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ENGINEERING BOREHOLE LOG

BOREHOLE No	<u>BH02</u>
SHEET	<u>1</u> of <u>6</u>
REFERENCE No	

BW / MS

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

PRO	JECT	BUR	DEKIN	<u>REA</u>	LIGNMENT BRIDGE PRELIMINARY FOUN	<u>DAT</u>	<u>ION</u>	NVESTIGATION - C	<u>ONCI</u>	EPT / PLANNING STAGE
LOCA	ATION	<u>Near</u>	<u>Pier 4 (</u>	<u>@ C</u>	H <u>104805</u>				C	OORDINATES <u>541114.5 E; 7828000.0 N</u>
PRO	JECT No	_FG5	945		SURFACE R.L. <u>6.02m</u> PLUNGE _			DATE STARTED	<u>7/9/1</u>	1 GRID DATUM _PMBH
JOB	No	5/10	L/951		HEIGHT DATUM <u>AHD</u> BEARING _			DATE COMPLETED	<u>8/9/1</u>	DRILLER _R&D_Drilling Pty Ltd
DEPTH (m)	R.L. (m)	ASING ASH BORING ORE DRILLING	RQD ()% CORE	AMPLE	MATERIAL DESCRIPTION	тногосу	SC	INTACT DEFECT STRENGTH SPACING (mm)	RAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS
_0	6.02	020	REC %	Ś	Gravelly SAND (ALLUVIAL)		23		U U	∃ δυ
				۵	Brown, moist, very loose to loose. Fine to coarse grained sand; fine to coarse grained gravel.					1,1,2 _{SDT}
MENTERUDGE.GPJ <				A			(SP			N=3 SPT
GINEERING BOREHOLE LOG W LI'HOLOGY F05945 BURDFKIN FALIGA 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-2.48			В						High water loss
MR_LIB_01A.GLB_LOG_A_ENC				С	Silty SAND (ALLUVIAL) Brown, moist, medium dense. Fine to coarse grained sand; some fine to medium gravel; trace of clay.		(SM)		7,5,6 N=11 SPT
	- <u>3.9</u> 8									
R										LOGGED BY

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Near Pier 4 @ CH 104805

PROJECT

LOCATION

ENGINEERING BOREHOLE LOG

BOREHOLE No	<u>BH02</u>
SHEET	<u>_2of6</u>
REFERENCE No	

COORDINATES <u>541114.5 E; 7828000.0 N</u>

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

BURDEKIN REALIGNMENT BRIDGE PRELIMINARY FOUNDATION INVESTIGATION - CONCEPT / PLANNING STAGE

PROJECT No _FG5945 ____ SURFACE R.L. <u>6.02m</u> PLUNGE ____ DATE STARTED <u>7/9/11</u> GRID DATUM <u>PMBH</u> DRILLER R&D Drilling Pty Ltd <u>5/10L/951</u> JOB No HEIGHT DATUM __AHD____ BEARING _____ DATE COMPLETED _8/9/11 ___ R.L. RQD INTACT DEFECT CÁSING WASH BORING CORE DRILLING STRENGTH ADDITIONAL DATA (m) ()% SPACING 90 Ê MATERIAI DEPTH (I LITHOLOGY AND GRAPHIC ß SAMPLE DESCRIPTION SAMPLE TESTS CORE TEST RESULTS usc REC % 10 -3.98 1 1 1 1 1 Silty SAND (ALLUVIAL) (Cont'd) 11 6,4,7 D SPT N=11 12 LIB_014.GLB_Log_A_ENGINEERING BOREHOLE LOG W LITHOLOGY FG5945 BURDEKIN REALIGNMENT BRIDGE GPJ <</br> (SM) - 13 14 5,7,9 N=16 Е SPT 15 -9.<u>9</u>8 16 Clayey SAND (ALLUVIAL) White grey to pale brown, moist, mainly medium dense to occasionally dense. Fine to coarse grained sand; low content of clay. - 17 7,7,11 N=18 SPT F 18 (SC) · 19 + DMR -13.98 LOGGED BY REMARKS _ BW / MS

