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														FINAL 1	8/03/2016
	51	A R							GE	OTECHN	ICAL	Γ	BOREHOLE No	В	H254
			肋	Qu	e	ensland			BO	REHOLE	LOG		Sheet	1 of 5	
	13	R	P			ernment				GEOTECHNICAL TE			REFERENCE No	H	12263
	ACDAY A	T PIDELIS						SYN	MBOLS	REFER FORM F:GE	DT 017/8-2014				
PROJE	СТ	N	lack	kay Ring	; Ro	ad									
LOCAT	ION	P	one	er Rive	r Bi	ridge, Pier 17 (RHS)							COORDINATES 721372.9	E; 766059	91.8 N
PROJE	CT No	F	361	.84		SURFACE RL 4.71m	_	PLU	NGE 9	0°	DATE STAI	RTED 10/08/2015	GRID DATUM	GDA 94 / N	MGA Z55
JOB N	0	2	42/	10G/90	6	HEIGHT DATUM A.H.D.	_ E	EAF	RING _		DATE COMPL	ETED 12/08/2015	DRILLER	axon Drill	ing
DEPTH (m)	R.L. (m)	20	DRILLING	RQD ()% CORE	SAMPLE	MATERIAL DESCRIPTION		LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
		AUGE CASIN	CORE	REC %					WE	Ĕ <sub>Ĭ</sub> Ĕ <sub>ſ</sub> Ŀ <sub>ſ</sub> צ <sub>ſ</sub> Ŀ <sub>ſ</sub> Ĕ	ၿခိုင္ရန္ခန္က				
- - -	4.41					(Topsoil)		X		-	-				-
  1						Silty SAND (Alluvium) Pale brown, dry, loose. Fine to medium grained.			(SM)		- - - - - - - - -			3, 4, 3	SPT
  2	2.71	-				SAND (Alluvium)		° ×°×⊇			-  - - - - - -			N=7	
- - - - - - - - - - - - - - - - - - -						Pale brown, dry, medium dense Fine to coarse grained. Trace sil 3.00m: trace fine gravel, rounder	lt.		(SP)		- 			3, 7, 8 N=15	SPT 
-	1.26				С					-	-		y Silty CLAY:	2, 6, 8 N=14	SPT
4 4 4	0.01					Gravelly SAND (Alluvium) Pale brown, wet, medium dense Fine to coarse grained sand. Fin grained gravel, rounded. 4.10 to 4.20m: gravel lense, fine coarse, subrounde	ne		(SP)			dark grey, dry, stiff. I Flne grained sand.	Low plasticity.	5, 8, 6 N=14	SPT
5					E	Sandy GRAVEL (Alluvium) Dark grey and brown, wet, med dense. Fine to medium grained, subrounded to subangular. Fine coarse grained sand.	4				- - - - - - - - - - - - - - - - -			7, 17, 11 N=28	SPT
- 6 					F	6.25m: coarse gravel, subrounde	- - -		(GP)		- - - - - - - -			8, 13, 10 N=23	SPT
					G	<u>7.35 to 7.45m: S</u> AND lense	4 4 4				- - - - - - - -			8, 7, 8 N=15	SPT
- 8 					Η	8.00m: boulder/cobble	4 							24, 15, 12 N=27	SPT
9 - - - - -	-4.34					SAND (Alluvium) Pale orange-brown, wet, loose. Fine to medium grained. Trace s			(SP)					4, 4, 4 N=8	SPT
-	-5.29					Continued on next sheet	-								
R	FMAR	Kد۰	ĸ		- \/	/undaru Granodiorite							LOGGED BY	DEV/IF	WED BY
11					v V										.VVED DI

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TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

T.Goosey

S.Foley

	<b>Queensland</b> Government
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# **GEOTECHNICAL BOREHOLE LOG**

