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**Queensland
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**GEOTECHNICAL
BOREHOLE LOG**

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

BOREHOLE No **BH271**

Sheet 1 of 4

REFERENCE No **H12423**

PROJECT	Mackay Ring Road		
LOCATION	Calrossie Rd	COORDINATES 720903.1 E; 765774659.0 N	
PROJECT No	FG6184	SURFACE RL 11.82m	PLUNGE 90°
			DATE STARTED 28/09/2015
			GRID DATUM GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM A.H.D.	BEARING °
			DATE COMPLETED 30/09/2015
			DRILLER Saxon Drilling

DEPTH (m)	R.L. (m)	AUGER CASING WASHBORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS	
													EH
1	10.52				A	Sandy CLAY (Fill) Brown, dry, stiff to very stiff. Fine to medium grained sand., medium plasticity.	(CI)						
2	9.72				B	Silty Clayey SAND (Alluvium) Brown mottled white, dry, medium dense. Fine to medium grained sand. 2.00m: becomes orange brown. Fine grained sand.	(SC)				5, 7, 11 N=18	SPT	
3	8.82				C	CLAY trace sand (Alluvium) Brown mottled orange, moist, stiff. Fine grained sand, medium plasticity.	(CI)				7, 5, 8 N=13	SPT	
4	7.42				D	Clayey SAND (Alluvium) Brown mottled orange brown, moist, medium dense. Fine to medium grained sand.	(SC)				3, 6, 9 N=15	SPT	
5					E	Silty SAND trace clay and gravel (Alluvium) Orange brown, moist to wet, medium dense. Fine to coarse grained sand, fine grained gravel. 5.00m: becomes wet	(SM)				2, 4, 8 N=12	SPT	
6					F	6.00m: becomes medium to coarse grained sand, trace medium to coarse grained gravel, angular to subrounded grains.					5, 7, 9 N=16	SPT	
7	4.72				G	7.00m: gravel content increasing Clayey SAND (Alluvium) Orange brown, moist, loose to medium dense. Fine grained sand. 7.10 to 7.30m: Clay: Brown, moist, soft. Medium to high plasticity.	(SC)				5, 8, 8 N=16	SPT	
8	3.52				H	8.00m: Becoming loose. Fine to medium grained sand.					4, 1, 9 N=10	SPT	
9					I	Silty CLAY trace sand (Alluvium) Dark grey brown, moist, firm to stiff. Fine grained sand, medium plasticity. 9.20m: sand content increasing.	(CI)				6, 2, 4 N=6	SPT	
	1.82										3, 5, 8 N=13	SPT	

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REMARKS: Kgwu = Wundaru Granodiorite

LOGGED BY	REVIEWED BY
C.Boyes	S. Foley



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BOREHOLE No **BH271**

Sheet 2 of 4

REFERENCE No **H12423**

PROJECT	Mackay Ring Road		
LOCATION	Calrossie Rd	COORDINATES 720903.1 E; 765774659.0 N	
PROJECT No	FG6184	SURFACE RL 11.82m	PLUNGE 90°
			DATE STARTED 28/09/2015
			GRID DATUM GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM A.H.D.	BEARING °
			DATE COMPLETED 30/09/2015
			DRILLER Saxon Drilling

