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ENGINEERING BOREHOLE LOG

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

BOREHOLE No	BH03
SHEET	1 of 7
REFERENCE No	

PROJECT BURDEKIN REALIGNMENT BRIDGE PRELIMINARY FOUNDATION INVESTIGATION - CONCEPT / PLANNING STAGE
 LOCATION Pier 8 @ CH105210 COORDINATES 540908.5 E; 7828345.8 N
 PROJECT No FG5945 SURFACE R.L. 13.25m PLUNGE _____ DATE STARTED 10/9/11 GRID DATUM PMBH
 JOB No 5/10L/951 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 12/9/11 DRILLER R&D Drilling Pty Ltd

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	WEATHERING					DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS	
								USC	EH	VH	IN	J					VL
0	13.25					Clayey SILT (ALLUVIAL) Dark brown, moist, mainly firm to stiff. Low plasticity; some tree roots in topsoil.											
1					A										2,2,2 N=4	SPT	
2					B										2,2,2 N=4	SPT	
3					C		(ML)								2,2,4 N=6	SPT	
4					D										7,5,7 N=12	SPT	
5					E	Becoming high plastic, silty clay @ 7.0m.									4,4,4 N=8	SPT	
6	5.65					Silty SAND (ALLUVIAL) Brown, moist, medium dense. Fine to medium grained sand.											
7					F		(SM)								7,9,10 N=19	SPT	
8	3.85					Silty CLAY (ALLUVIAL) (See over)											
9							(CH)										
10	3.25																

REMARKS _____

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ENGINEERING BOREHOLE LOG

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BOREHOLE No	<u>BH03</u>
SHEET	<u>2</u> of <u>7</u>
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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
									EH	VI	IN	J	VL	EL				
10	3.25				G	Silty CLAY (ALLUVIAL) (Cont'd) Mottled dark grey, brown and orange, moist, stiff to very stiff. High plasticity.	(CH)										4,6,9 N=15	SPT
11																		
12	1.75				H	Silty SAND (ALLUVIAL) Brown, moist, medium dense. Fine to medium grained sand; some medium grained gravel.											6,6,8 N=14	SPT
13					J												6,6,6 N=12	SPT
14							(SP)											
15					K												8,10,10 N=20	SPT
16					L												7,11,14 N=25	SPT
17	-3.26					Gravelly SAND (ALLUVIAL) Brown, moist, mainly medium dense to occasionally dense. Fine to medium grained sand; fine to coarse grained gravel.												
18					K												10,10,14 N=24	SPT
19					L												9,13,17 N=30	SPT
20	-6.76																	

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BOREHOLE No	<u> BH03 </u>
SHEET	<u> 3 </u> of <u> 7 </u>
REFERENCE No	-----

PROJECT BURDEKIN REALIGNMENT BRIDGE PRELIMINARY FOUNDATION INVESTIGATION - CONCEPT / PLANNING STAGE
 LOCATION Pier 8 @ CH105210 COORDINATES 540908.5 E: 7828345.8 N
 PROJECT No FG5945 SURFACE R.L. 13.25m PLUNGE DATE STARTED 10/9/11 GRID DATUM PMBH
 JOB No 5/10L/951 HEIGHT DATUM AHD BEARING DATE COMPLETED 12/9/11 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	EH	VH	IH	J	VL	EL	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS	
																						20
20	-6.76					Gravelly SAND (ALLUVIAL) (Cont'd)																
21					M															10,9,11 N=20		SPT
22					N															14,12,15 N=27		SPT
23																						
24					P															14,14,15 N=29		SPT
25					Q			(SP)												11,13,23 N=36		SPT
26																						
27					R															8,9,17 N=26		SPT
28					S															10,13,12 N=25		SPT
29																						
30	-16.76				T															12,12,15 N=27		SPT

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BOREHOLE No	<u> BH03 </u>
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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
30	-16.76					Gravelly SAND (ALLUVIAL) (Cont'd)		(SP)					
	-17.16					Silty CLAY (ALLUVIAL) Mottled grey to yellow brown, moist, very stiff.							
31					U	Medium to high plasticity.						8,10,13 N=23	SPT
32													
33					V							8,13,18 N=31	SPT
34					W		(Cl - CH)					7,11,16 N=27	SPT
35													
36					X							7,9,14 N=23	SPT
37					Y							6,10,14 N=24	SPT
						Sand content increasing with depth.							
38	-24.76					Silty SAND (ALLUVIAL) Yellow brown, moist, very dense.							
					Z	Fine to medium grained sand.		(SM)				16,25,27 N>50	SPT
39													
40	-26.56					GRANODIORITE XW: (See over)		(XM)					
	-26.76												