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

FINAL 18/03/2016

BH254

Sheet 2 of 5

BOREHOLE No

REFERENCE No

H12263

PROJE	ROJECT Mackay Ring Road													
LOCAT	ION	Pio	one	er Rive	er Bi	ridge, Pier 17 (RHS)					C	OORDINATES 721372.9	E; 766059	91.8 N
PROJE	CT No	FG	FG6184			SURFACE RL 4.71m	PLU	INGE	90°	DATE STAF	RTED 10/08/2015	GRID DATUM GDA 94 / MGA		/IGA Z55
JOB No	)	24	2/1	LOG/90	6	HEIGHT DATUM A.H.D.	BEAR	BEARING DATE			DATE COMPLETED 12/08/2015 DRILLER Saxon E		axon Drill	ing
DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING	CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	ГІТНОГОСУ	USCS WEATHERING	INTACT STRENGTH 표 <sub>.</sub> 독. <sub>독.</sub> 독, 국 쿄			ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
- - - - -	-6.29				J	Gravelly SAND (Alluvium) Pale brown, wet, medium dense. Fine to coarse grained sand. Fine to medium grained gravel. Trace silt.		(SP)					9, 10, 10 N=20	SPT
- 11 · 	-6.99	-			K	SAND (Alluvium) Pale brown, wet, medium dense. Fine to coarse grained sand. Trace fine to medium gravel, rounded. Trace silt.		(SP)					8, 11, 14 N=25	SPT
- 12 - 12 	-7.39	-			-	Clayey SAND (Alluvium) Orange-brown, wet, medium dense. Fine to coarse grained. High plasticity clay.		(SC) (CH)					8, 12, 17 N=29	SPT
- - - - - - -	-8.29	-			М	Orange-brown, wet, very stiff. High plasticity. Sandy CLAY (Residual) Pale brown-grey, wet, hard.							20, 20, 30 N=50	SPT
- - - - - -						High plasticity. Granite texture/ fabric evident.							19, 28, 30 N=58	SPT
- - - - - - - - - - - - -					0	15.00m: becomes pale green-grey mottled black and white, medium plasticity		(СН)					29, 30/110	SPT
- 16 - 16 					Р								25, 24, 29 N=53	SPT
- 17     	<u>-12.49</u>	-				MICRODIORITE (Kgwu) MW: Dark grey, fine grained, medium to high strength. Recovered as GRAVEL: dark grey,		нw					26, 30/100	SPT
- 18 - 18 	<u>-13.49</u>	-			R	wet, very dense. Fine to coarse grained. GRANODIORITE (Kgwu) XW: Recovered as Clayey SAND: Pale green-grey, mottled black and							30/100	- SPT - - - - - -
- 19 					S	white, wet, very dense. FIne to coarse grained. Trace fine angular gravel.	+ + + + + + + + + + + +						30/130	
-	-15.29		Ш			Continued on next sheet	+	•		-				
RE	MAR	KS:	K	gwu =	= W	/undaru Granodiorite						LOGGED BY	REVIF	WED BY
			,	-							-	T.Goosey		Foley
						TMR G	EOTECH	HNICAL B	DREHOLE LOG - CREATED	VITH HOLEBASE SI				,