DEPTH (m)	R.L. (m)	FAUGER CASING WASHBORING CORE DRILLING	RQD (%) CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS		
												EH	VH
1.62				J	Silty CLAY trace sand (Alluvium) (Cont'd)	(CI)					5, 5, 8 N=13	SPT	
11				K	Silty Sandy CLAY (Alluvium) Grey, moist, very stiff. Fine grained sand, low plasticity. 11.00m: becomes pale grey mottled brown. Clay content increasing.	(CL)					6, 8, 10 N=18	SPT	
-0.18				L	Clayey SAND (Alluvium) Grey, moist, medium dense. fine to coarse grained sand, medium plasticity. 12.00m: becomes fine to medium grained sand.	(SC)					5, 4, 10 N=14	SPT	
13				M	13.00m: becomes medium to coarse grained sand.	(SC)					9, 10, 11 N=21	SPT	
-2.38				N	Sandy CLAY (Alluvium) Pale grey and orange brown, moist, very stiff. Fine to coarse grained sand, medium to high plasticity.	(CI)					8, 12, 13 N=25	SPT	
15				O	15.00m: becomes hard	(CI)					10, 18, 21 N=39	SPT	
-4.18				P	Clayey SAND (Alluvium) Pale grey and orange brown, moist, medium dense. Fine grained sand.	(SC)					6, 6, 8 N=14	SPT	
17				Q	Silty SAND (Alluvium) Pale grey, moist, medium dense. Fine to medium grained.	(SM)				17.00m-17.45m: No sample recovered	6, 9, 12 N=21	SPT	
18				R		(SM)					8, 11, 14 N=25	SPT	
-6.88				S	Silty CLAY trace sand (Alluvium) Pale grey and orange brown, moist, very stiff. Fine to medium grained sand, low plasticity.	(CL)					11, 12, 10 N=22	SPT	
-8.18													

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REMARKS: Kgwu = Wundaru Granodiorite

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BOREHOLE No **BH271**

Sheet 3 of 4

REFERENCE No **H12423**

PROJECT Mackay Ring Road
 LOCATION Calrossie Rd COORDINATES 720903.1 E; 765774659.0 N
 PROJECT No FG6184 SURFACE RL 11.82m PLUNGE 90° DATE STARTED 28/09/2015 GRID DATUM GDA 94 / MGA Z55
 JOB No 242/10G/906 HEIGHT DATUM A.H.D. BEARING ° DATE COMPLETED 30/09/2015 DRILLER Saxon Drilling

DEPTH (m)	R.L. (m)	FAUGER CASING WASHBORING CONE DRILLING	RQD (%) CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS		
												EH	VH
21				T	Silty CLAY trace sand (Alluvium) (Cont'd)		(CL)				9, 12, 13 N=25	SPT	
22				U			(CL)				11, 13, 14 N=27	SPT	
	-10.48			V	Silty CLAY (Residual) Pale grey, moist, very stiff. Low plasticity.		(CL)				9, 11, 13 N=24	SPT	
23				W	MICRODIORITE (Kgwu) XW: Recovered as brown and pale grey, moist, hard, silty clay trace sand and gravel. Fine grained sand, low plasticity.		XW				30, 30/115mm	SPT	
24				X			XW				13, 22, 30 N=52	SPT	
25				Y	MICRODIORITE (Kgwu) HW: Grey brown, fine grained, massive, very low strength.		HW				16, 30 hb	SPT	
26				Z			HW				30/140mm	SPT	
27				Z1	GRANODIORITE (Kgwu) HW: Recovered as grey and dark grey, dry, very dense, silty sand. Fine to medium grained sand.		HW				30/75mm	SPT	
28				Z2			HW				30/10mm hb	SPT	
29				Z3			HW				30/20mm hb	SPT	
	-17.48		(0)	(0)	MICRODIORITE (Kgwu) MW: Brown and grey, fine grained, massive, low to medium strength.		MW					D (29.55m) I (29.85m)	
	-18.18						MW						

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REMARKS: Kgwu = Wundaru Granodiorite

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BOREHOLE No **BH271**

Sheet 4 of 4

REFERENCE No **H12423**

PROJECT	Mackay Ring Road								
LOCATION	Calrossie Rd			COORDINATES 720903.1 E; 765774659.0 N					
PROJECT No	FG6184	SURFACE RL	11.82m	PLUNGE	90°	DATE STARTED	28/09/2015	GRID DATUM	GDA 94 / MGA 255
JOB No	242/10G/906	HEIGHT DATUM	A.H.D.	BEARING	°	DATE COMPLETED	30/09/2015	DRILLER	Saxon Drilling

