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ENGINEERING BOREHOLE LOG

Queensland Government

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

BOREHOLE No BH C39
SHEET 1 of 3
REFERENCE No H11048

PROJECT Bruce Highway Upgrade (Cooroy to Curra) Section C
LOCATION Cut 10/Woondum Rd Overpass Pier 2 COORDINATES 471594.1 E; 7094777.5 N
PROJECT No FG5799 SURFACE R.L. 79.20m PLUNGE -90 ° DATE STARTED 25/6/11 GRID DATUM MGA94
JOB No 232/10A/2 HEIGHT DATUM AHD BEARING DATE COMPLETED 26/6/11 DRILLER Drillsure Pty Ltd

DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( )% CORE REC %	SAMPLE	MATERIAL DESCRIPTION	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	79.20												
	79.10				**TOPSOIL**								
					Silty CLAY (Residual): Grey/brown, moist, organic. High plasticity; gravel fragments up to 10mm.	(CH)							
1	78.20			A	**SANDSTONE (HW):** Brown, medium grained.	HW					30/20 N>50		CPT
	77.70												
			(0)		**SANDSTONE (MW):** Grey/red, fine to medium grained, massive, medium to high strength, indurated and/or slightly metamorphosed.	MW					J, 20°, Pl, C, Clnf; Is(50) = 0.48MPa	x	
2	77.08		100								J, 10°, C, Clnf; Is(50) = 1.11MPa		o
			(11)		Defects: -Joint at 50° Defect spacing is close. Defect surfaces are planar, tight, clay infilled.						J, 60°, Pl, T, S, Clnf		
					DOLERITE (HW): Orange/brown, fine grained, massive, very low to low strength.	HW					BZ		
3			100								XW Clay Seam		
	76.00		(0)		Defects: -Joint at 30° (3-4/m) -Joint at 60° (3-4/m) Defect spacing is close to medium. Defect surfaces are planar, close to tight, slightly rough, clay infilled.						J, 75°, Pl, T, SR, Clnf, FeSt		
											J, 70°, Pl, T, SR, Clnf, FeSt		
4			100								J, 10°, Pl, T, S, FeSt		
			(28)		**SANDSTONE (SW):** Grey, fine to medium grained, massive, high strength, indurated and/or slightly metamorphosed.						DD = 2.63t/m^3; MC = 0.9%; UCS=57.2MPa; Is(50) = 3.36MPa		UCS o
					Defects: -Joint at 30°-40° (2/m) -Joint at 70°-80° (2/m) Defect spacing is close to medium. Defect surfaces are planar, tight or open, clay infilled. Occasional pebbles up to 20mm.	SW							
5			100								J, Subvertical, I, T, SR, CLy		
			(14)										
6											J, 55°, Pl, O, Clnf, 20mm		
	72.75				**DOLERITE (MW):** Brown, fine grained, massive, medium to high strength, indurated and/or slightly metamorphosed.						Sharp contact, 50°; Is(50) = 0.24MPa; * Is(50) = 0.23MPa	x	o
7			100								Sandstone bed		
			(45)		Defects: -Joint at 20° (1-2/m) -Joint at 40°-50° (4/m) Defect spacing is close to medium. Defect surfaces are planar, tight or closed, smooth, clay infilled.	MW					Is(50) = 0.92MPa; Is(50) = 1.01MPa	x	o
8	71.10										Conglomerate bed		
			100		**SANDSTONE (SW):** Grey, fine to medium grained, massive, very high strength, indurated and/or slightly metamorphosed.						Brecciated Zone		
			(0)										
9					Defects: -Joint at 10°-20° (2/m) -Joint at 30°-40° (4-5/m) -Joint at 70° (2/m)	SW							
			100		(See over)						J, 40°, Pl, O, Clnf		
10											J, 70°, Pl, O, SR, FeSt; Is(50) = 3.54MPa		o

REMARKS *Point load failed along existing defect.

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ENGINEERING BOREHOLE LOG

Queensland Government

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

BOREHOLE No BH C39
SHEET 2 of 3
REFERENCE No H11048

PROJECT Bruce Highway Upgrade (Cooroy to Curra) Section C
LOCATION Cut 10/Woondum Rd Overpass Pier 2 COORDINATES 471594.1 E; 7094777.5 N
PROJECT No FG5799 SURFACE R.L. 79.20m PLUNGE -90° DATE STARTED 25/6/11 GRID DATUM MGA94
JOB No 232/10A/2 HEIGHT DATUM AHD BEARING DATE COMPLETED 26/6/11 DRILLER Drillsure Pty Ltd

DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( )% / CORE REC %	SAMPLE	MATERIAL DESCRIPTION	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	69.20		(32)		**SANDSTONE (SW):** Cont'd Defect spacing is close to medium. Defect surfaces are planar, closed or tight, slightly rough, clay infilled. Occasional pebbles up to 20mm.	SW					Is(50) = 5.56MPa J, 40°, Pl, O, SR, FeSt; DD = 2.64t/m³; MC = 0.7%; UCS=117MPa		x UCS
11			100								Fractured Zone, Ir, C		
	67.40		(25)		**SILTSTONE (MW):** Red/grey, fine grained, massive, medium strength, indurated and/or slightly metamorphosed. Defects: -Joint at 10° (2-3/m) -Joint at 70°-80° (1/m) Defect spacing is generally close to medium. Defect surfaces are planar, tight or closed, iron stained or thinly clay infilled.	MW					Bedding Plane, 30°, Pl, O, S, Clnf Is(50) = 0.40MPa Is(50) = 0.36MPa		o x
12			100										
13			(0)								HFZ J, 80°, O, R, Clnf		
	65.63				**DOLERITE (MW):** Brown/orange, fine grained, massive, medium strength. Defects: -Joint at 10° (2-3/m) -Joint at 40° (2-3/m) -Joint at 75°-80° (1-2/m) Defect spacing is medium. Defect surfaces are planar or irregular, open or tight, slightly rough, clay infilled.	MW					Contact, 45°, Pl, O, S, Clnf J, 40°, Pl, S, O, Clnf J, Subvertical, I, R, FeSt J, 20°, Pl, O, S, Clnf J, 10°, Pl, O, FeSt J, 70°, Pl, O, FeSt J, 40°, Pl, T, S, FeSt		
14			100										
15			(27)										
16			100								BZ		
	63.15		(33)		**DOLERITE (SW):** Grey, fine grained and becomming coarse grained with depth, massive, very high strength. Defects: -Joint at 10°-20° (2/m) -Joint at 40° (1/m) -Joint at 70° (1-2/m) Defect spacing is medium to wide. Defect surfaces are planar, tight, slightly rough, iron stained or thinly clay infilled. 22.4 Becoming coarse grained.	SW					Is(50) = 1.56MPa Is(50) = 0.33MPa; *		x o
17			100								J, 30°, Pl, SR, O, FeSt		
18			(33)								BZ BZ J, 40°, Pl, T, SR, FeSt Is(50) = 6.61MPa J, 30°, Pl, T, SR, FeSt Is(50) = 9.18MPa		o x
19			100								BZ J, 60°, Pl, S, O, FeSt		
			(44)								DD = 2.81t/m³; MC = 0.4%; UCS=85.4MPa J, 40°, Pl, T, S, FeSt J, 60°, Pl, T, SR, FeSt		UCS
20													

REMARKS *Point load failed along existing defect

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ENGINEERING BOREHOLE LOG

Queensland Government

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

BOREHOLE No BH C39
SHEET 3 of 3
REFERENCE No H11048

PROJECT Bruce Highway Upgrade (Cooroy to Curra) Section C
LOCATION Cut 10/Woondum Rd Overpass Pier 2 COORDINATES 471594.1 E; 7094777.5 N
PROJECT No FG5799 SURFACE R.L. 79.20m PLUNGE -90 ° DATE STARTED 25/6/11 GRID DATUM MGA94
JOB No 232/10A/2 HEIGHT DATUM AHD BEARING DATE COMPLETED 26/6/11 DRILLER Drillsure Pty Ltd

DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( )% CORE REC %	SAMPLE	MATERIAL DESCRIPTION	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	59.20		100 (22)		**DOLERITE (SW):**Cont'd						J, 40°, Pl, T, S, Clnf		
											J, 70°, Pl, T, SR, Clnf Is(50) = 7.00MPa		x
21											HW, Altered Seam, 60°		
											J, 50°, Pl, T, S, QZ		
			100 (50)								J, 60°, Pl, T, Clnf		
22											BZ, J's, Subvertical		
					22.4: Becoming coarse grained	SW							
23			100 (71)								J, 10°, Pl, O, R, Clnf		
											Is(50) = 3.04MPa		o
											Is(50) = 5.90MPa		x
24											J, 20°, Pl, R, Clnf DD = 2.67t/m³; MC = 0.9%; UCS=72MPa		UCS
	54.35		100								HW Brecciated Zone		
25					Borehole terminated at 24.85m								
26													
27													
28													
29													
30													

QLD_DMR_LIB_01A.GLB Log A_ENGINEERING BOREHOLE LOG FG5799 - BRUCE HWY UPGRADE SECTION C.GPJ DWG12882.GDW Datgel CPT Tool gINt Add-In 13/12/2011 16:08

REMARKS *Point load failed along existing defect

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Project Name:	BRUCE HIGHWAY UPGRADE - SECTION C		
Project No.:	FG5799	Date:	08/09/2011
Details:	Cut 10	Start Depth (m):	1.50
Reference No.:	H11048	Finish Depth (m):	24.85

SCALE 1:5

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Project Name:	BRUCE HIGHWAY UPGRADE - SECTION C		
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Details:	Cut 10	Start Depth (m):	1.50
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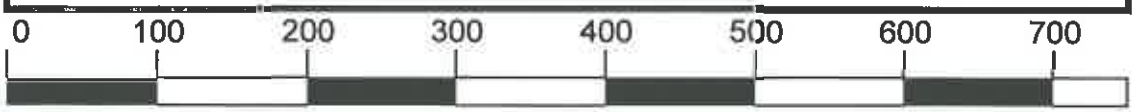
Project Name:	BRUCE HIGHWAY UPGRADE - SECTION C		
Project No.:	FG5799	Date:	08/09/2011
Details:	Cut 10	Start Depth (m):	1.50
Reference No.:	H11048	Finish Depth (m):	24.85



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