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**ENGINEERING
BOREHOLE LOG**

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

BOREHOLE No BH117

SHEET 1 of 4

REFERENCE No 12063

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1
 LOCATION Peak Downs Hwy Overpass Pier 2; CH: 5609m; COORDINATES 720960.6 E; 7657965.7 N
 PROJECT No FG6184 SURFACE R.L. 12.87m PLUNGE DATE STARTED 1/10/14 GRID DATUM GDA 94 /MGA Zone 56
 JOB No HEIGHT DATUM AHD BEARING DATE COMPLETED 4/10/14 DRILLER Saxon Drilling

DEPTH (m)	R.L. (m)	AUGER 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
0	12.87					Silty CLAY (TOPSOIL) Brown, dry, stiff. High plasticity.	(CH)								
0.70	12.17				A	Silty CLAY (ALLUVIUM) Orange-brown mottled grey, moist, stiff. High plasticity. Trace fine grained sand.	(CH)						2.5,5 N=10		SPT
2	10.57				B	Sandy CLAY (ALLUVIUM) Orange-brown, moist, stiff to very stiff. High plasticity.	(CH)						3,4,5 N=9		SPT
3.30	9.87				C	Silty CLAY (ALLUVIUM) Brown and grey, moist, very stiff. High plasticity.	(CH)						5,7,10 N=17		SPT
4.30	8.57				D	Silty Clayey SAND (ALLUVIUM) Brown, moist, medium dense.	(SC)						6,8,8 N=16		SPT
5.90	6.97				F	SAND (ALLUVIUM) Brown, moist, medium dense. Fine to coarse grained.	(SW)						11,12,15 N=27		SPT
7.50	5.37				G	6.90m: Becoming gravelly at base, coarse grained sand and fine gravel.	(CH)						8,12,7 N=19		SPT
8					H	Silty CLAY (ALLUVIUM) Brown and grey, moist, stiff to very stiff. High plasticity. Trace medium, angular gravel.	(CH)						4,8,9 N=17		SPT
9					J								4,5,9 N=14		SPT

REMARKS Kgwu - Wandaru Granodiorite;
 # Sample failed along existing defect surface.

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ME



ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH117
SHEET 2 of 4
REFERENCE No 12063

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1
LOCATION Peak Downs Hwy Overpass Pier 2; CH: 5609m;
COORDINATES 720960.6 E; 7657965.7 N
PROJECT No FG6184 SURFACE R.L. 12.87m PLUNGE DATE STARTED 1/10/14 GRID DATUM GDA 94 /MGA Zone 55
JOB No HEIGHT DATUM AHD BEARING DATE COMPLETED 4/10/14 DRILLER Saxon Drilling

Table with columns: DEPTH (m), R.L. (m), AUGER 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. Includes soil descriptions like Silty CLAY (ALLUVIUM) and Silty SAND (ALLUVIUM) with associated SPT test results.

TMJR JAN 15.GLB Log_A_ENG ENGINEERING BOREHOLE LOG W LITHOLOGY FG6184 - BOREHOLES.GPJ <<DrawingFile>> Datget CPT Tool gInt Add-In 04/03/2015 10:50

REMARKS Kgwu - Wundaru Granodiorite;
Sample failed along existing defect surface.

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ENGINEERING BOREHOLE LOG

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BOREHOLE No BH117
SHEET 3 of 4
REFERENCE No 12063

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1
LOCATION Peak Downs Hwy Overpass Pier 2; CH: 5609m; COORDINATES 720960.6 E; 7657965.7 N
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JOB No HEIGHT DATUM AHD BEARING DATE COMPLETED 4/10/14 DRILLER Saxon Drilling