DEPTH (m)	R.L. (m)	AUGER CASING WASHBORING CORE DRILLING	RQD (%) CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS		
												EH	VH
31	-20.38		100 (0)		MICRODIORITE (Kgwu) MW: (Cont'd) Highly fractured zones throughout. Js: 5° to 15° (<15/m); Pl/Sm; OP; Cly Vr or Sinf; Js: 30° to 50° (<4/m); Pl/Sm; OP; Cly Vr;	MW		M	VC	30.21m-30.24m: HFZ, Cly 30.29m-30.46m: BZ 30.58m-30.60m: HFZ, Cly	Is(50)=1.00 MPa	A (30.22m)	
32			100 (93)		MICRODIORITE (Kgwu) SW: Dark grey, fine grained, massive, very high strength. Calcite veins throughout. Js: 5° to 15° (<3/m); Pl/Sm; CD; CA Vr or Cn; Js: 30° to 40° (<1/m); Pl/Sm; CD; Cn or CA Vr;	SW		H	VC	30.98m-31.02m: HFZ, Cly 31.13m-31.49m: HFZ, Cly FL; 31.49m-31.68m: GRANODIORITE HW: Grey, medium grained, porphyritic, high strength. 31.82m-31.90m: HFZ, Cly FL;	Is(50)=0.46 MPa Is(50)=0.39 MPa	A (30.90m) A (31.90m)	
33			100 (100)		GRANODIORITE (Kgwu) SW: Grey and dark grey, fine to medium grained matrix, very high to extremely high strength. With frequent subangular to angular dolerite xenoliths. Js: 20° to 30° (<2/m); Pl/Sm; OP; Cn;	SW		VH	M	34.75m: VN CA; 60°, Pl-Un/Sm, OP, <10mm 34.78m: VN CA; 60°, Pl-Un/Sm, CD, <20mm	Is(50)=7.10 MPa UCS=120.00 MPa E=62.6 GPa v= 0.112 Is(50)=16.00 MPa Is(50)=7.20 MPa	D (32.45m) (32.70m) D (33.43m) A (33.50m)	
34	-22.78		100 (100)								Is(50)=3.40 MPa	A (34.32m)	
35	-24.43		100								UCS=194.00 MPa	(35.30m)	
36											Is(50)=11.00 MPa Is(50)=10.00 MPa	D (36.12m) A (36.20m)	
Borehole completed at 36.25m													