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										_		FINAL 1	8/03/2016
	* 312	àc.					GE	OTECHNIC	CAL		BOREHOLE No	В	H254
	了這				ensland		BC	REHOLE L	OG		Sheet	3 of 5	
	1 <u>S</u>		Go	Ve	ernment	SY		GEOTECHNICAL TERMS REFER FORM F:GEOT 0			REFERENCE No	H:	12263
PROJE	СТ	Mac	kay Rin	g Ro	ad								
LOCAT	ION	Pion	eer Riv	er B	ridge, Pier 17 (RHS)						COORDINATES 721372.9	E; 766059	91.8 N
PROJE	CT No	FG6	184		SURFACE RL 4.71m	PLU		90°	DATE STAR	TED 10/08/2015	GRID DATUM	6DA 94 / N	MGA Z55
JOB N	D	242/	/10G/90	J6	HEIGHT DATUM A.H.D.	BEA	RING_		DATE COMPLE	TED 12/08/2015	DRILLER S	axon Drill	ing
DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	гітногосү	USCS WEATHERING	INTACT STRENGTH 프루파르그루프 입었			ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
					GRANODIORITE (Kgwu) XW: (Cont'd)	+++++++++++++++++++++++++++++++++++++++	•					30/80 hb	SPI
21    22				U		+++++++++++++++++++++++++++++++++++++++	xw					30/100 hb	SPT
- - - - - - - - - - - - - - - - - - -	-18.39			V		+++++++++++++++++++++++++++++++++++++++	•					30/150 hb	SPT 
- - - - - - - - - - - - - - - - - - -	-19.39			X	2Baian		нw					30/100 hb	
- - - - - - - 25 - - - -				Y	GRANODIORITE (Kgwu) XW: Recovered as Clayey SAND: Pale green-grey mottled black and white, wet, very dense. Fine to coarse grained. Trace fine gravel, angular.		xw					30/130 hb 30/100 hb	
26 26 	<u>-21.84</u>		(28)	z	GRANODIORITE (Kgwu) MW: Pale red-grey, mottled black			H C		26.71m-27.75m: XW	seam	30/80 hb 0)=0.87 MPa	  A (26.55m)
- - 27 -	-22.52				and white, coarse grained, porphyritic, high strength.	++ ++	MW	нс		20.00.00 20.00.00.00		0)=0.93 MPa	D (27.00m)
- - - - - - 28 -	-22.99		100 (0) 100		Quartz Veins; 60°, 20mm thick. GRANODIORITE (Kgwu) HW: Pale red-grey, mottled black and white, coarse grained, porphyritic, very low to low	/ + + + + + + + + + + + + + + +	нw xw	LM EC-			Is(5	0)=0.22 MPa	A (27.44m)    
- - - - - - 29	<u>-23.79</u> -24.29		(0)	LOSS	strength. GRANODIORITE (Kgwu) XW: Recovered as Sandy GRAVEL: Pale red-grey mottled black and white, wet, very dense.		xw	EL- E VL C					
	-25.29				fine to coarse grained. ¢ORE LOSS GRANODIORITE (Kgwu) XW:		. xw					30/80 hb	
					Continued on next sheet					30.00m-30.10m: No recovered	sample		
R	EMAR	KS: I	Kgwu =	= W	/undaru Granodiorite						LOGGED BY		<b>WED BY</b> Foley