DEPTH (m)	R.L. (m)	AUGER WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	INTACT STRENGTH										DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS				
								USC	WEATHERING	EH	VH	H	M	J	VL	EL	EC					VC	W	WV	WV
20	-7.13				V	Silty CLAY (ALLUVIUM) (Cont'd)	(CH)																	6,10,12 N=22	SPT
20.70	-7.83				W	Sandy SILT (RESIDUAL) Pale grey, moist, very stiff. High plasticity. Fine grained sand.	(MH)																	5,8,10 N=18	SPT
21.50	-8.63				X	Silty SAND (RESIDUAL) Pale grey, moist, medium dense. Fine grained.	(SM)																	8,11,11 N=22	SPT
22.70	-9.83				Y	Sandy SILT (RESIDUAL) Pale grey, moist, stiff. High plasticity. Fine grained sand.	(MH)																	4,6,7 N=13	SPT
23.60	-10.73				Z	Silty SAND (RESIDUAL) Pale grey, moist, medium dense to dense. Fine to medium grained sand. Trace medium gravel.	(SM)																	8,14,13 N=27	SPT
25					AA																			5,16,20 N=36	SPT
26	-13.23				AB	26.00m: Becoming gravelly. MICRODIORITE (Kgwu) XW: Pale blue-grey, fine grained, extremely low strength.	XW																	14,29,30/130	SPT
27					AC																			10,15,21 N=36	SPT
28					AD	27.70m: Becoming HW, very low strength.	HW																	30/30	SPT
28.55	-15.68			(25)	GRANODIORITE (Kgwu) SW: Pale grey to grey, medium to coarse grained, massive, medium to high strength. Zones of MW rock up to 1m thick. Defects: - Js; 0°-30° (5/m); PI/Ro, TI-OP; - Js; 30°-60° (2/m); PI/Ro, TI-OP; Fine grained inclusions (xenoliths) throughout.	SW																	Is(50) = 1.23MPa D (28.90m)		
29																									
30																									

REMARKS Kgwu - Wundaru Granodiorite;
 # Sample failed along existing defect surface.

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ENGINEERING BOREHOLE LOG

BOREHOLE No BH117
 SHEET 4 of 4
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FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1
 LOCATION Peak Downs Hwy Overpass Pier 2; CH: 5609m; COORDINATES 720960.6 E; 7657965.7 N
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DEPTH (m)	R.L. (m)	AUGER 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	H	M	J	VL	EL	EC	VC	C	W	VW	WW	EW	1	2	3	4	5		6																				
30	-17.13		100	(52)		GRANODIORITE (Kgwu) SW: (Cont'd)	+	MW	+																	30.00m-30.20m: BZ;																								
31			100	(44)																																												Is(50) = 0.16MPa Is(50) = 0.08MPa; #	D (31.37m) A (31.42m)	
32			100	(21)																																												Is(50) = 2.13MPa; # Is(50) = 2.18MPa; #	D (31.80m) D (32.00m)	
33			100	(46)																																													32.05m-32.25m: BZ; HW zone;	
34																																																32.85m-33.10m: HW zone.		
34.60	-21.73		100																																													33.35m-33.50m: BZ.		
34.60																										Borehole terminated at 34.6m.																							Is(50) = 2.38MPa	A (34.58m)
35																																																		
36																																																		
37																																																		
38																																																		
39																																																		
40																																																		

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Sample failed along existing defect surface.

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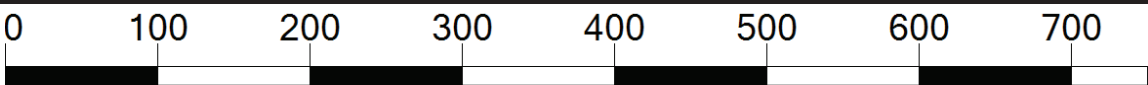
CORE PHOTO LOG

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 117	TMR H No	12063
Location	Peak Downs Highway Overpass	Start Depth (m)	28.55
Detail	Pier 2	Finish Depth (m)	34.6
Chainage	5609	Submitted By	M.Ensor
Remarks			



SCALE 1:5