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REMARKS Kgwu - Wundaru Granodiorite;

LOCATION Peak Downs Hwy Overpass Pier 1; CH: 5595m;

Mackay Ring Road Geotechnical Investigation - Stage 1

PROJECT

### ENGINEERING **BOREHOLE LOG**

BOREHOLE No	BH131
SHEET	<u>1</u> of <u>4</u>
REFERENCE No	12077

LOGGED BY

MS

COORDINATES 720962.7 E; 7657951.4 N

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014

PRC	JECT N	o <u>FG</u> 6	<u>184</u>			SURFACE R.L. <u>12.48m</u> PLUNGE _			DATE S	TARTED <u>3/10/14</u>	4 GRID DATUM <u>_GDA 94 /MG</u> A	<u>A Zone 5</u>
JOB	No					HEIGHT DATUM <u>AHD</u> BEARING _			DATE CON	IPLETED <u>4/10/1</u> 4	4 DRILLER <u>Saxon Drilling</u>	<u> </u>
o DEPTH (m)	R.L. (m) 12.48	AÚGER CASING WASH BORING	) (	RQD )% CORE EC %	SAMPLE	MATERIAL DESCRIPTION	ГІТНОГОСУ	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm) UD UD UD UD UD UD UD UD UD UD UD UD UD	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
0.60	11.88					Sandy GRAVEL (FILL) Pale brown, dry, dense. Fine to medium gravel.		(GP)				-
- - - - 1 - - - -					А	Silty Sandy CLAY (ALLUVIUM) Brown-orange, moist, stiff to very stiff. Medium to mainly high plasticity.					5,9,11 N=20	SPT
- 2					В	2.00m: Becoming Sandy CLAY. Medium plasticity.		(CI- CH)			3,6,7 N=13	SPT
					С	3.00m: Becoming Silty CLAY. High plasticity.					3,7,11 N=18	SPT
-4.20 5.00 	8.28	-			D	Clayey SAND (ALLUVIUM) Brown-orange, moist, medium dense. Fine to medium grained.		(SC)			5,8,16 N=24	SPT
- <u>5.00</u> 	7.48	-			E	Sandy CLAY (ALLUVIUM) Brown-orange, moist, stiff. Medium to high plasticity.					3,4,6 N=10	SPT
6					F			(CI- CH)			2,4,9 N=13	SPT
- <u>6.90</u> - 7 - -	5.58				G	Silty CLAY (ALLUVIUM) Grey, moist, mainly stiff to very stiff. High plasticity.					5,8,12 N=20	SPT
- 8					Н			(CH)			4,6,7 N=13	SPT
- 9					J						3,4,7 N=11	SPT
- - 10									· · · · · · · · ·			

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## ENGINEERING BOREHOLE LOG

BOREHOLE No	BH131
SHEET	<u>2</u> of <u>4</u>
REFERENCE No	12077

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014

PROJECT	Mackay Ring Road	Geotechnical Investig	ation - Stage	1	 						
LOCATION	<u>Peak Downs Hwy C</u>	verpass Pier 1; CH: 5	5 <u>595m;</u>		 		COOF	RDINATES	720962	2.7 E; 7657951.4	<u>1 N</u>
PROJECT No	<u> </u>	SURFACE R.L.	<u>12.48m</u>	PLUNGE	 DATE S	TARTED	3/10/14	GRID	DATUM	GDA 94 /MGA	Zone 55
JOB No		HEIGHT DATUM	_AHD	BEARING	 DATE COM	IPLETED	4/10/14	C	RILLER	Saxon Drilling	
R.L.	RQD				INTACT	DEFECT					