13 10 <td< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>FINAL 1</th><th>.8/03/2016</th></td<>											FINAL 1	.8/03/2016
		AC			(	GE	OTECHN	IICAL	ſ	BOREHOLE No	В	H254
Distance   Distance Hards, Plang Road   Distance Hards, Plang Road   Distance   Distance <thdistance< th="">   Distance   Distance<td></td><td></td><td></td><td></td><td>E</td><td>BO</td><td>REHOLE</td><td>LOG</td><td></td><td>Sheet</td><td>4 of 5</td><td></td></thdistance<>					E	BO	REHOLE	LOG		Sheet	4 of 5	
COUNT   Prometer fluere fluidge, Pier 17 (III.S)   COUNTRIE   POSITION	No.	🗶 Gov	ernment							REFERENCE No	H	12263
NUMETINA   Volume   Summer Set   Detrometrini 1008/2015   Connentia QUE 94 / MOA 255     VORE   242/106/000   PROFINITIAL ALLD   PROFINITIAL 2007/2015   Connentia QUE 94 / MOA 255     VIEND   2007 (DBM/DILL LECK)   PROFINITIAL 2007/2015   Connentia QUE 94 / MOA 255   PROFINITIAL 2007/2015   Connentia QUE 94 / MOA 255     VIEND   PROFINITIAL 2007/2015   Connentia QUE 94 / MOA 255   Connentia QUE 94 / MOA 255   PROFINITIAL 2007/2015   Connentia QUE 94 / MOA 255     VIEND   PROFINITIAL 2007/2015   Connentia QUE 94 / MOA 255   PROFINITIAL 2007/2015   Connentia QUE 94 / MOA 255     VIEND   PROFINITIAL 2007/2015   PROFINITIAL 2007/2015   PROFINITIAL 2007/2015   PROFINITIAL 2007/2015     VIEND   PROFINITIAL 2007/2017/2015   PROFINITIAL 2007/2017/2017/2017/2017/2017/2017/2017/	PROJECT	Mackay Ring R	Road									
DUN:   21/2106/26   INCUT MOUND AFLD   DUNING   MILLIO 1208/2015   DUNING   Second Drilling     8   100   1	LOCATION	Pioneer River	Bridge, Pier 17 (RHS)							COORDINATES 721372.9	E; 76605	91.8 N
B   No.   USE   NO.	PROJECT No	FG6184	SURFACE RL	4.71m	PLUN	IGE 9	0°	DATE STA	ARTED 10/08/2015	GRID DATUM	GDA 94 / I	MGA Z55
R 2 5 1   Mill GRANDOIORTE (kgwu)   Number of the second seco	JOB No	242/10G/906	HEIGHT DATUM	A.H.D.	BEARII	NG_		DATE COMPL	LETED 12/08/2015	DRILLER	Saxon Dril	ling
	DEPTH (m) DEMTH (m)	AUGER WASHBORING CORE DRILLING CORE DRILLING SAMPLE SAMPLE			лесе ГІТНОLOGY	USCS WEATHERING	STRENGTH	SPACING		AND		
1   1   CRANDOLORITE (Kgwu) MW: Pair ed ger ymottled black and wHise; coarse granet black, coarse granet black, and wHise; coarse granet				u)	+ +		-	-				SPT
100 1		100 <u>48ð</u> (50)	MW: Pale red-grey m and white, coarse gra porphyritic, high strer - Js; 5°-10° (8-9/m); P and Fe St; - Js; 25°-35° (2-3/m); J and Fe St; - Js; 60°-70° (1-2/m); F Fe St; 32.50 to 32.70m: HW low to medium streng GRANODIORITE (Kgw SW: Pale red-grey, mc and white, coarse gra porphyritic, very high - Js; 5°-10° (5/m); PI/F St, Cn; - Js; 25°-35° (1-2/m); P Cn, Fe St; - Js; 60°-75° (<1/m); P	ottled black ined, ngth. I/Ro, TI, Sinf PI/Ro, TI, Sinf PI/Ro, TI, Sinf, ' zone, HFZ; tth u) ottled black ined, strength. Ro, TI, some Fe PI-St/Ro, TI, PI/Ro, TI, Cn;	╺╴╾╶╾╶╾╶╾╶╾╶╾╶╾╵╸╵╸╴╾╶╾╵╾╵╾╵╼╵╼╵╾╵╾╵╾╵╾╵╾╵╾╵╾╵╾╵╾╵╾╵╾╵╾╵╾╵╾╵	HW	VH		Sinf	is( is) is containt icrodiorite is is is is is is is is is is is is is	50)=1.90 MPa 50)=7.90 MPa 50)=7.90 MPa 50)=2.90 MPa 50)=0.49 MPa 50)=0.49 MPa 50)=0.44 MPa 50)=0.44 MPa 50)=0.71 MPa 50)=0.71 MPa 50)=1.80 MPa 50)=1.80 MPa 50)=1.80 MPa 50)=1.80 MPa 50)=1.80 MPa	A (30.60m) D (30.70m) D (31.05m) A (31.95m) A (31.95m) D (33.00m) D (33.00m) D (33.08m) D (33.08m) D (33.18m) D (33.81m) D (34.47m) D (34.47m) D (35.64m) D (35.64m) D (35.64m) C (37.04m) C (37.04m)
T.Goosey S.Foley	- 39 35.29	(56)					VHEH			is is is	50)=1.20 MPa 50)=0.72 MPa 50)=5.50 MPa	D (37.75m) A (38.72m) D (38.80m) D (38.80m) D (39.65m) D (39.75m) D (39.75m)
		∧>: Kgwu = \	wunuaru Grahodior	пе								
				TMR GE	OTECHN	IICAL BO	REHOLE LOG - CREATED	WITH HOLEBASE SI		I.Goosey	5.	гојеу