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Near Pier 4 @ CH 104805

PROJECT LOCATION

ENGINEERING BOREHOLE LOG

BOREHOLE No	<u>BH02</u>
SHEET	<u>3</u> of <u>6</u>
REFERENCE No	

COORDINATES 541114.5 E; 7828000.0 N

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

BURDEKIN REALIGNMENT BRIDGE PRELIMINARY FOUNDATION INVESTIGATION - CONCEPT / PLANNING STAGE

PRC	JECT No	• <u>FG5</u>	945		SURFACE R.L. <u>6.02m</u> PLUNGE			DATE S	TARTED _	<u>7/9/1</u>	I1 GRID DATUM	
JOB	No	<u> 5/10</u>	L/951		HEIGHT DATUM <u>AHD</u> BEARING _			DATE CON	IPLETED _	<u>8/9/1</u>	11 DRILLER <u>R&D Drilling Pt</u>	ty Ltd
DEPTH (m)	R.L. (m)	sing Sh Boring Re Drilling	RQD ()%	APLE	MATERIAL DESCRIPTION	НОГОСУ	C ATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	APHIC LOG	ADDITIONAL DATA AND	APLES
20	-13.98	S¥⊡	REC %	SAM		Ē	NB NE	⋢⋟ェ≥∟⋝⋴ ⊣↓↓↓↓	202000	GR	TEST RESULTS	SAN
- - - -					Clayey SAND (ALLUVIAL) (Cont'd)						10 14 16	
- - - 21				G							N=30	SPT
-												
-												
- 												
							(SC)					
 - -								· · · · · · · · · · · ·				
-23												
				н							7,8,12 N=20	SPT
-24								· · · · · · · · · · · ·				
	-18.78					-						
·25					Mottled grey to yellow brown, moist, very stiff.							
					Mainly high to medium plasticity.							
-26												
-				J			(CI-				8,11,16	SPT
- 27							CH)				N=27	
-												
- 28											6.9.13	0.5-7
				ĸ							N=22	591
	-22.68				Silty SAND (ALLUVIAL)	-					+	
- 29					Fale brown, moist, medium dense.							
-							(SM)				0.40.40	
30	-23.98			L							9,12,16 N=28	SPT
F	REMARK	s									_ LOGGED BY BW//MS	

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PROJECT

ENGINEERING BOREHOLE LOG

BOREHOLE No	<u>BH02</u>
SHEET	<u>4</u> of <u>6</u>
REFERENCE No	

BW / MS

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

BURDEKIN REALIGNMENT BRIDGE PRELIMINARY FOUNDATION INVESTIGATION - CONCEPT / PLANNING STAGE

LOCATION	N <u>Near</u>	Pier 4 (DC	H <u>104805</u>					CC	DORDINATES <u>541114.5 E; 7828000</u> .	. <u>0 N</u>
PROJECT	No <u>FG5</u>	945		SURFACE R.L. <u>6.02m</u> PLUNGE			DATE S	STARTED	<u>7/9/1</u>	1 GRID DATUM _PMBH	
JOB No	<u> 5/10I</u>	_/951		HEIGHT DATUM <u>AHD</u> BEARING			DATE COM		<u>8/9/1</u>	1 DRILLER R&D Drilling	Pty Ltd
(E)	8 CASING WASH BORING CORE DRILLING	RQD ()% CORE REC %	SAMPLE	MATERIAL DESCRIPTION	гітногосу	USC WEATHERING	INTACT STRENGTH 描号ェミュラロ	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES
30 -23.	88	KEC 70	M	Silty SAND (ALLUVIAL) (Cont'd) Clayey SAND (ALLUVIAL) Pale grey to yellow brown, moist, very dense. Fine to coarse grained sand.		(SM)				14,24,29 N>50 14,23,30/140mm N>50	SPT SPT
	93		Ρ	HORNBLENDE DIORITE Intrusive, crystalline, fine to medium grained, basic igneous rock XW: Generally exhibits the engineering properties of dark brown to black, moist, hard sandy silt.		xw				10/10mm,HB,HB N>50	SPT
36 -29. 37 37 38 -37 39 -37 39 -38	98	(76) <u>100</u> (63) <u>100</u> (11)		Low plasticity; some mica. HW: Dark grey to black, fine to medium grained, massive, very low to low strength. Defects: - Joints @ 0-15° (1/m) - Joints @ 25-35° (3/m) - Joints @ 45-65° (1/m) Frequent irregular granodiorite zones. Defects are generally very close to medium spaced, planar, rough, open and weathered.		нw			+	 → HW granite band → HW granite band → HW granite band Is(50) = 0.02MPa Is(50) = 0.20MPa Is(50) = 0.21MPa Is(50) = 0.10MPa Is(50) = 0.10MPa 	
REMAF	RKS			1	I	1			1	LOGGED BY	<u> </u>

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Queensland
Jovernment

Near Pier 4 @ CH 104805

PROJECT LOCATION

REMARKS __

ENGINEERING BOREHOLE LOG

BOREHOLE No	<u>BH02</u>
SHEET	<u>5</u> of <u>6</u>
REFERENCE No	

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COORDINATES 541114.5 E; 7828000.0 N