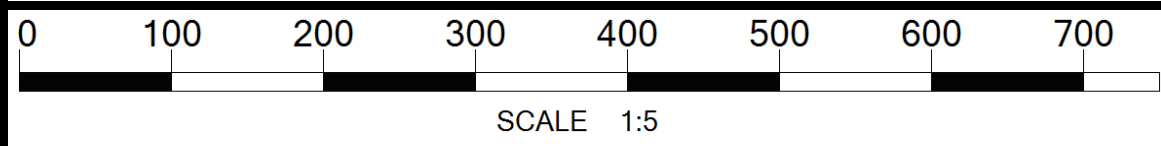
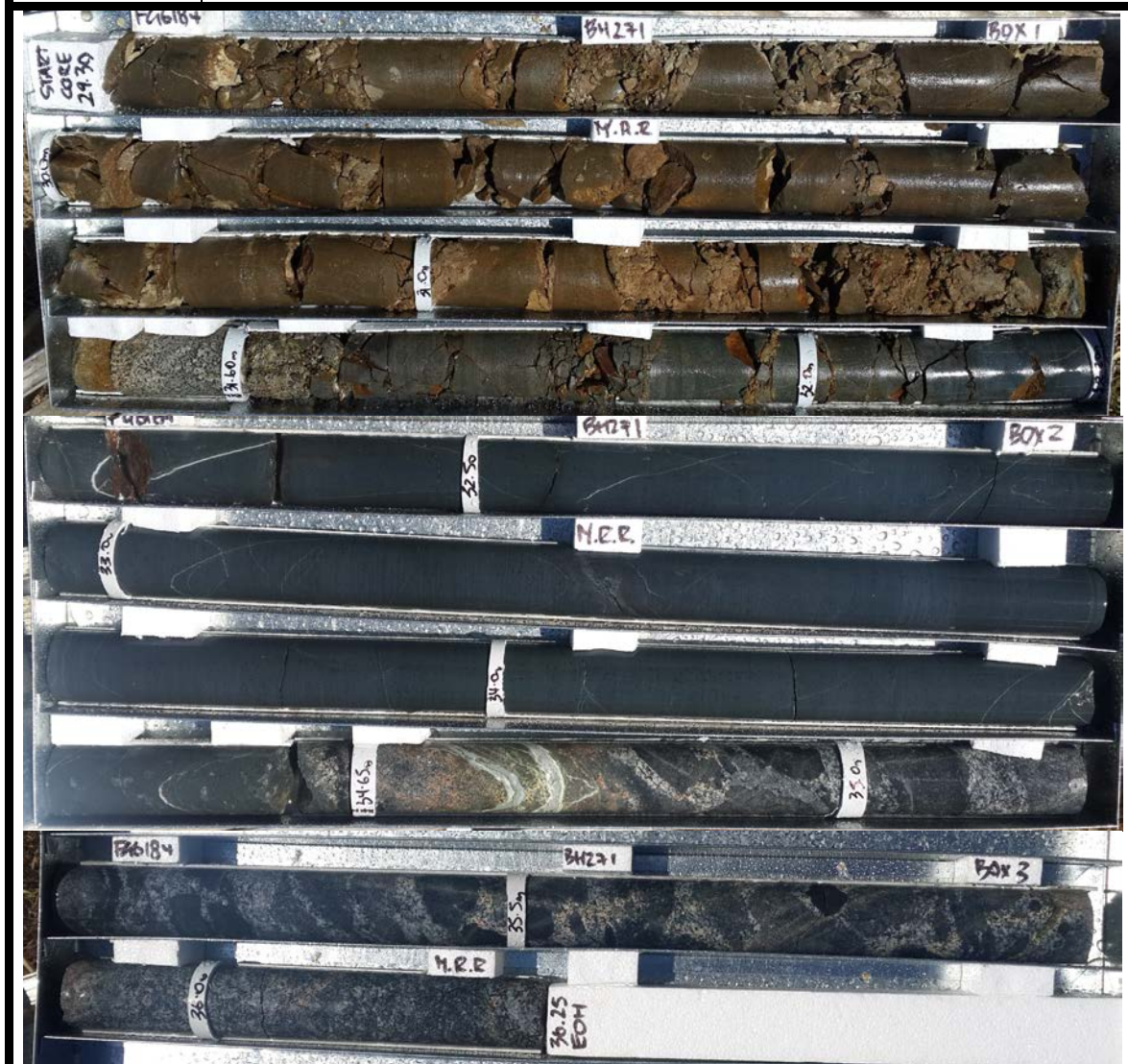
REMARKS: Kgwu = Wundaru Granodiorite	LOGGED BY	REVIEWED BY
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CORE PHOTO LOG

DEPARTMENT OF TRANSPORT AND MAIN ROADS
 Geotechnical Section
 35 Butterfield Street, Herston Qld 4006
 Phone 07 3066 3336



Project Name	Mackay – Ring Road (Stage 2)		
Project No.	FG6184	Date	30/09/15
Borehole No.	BH 271	TMR H No.	H12423
Location	Calrossie Rd Overpass	Start Depth (m)	29.30
Detail	Abutment B, RHS	Finish Depth (m)	36.25
Chainage		Submitted By	M.Ensor
Remarks			



CORE PHOTO LOG

DEPARTMENT OF TRANSPORT AND MAIN ROADS
 Geotechnical Section
 35 Butterfield Street, Herston Qld 4006
 Phone 07 3066 3336



Project Name	Mackay – Ring Road (Stage 2)		
Project No.	FG6184	Date	30/09/15
Borehole No.	BH 271	TMR H No.	H12423
Location	Calrossie Rd Overpass	Start Depth (m)	29.30
Detail	Abutment B, RHS	Finish Depth (m)	36.25
Chainage		Submitted By	M.Ensor
Remarks			

