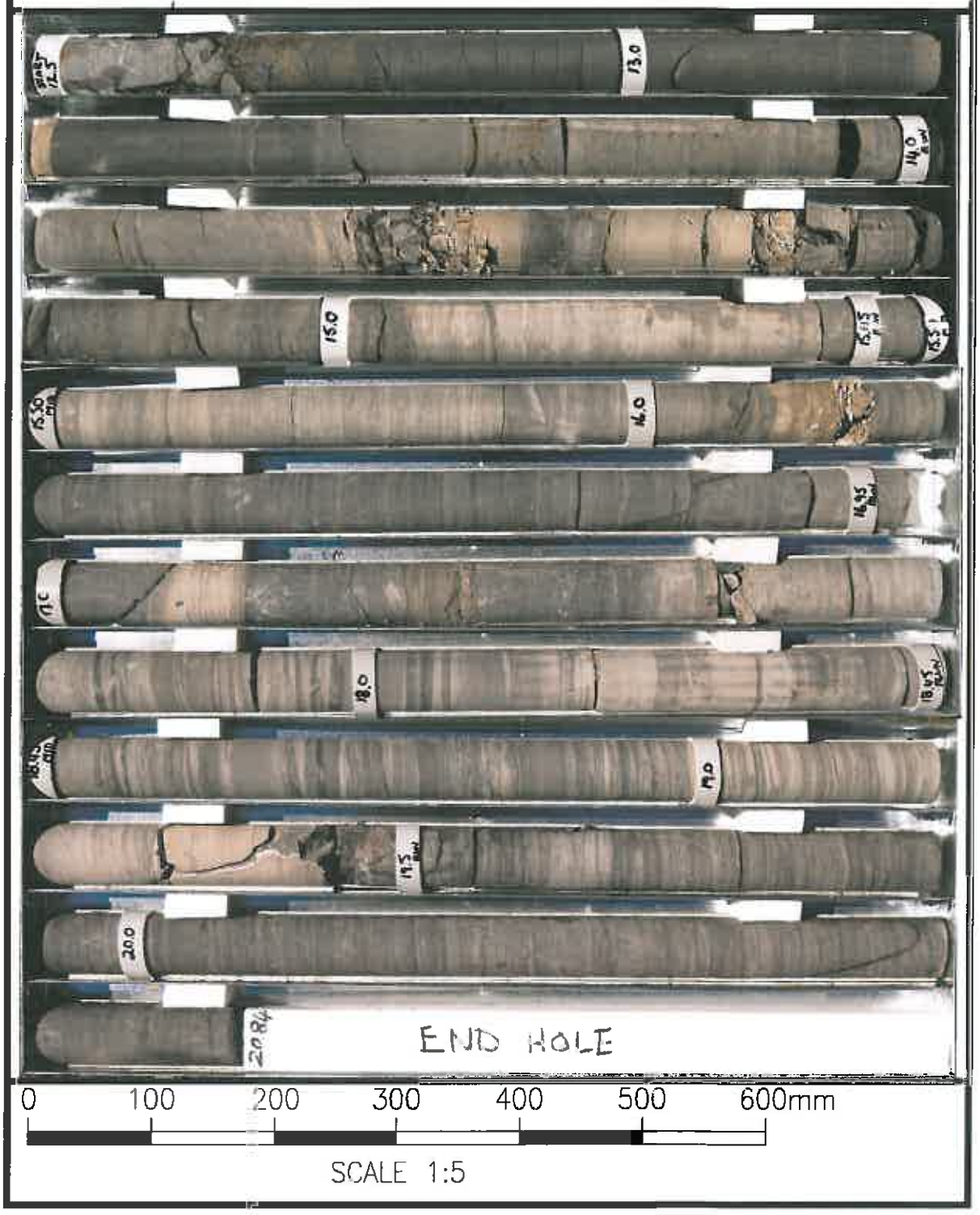
Project Name	**Moreton Bay Rail Link (MBRL)**		
Project No	FG5921	**Date**	07/07/11
Borehole No	BH 51	**TMR H No**	
Location	Bunbury Street Rail Bridge	**Start Depth (m)**	12.50
Detail	Abutment A Structure	**Finish Depth (m)**	20.84
Chainage	**3303 Approx**	**Submitted By**	**BW**
Remarks			



CORE PHOTO LOG **GEOT043/1**

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

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