1		R.L. (m) 2.48		UNG	RQD ( )%		MATERIAL		NG	INTACT STRENGTH	DEFECT SPACING (mm)	OG	ADDITIONAL DATA	
E E			жÀ	1 BOR		LE	DESCRIPTION	)LOG	THERING			HICL	AND	S
-	5 10	2 / 8		WASH	CORE REC %	SAMPLE		<b>LITHOLOGY</b>	USC	TH TELE	00 ₩>0≥3>₩	GRAPHIC LOG	TEST RESULTS	SAMPLES TESTS
-		2.40				к	Silty CLAY (ALLUVIUM) (Cont'd) Colour change to pale grey-brown.						3,4,6 N=10	SPT - - -
	11					L	11.00m: Trace fine grained sand.						4,6,9 N=15	SPT -
	12					М							4,6,8 N=14	SPT
15 10:51						N			(CH)				5,9,12 N=21	SPT
<	14					Р	14.00m: Trace fine grained sand.						4,4,8 N=12	SPT -
rawingFile>> Datgel CPT	15	-3.12				Q							4,6.7 N=13	SPT
<u>a</u> F	16					R	Clayey SAND (ALLUVIUM?) Brown-grey mottled orange, moist, dense. Fine to coarse grained.		(SC)				10,17,22 N=39	SPT -
/ LITHOLOGY FG6184 -	17	-5.02	-			S							5,13,21 N=34	SPT
TMR JAN 15, GLB L09 A ENGINEERING BOREHOLE LOG W LITHOLOGY	18					т	Silty Sandy CLAY (RESIDUAL) Brown-orange mottled grey, moist, very stiff. Medium plasticity.						13,13,12 N=25	SPT
VAN 15.GLB LOG A ENGI	19					U			(CI)				7,11,14 N=25	SPT -
TMF					14/2000									
	RE	MARK	<u>s r</u>	<u>ywu</u>	- vvunda		ranodiorite;						LOGGED BY MS	
			_										- L	

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PROJECT

## **ENGINEERING BOREHOLE LOG**

BOREHOLE No	BH131
SHEET	<u>3</u> of <u>4</u>
REFERENCE No	12077

MS

COORDINATES 720962.7 E; 7657951.4 N

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014

Mackay Ring Road Geotechnical Investigation - Stage 1

LOCATION Peak Downs Hwy Overpass Pier 1; CH: 5595m;

PRO	JECT N	o <u>FG6</u>	<u>184</u>		SURFACE R.L. <u>12.48m</u> PLUNGE _			DATE S	TARTED 3	10/	14 GRID DATUM <u>GDA 94 /MG/</u>	A Zone 55
JOB	No				HEIGHT DATUM <u>AHD</u> BEARING _			DATE COM	IPLETED 4	<u>10/</u>	14 DRILLER Saxon Drilling	<u></u>
DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING	ol.	SAMPLE	MATERIAL DESCRIPTION	ГІТНОГОСУ	SC /EATHERING	INTACT STRENGTH	RENGTH SPACING 0 (mm) 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
20	-7.52	4050	S REC %	S	Silty Sandy CLAY (RESIDUAL)		⊃ ≤			U		- ∾
-				V	(Cont'd)		(CI)				6,10,14 N=24	SPT -
- 21 - - - - 21.80	-9.32			W							7,9,12 N=21	SPT
-22		1			Sandy CLAY (RESIDUAL)							
-				x	Brown-orange and grey, moist, very stiff. Low plasticity.						10,10,10 N=20	SPT
-23					23.00m: Colour change to grey.		(CL)				5,10,11	-
				Y							N=21	SPT -
23.90	-11.42	-										-
24				Z	Clayey SAND (RESIDUAL) Pale grey, moist, medium dense to very dense. Fine to coarse grained sand.						8,12,12 N=24	SPT -
					Trace fine gravel.		(SC)					-
25.50	-13.02		100	AA	25.00m: Colour change to orange-brown.						9,14,30/80	SPT -
			(0)		GRANODIORITE (Kgwu) HW: Pale brown, grey and white, medium	+	SW			<u> </u>	strength.	-
26			100		to coarse grained, massive, very low strength.	+	HW					-
			(0)	$\mathbf{N}$	Some XW zones with EL strength.	+	xw				26.10m-26.55m: XW zone, EL	-
-			0 (0)	$\bowtie$			7.00				strength.	-
-			88			+	НW					-
5 27			(0) 0	$\mathbf{X}$		+						-
			(0)	P		+	xw	· · · · · · ·			26.90m-27.70m: XW zone, EL strength.	
			73 (0)			<u>-</u>						
			(0)			+					⊔ ls(50) = 0.72MPa	D (27.80m)
-28			100			+	нw					
	-16.02		(50)			+						
28.50	- 10.02		100		GRANODIORITE (Kgwu) SW: White, grey and orange, medium to coarse grained, massive, very high to extremely high strength.	+	SW				ls(50) = 5.54MPa ls(50) = 10.53MPa	D (28.75m) A (28.85m)
-29.75	-17.27		(,		Defects: - Js; 10°-20° (5/m); Pl/Ro, OP, Fe St; - Js; 45° (1/m); Pl/Ro, OP, Fe St;	+   +   +	SVV				UCS=226MPa; ls(50) = 11.06MPa ls(50) = 9.39MPa	D (29.52m) A (29.58m)-
- <u>29.75</u> - - - - 30	-11.21	1			MICRODIORITE (Kgwu) SW:	+	SW				10(00) - 0.001411 a	(29.58m)- - -
		e Kaw	u - Wund	aru (	Granodiorite;		L			1	LOGGED BY	