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		ED)	Qu	le	ensland		BC	REHOLE	LOG		Sh	eet 5 of 5	
K	Y.	KT.	Go	ov€	ernment			GEOTECHNICAL TEF			REFERENCE No	н	12263
PROJECT		Mac	kay Rin	ig Ro	ad								
LOCATION		Pion	eer Riv	er B	ridge, Pier 17 (RHS)						COORDINATES 72137	2.9 E; 76605	91.8 N
PROJECT N	10	FG61	L84		SURFACE RL 4	l.71m	PLUNGE S	0°	DATE STAF	RTED 10/08/201	5 GRID DATU	м GDA 94 /	MGA Z55
JOB No		242/	10G/90	06	height datum A	A.H.D.	BEARING		DATE COMPLI	TED 12/08/201	5 DRILL	<sub>ER</sub> Saxon Dril	ling
			RQD								ADDITIONAL DATA		
	R.L. m)	CASING WASH BORING CORE DRILLING	CORE REC %	SAMPLE	MATERIAL DESCF	RIPTION	LITHOLOGY USCS WEATHERING	INTACT STRENGTH 표준구주			AND TEST RESULTS		SAMPLES TESTS
-	4				GRANODIORITE (Kgwu	)	++++		c				-
-					SW: (Cont'd)		++++	-	M			UCS=53.00 MPa	 (40.47m) —
-							++ + нw			40.78m-40.90m: H	W zone, Sinf		
41							+ sw + + mw	VH	c vc	41.10m-41.35m: A			
			100				+ sw	VH-EH	c	Microdiorite band grained, highly frac veins, high strengt	tured, quartz	. (52)	
36	5.94		100		Borehole completed	at 41.65m	-++	+	-			Is(50)=2.40 MPa	D (41.57m)– – –
42									-				
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	.7 (11)	r	ъvu	vv							T.Goosey		Foley
						TM	R GEOTECHNICAL B	DREHOLE LOG - CREATED W	ITH HOLEBASE SI		1.000309		

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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 (Stan	e 2)			
Project No.	FG6184	(olug	,	Date		12/08/15
Borehole No.	BH 254			TMR H No.		H12263
Location	Pioneer River B	sridae		Start Depth	(m)	26.55
Detail	Pier 17, RHS	- 0 -		Finish Dept	<u> </u>	38.55
Chainage				Submitted E		M.Ensor
Remarks				I		
	FG6184	most statutes and	The second second second second		M.R.R.	
tit Contraction		/Maria		10 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	The K.	THE REAL PROPERTY OF
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C. Patrice	FG6184				SH254	
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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



Droject Nome	Maakay Ding Bood (Stage 2)		
Project Name Project No.	Mackay – Ring Road (Stage 2) FG6184	Date	12/08/15
Borehole No.	BH 254	TMR H No.	H12263
Location	Pioneer River Bridge	Start Depth (m)	26.55
Detail			38.55
	Pier 17, RHS	Finish Depth (m)	M.Ensor
Chainage Remarks		Submitted By	WI.Ensor
		111.6 Pt	
36.45	AGGISA AGGISA AGGISA M.R.R M.R.R	6H254) BOX 4 BOX 4 BH25 BH25 SON	
0 100	200 300 40 SCALE 1:		700

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