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ENGINEERING BOREHOLE LOG

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BOREHOLE No	<u>BH03</u>
SHEET	<u>5</u> of <u>7</u>
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PROJECT BURDEKIN REALIGNMENT BRIDGE PRELIMINARY FOUNDATION INVESTIGATION - CONCEPT / PLANNING STAGE
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 JOB No 5/10L/951 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 12/9/11 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
									EH	VH	VI	MI	VI				
40	-26.76				AA	GRANODIORITE Intrusive, crystalline, coarse grained, acid igneous rock XW: (Cont'd) Generally exhibits the engineering properties of mottled yellow, grey and brown, moist, hard sandy clay. Mainly low to medium plasticity.									18,30,30 N>50	SPT	
41																	
42				(0)	AB	Becoming white to pale grey, dense, fine to coarse grained clayey sand and extremely low strength rock with depth.									30/50mm, HB N>50	SPT	
43				91 (0)			XW										
44				100 (64)													
45	-31.76					HW: White and grey, fine to coarse grained, massive, extremely low strength.									DD = 2.20t/m ³ ; WD = 2.30t/m ³ ; MC = 4.6%; SOIL UCS=135kPa		
46				100 (57)			HW										
47	-33.76					XW: Generally exhibits the engineering properties of white, grey and brown, moist, very dense, fine to coarse grained clayey sand.											
48				84 (0)			XW										
49	-35.96			78 (0) 100 (20)		HW: White grey to brown, fine to coarse grained, massive, extremely low strength.											
50	-36.76						HW								Is(50) = 0.03MPa	o	

REMARKS _____

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ENGINEERING BOREHOLE LOG

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

BOREHOLE No	<u>BH03</u>
SHEET	<u>6</u> of <u>7</u>
REFERENCE No	-----

PROJECT BURDEKIN REALIGNMENT BRIDGE PRELIMINARY FOUNDATION INVESTIGATION - CONCEPT / PLANNING STAGE
 LOCATION Pier 8 @ CH105210 COORDINATES 540908.5 E; 7828345.8 N
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 JOB No 5/10L/951 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 12/9/11 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						DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS	
									EH	VH	I	M	J	VI						EL
50	-36.76					GRANODIORITE HW: White grey to brown, fine to coarse grained, massive, very low to low strength.														
51			100 (47)			Defects: - Joints @ 40° (3/m) - Joints @ 70° (1/m) Defects are generally medium to widely spaced, surfaces are generally planar, rough, open and weathered.										XW zone	Is(50) = 0.07MPa Is(50) = 0.05MPa	x	o	
52			89 (63)			Feldspar-rich MW zone from 52.45-52.67m.	HW									XW zone Core loss	Is(50) = 0.03MPa Is(50) = 0.07MPa	x	o	
53			100 (44)													XW zone				
54			100 (74)													XW zone				
55	-41.28					MW: White and grey, medium to coarse grained, massive, very high strength.														
56			100 (100)			Defects: - Joints @ 45° (2/m) Defects are generally widely spaced, planar, rough, open and iron stained.	MW										Is(50) = 6.79MPa Is(50) = 7.92MPa	o	x	
57						SW: White grey to pale pink, medium to coarse grained, massive, very high strength.														
58						Defects: Generally rare.											Is(50) = 8.81MPa UCS=106MPa	x		
59			100 (100)				SW										Is(50) = 4.63MPa	o		
60	-46.76																Is(50) = 7.10MPa UCS=107MPa Is(50) = 8.35MPa Is(50) = 6.82MPa	x	o	
																	Is(50) = 6.19MPa	o		
																	Is(50) = 5.61MPa	x		
																	UCS=129MPa			
																	Is(50) = 6.60MPa	o		

REMARKS _____

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ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 0177/6-2010

BOREHOLE No	<u>BH03</u>
SHEET	<u>7</u> of <u>7</u>
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PROJECT BURDEKIN REALIGNMENT BRIDGE PRELIMINARY FOUNDATION INVESTIGATION - CONCEPT / PLANNING STAGE
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QLD_DMRL_LIB_01A.GLB Log_A_ENGINEERING BOREHOLE LOG.W LITHOLOGY FG5945 BURDEKIN REALIGNMENT BRIDGE.GPJ <<DrawingFile>> Datgel CPT Tool gINT.Add-in.12/01/2012.08.07

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			
										EH	VH	IM	JL	VL					EL		
60	-46.76					GRANODIORITE SW: (Cont'd)															
61			100 (100)																Is(50) = 7.57MPa	o	
62																				Is(50) = 7.50MPa	x
63								SW												Is(50) = 6.50MPa	x
64			100 (100)																	Is(50) = 5.41MPa	o
65																				Is(50) = 6.94MPa Is(50) = 6.83MPa	x x
66	-52.65		100			Borehole terminated at 65.89m													Is(50) = 5.36MPa Is(50) = 8.38MPa Is(50) = 3.77MPa	o x o	
67																			Is(50) = 5.95MPa	o	
68																			Is(50) = 8.82MPa	x	
69																					
70																					

REMARKS _____

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Project Name	Burdekin River Bridge Realignment		
Project No	FG 5945	Date	12/09/11
Borehole No	BH 3	TMR H No	
Location	Abutment B	Start Depth (m)	42.00
Detail		Finish Depth (m)	65.89
Chainage		Submitted By	BW
Remarks			



Project Name	Burdekin River Bridge Realignment		
Project No	FG 5945	Date	12/09/11
Borehole No	BH 3	TMR H No	
Location	Abutment B	Start Depth (m)	42.00
Detail		Finish Depth (m)	65.89
Chainage		Submitted By	BW
Remarks			



Project Name	Burdekin River Bridge Realignment		
Project No	FG 5945	Date	12/09/11
Borehole No	BH 3	TMR H No	
Location	Abutment B	Start Depth (m)	42.00
Detail		Finish Depth (m)	65.89
Chainage		Submitted By	BW
Remarks			



SCALE 1:5