REMARKS Kgwu - Wundaru Granodiorite;

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# ENGINEERING BOREHOLE LOG

BOREHOLE No	BH131
SHEET	<u>4</u> of <u>4</u>
REFERENCE No	12077

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014

PROJECT	Mackay Ring Road G	eotechnical Investig	<u>ation - Stage</u>	1	 			
LOCATION	Peak Downs Hwy Ov	erpass Pier 1; CH: 5	<u>595m;</u>		 	COORDIN	ATES 720962	2.7 E; 7657951.4 N
PROJECT No		SURFACE R.L.	<u>12.48m</u>	PLUNGE	 DATE STARTED	<u>3/10/14</u>	GRID DATUM	GDA 94 /MGA Zone 55
JOB No		HEIGHT DATUM	AHD	BEARING	 DATE COMPLETED	4/10/14	DRILLER	Saxon Drilling

BEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD ( )% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	+ ПТНОГОВУ	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
			100 (80)		MICRODIORITE (Kgwu) SW: (Cont'd) Dark grey , fine to medium grained, massive, high strength. Defects: - Js; 10°-20° (1/m); PI/Ro, OP, Fe St; - Js; 45° (1/m); PI/Ro, OP, Fe St; - Js; 60°-65° (1/m); PI/Ro, OP, Fe St;		-				ls(50) = 9.82MPa ls(50) = 8.77MPa	A (30.78m) D (30.82m)
			100 (73)				SW				Is(50) = 10.00MPa Is(50) = 8.65MPa	A (32.60m) D (32.64m)
TMR.JM.15.GLB.Log.A_ENGINEERING BOREHOLE LOG W LITHOLOGY FG6164 - BOREHOLES.GFJ. <					Borehole terminated at 33.64m							
	REMARK	<u>s Kgwu</u>	- Wunda	aru G	iranodiorite;						LOGGED BY	

#### CORE PHOTO LOG

DEPARTMENT OF TRANSPORT & MAIN ROADS Geotechnical Branch 35 Butterfield Street, HERSTON Qld 4006 Phone 07 3066 3336



Department of Transport and Main Roads

Project Name	Mackay – Ring Road		
Project No	FG6184	Date	04/10/14
Borehole No	BH 131	TMR H No	12077
Location	Peak Downs Hwy Overpass	Start Depth (m)	25.5
Detail	Pier 1	Finish Depth (m)	33.64
Chainage	5595m	Submitted By	J. Lopez
Remarks			
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