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

BURDEKIN REALIGNMENT BRIDGE PRELIMINARY FOUNDATION INVESTIGATION - CONCEPT / PLANNING STAGE

PRC	JECT N	<u> </u>	<u>5945</u>		SURFACE R.L. <u>6.02m</u> PLUNGE			DATE STARTED	7/9/1	1 GRID DATUM _PMBH	
JOB	No	<u> 5/1</u>	0L/951		HEIGHT DATUM <u>AHD</u> BEARING .			DATE COMPLETED	8/9/1	1 DRILLER <u>R&D Drilling</u> F	<u>Pty Ltd</u>
(m) DEPTH (m)	R.L. (m)	CÁSING WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	ПТНОГОСУ	USC WEATHERING	INTACT DEFECT STRENGTH SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES
- - - - - - - - 41			<u>100</u> (52)		HORNBLENDE DIORITE HW: (Cont'd) Becoming low to medium strength with depth.					ls(50) = 0.13MPa ls(50) = 0.48MPa ls(50) = 0.20MPa	o x
							нw			DD = 2.541/m ³ ; WD = 2.621/m ³ ; MC = 3%; SOIL UCS=1665kPa Is(50) = 0.16MPa	x
-In 12/01/2012 08:06			<u>100</u> (27)							ls(50) = 0.23MPa ls(50) = 0.98MPa	x
gel CPT Tool gINt Add- 			87 (0) 29								
44	-37.95		(73)		SW: Dark grey to black, fine to medium	-			+		
ChrawingF					grained, massive, mainly very high strength to extremely high strength.					ls(50) = 8.65MPa	o
€ L 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-39.45		100 (84)		Defects: - Joints @ 35-45° (3/m) Defects are generally medium to widely spaced, planar, rough, open and clean.		sw			ls(50) = 9.84MPa	x
55945 BURDEKIN REALIGNN 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-00.40				GRANODIORITE Intrusive, crystalline, coarse grained, acid igneous rock MW: White and grey, slight discolouration, medium to coarse grained, massive, mainly very high strength to extremely high strength.	-	MVV			ls(50) = 9.33MPa ls(50) = 10.48MPa UCS=99.4MPa	o x
	-40.98				Defects: - Joints @ 55-65° (2/m)					ls(50) = 6.86MPa	0
					Defects are generally medium to widely Ispaced, planar, rough, open and iron Istained.					UCS=118MPa ls(50) = 5.96MPa	0
Hand Boren			100 (100)	_	SW: White and grey, medium to coarse grained, massive, very high strength. Defects: Generally rare.					ls(50) = 7.57MPa ls(50) = 6.34MPa	x o
The second secon							SW			ls(50) = 11.20MPa	x
DAR LIB 01A.G	-43 08									ls(50) = 5.83MPa ls(50) = 8.89MPa	o x

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PROJECT

REMARKS _

ENGINEERING BOREHOLE LOG

BOREHOLE No	<u>BH02</u>
SHEET	<u>6</u> of <u>6</u>
REFERENCE No	

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

BURDEKIN REALIGNMENT BRIDGE PRELIMINARY FOUNDATION INVESTIGATION - CONCEPT / PLANNING STAGE

LOC	CATION	<u>Ne</u>	<u>ar</u>	Pier 4	<u>@ C</u>	<u>H 104805</u>		_				СС	OORDINATES <u>541114.5 E; 7828000.0 N</u>
PRO	DJECT No	<u> </u>	<u>559</u>	945		SURFACE R.L. <u>6.02m</u> PLUNG	e			DATE S	TARTED	<u>7/9/1</u>	1 GRID DATUM _PMBH
JOE	3 No	_5/^	<u>10L</u>	<u>_/951</u>		HEIGHT DATUM <u>AHD</u> BEARING	³			DATE CON	IPLETED	<u>8/9/1</u>	1 DRILLER R&D Drilling Pty Ltd
DEPTH (m)	R.L. (m)	CASING WASH BORING		RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	ГІТНОГОСУ	00	WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS
				100		GRANODIORITE SW: (Cont'd)							Is(50) = 6.88MPa o
- 51 - - - - - -				(100)									is(50) = 6.93MPa o
-52 8													ls(50) = 12.49MPa x
													ls(50) = 6.19MPa o
													ls(50) = 9.26MPa x
													ls(50) = 7.33MPa o
									sw				
				100 (100)									ls(50) = 7.53MPa x
													ls(50) = 6.81MPa o ls(50) = 7.43MPa x
													ls(50) = 6.58MPa o
Z - Z - 56													ls(50) = 8.52MPa x
													ls(50) = 7.52MPa o ls(50) = 7.43MPa x
51	-50 94			100									
						Borehole terminated at 56.96m							
20 A_ENGINEERING DU													
29 30 30 30 30 30 30 30 30 30 30 40 40 40 40 40 40 40 40 40 40 40 40 40													

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Project Name	Burdekin River Bridge Realignment					
Project No	FG 5945	Date	08/09/11			
Borehole No	BH 2	TMR H No				
Location	Pier 2	Start Depth (m)	36.00			
Detail	Centre of River	Finish Depth (m)	56.96			
Chainage		Submitted By	BW			
Remarks						



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GEOT043/1



Project Name	Burdekin River Bridge Realignment				
Project No	FG 5945	Date	08/09/11		
Borehole No	BH 2	TMR H No			
Location	Pier 2	Start Depth (m)	36.00		
Detail	Centre of River	Finish Depth (m)	56.96		
Chainage		Submitted By	BW		
Remarks					



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GEOT043/1



Project Name	Burdekin Ri	ver Bridge Re	alignment		
Project No	FG 5945			Date	08/09/11
Borehole No	BH 2			TMR H No	
Location	Pier 2			Start Depth (m)	36.00
Detail	Centre of Riv	er		Finish Depth (m)	56.96
Chainage				Submitted By	BW
Remarks					
0 100) 200	300	400	500 600	mm
		SCALE 1:5			

GEOT043/1