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## ENGINEERING BOREHOLE LOG

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

BOREHOLE No	<u>BH136</u>
SHEET	<u>1</u> of <u>3</u>
REFERENCE No	<u>12081</u>

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1  
 LOCATION Fursden Creek Bridge Abutment A; CH: 9056m; COORDINATES 721468.0 E; 7661374.4 N  
 PROJECT No FG6184 SURFACE R.L. 7.28m PLUNGE \_\_\_\_\_ DATE STARTED 3/11/14 GRID DATUM GDA 94 /MGA Zone 55  
 JOB No \_\_\_\_\_ HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 4/11/14 DRILLER Saxon Drilling

DEPTH (m)	R.L. (m)	AUGER CASING 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			
0	7.28																		
0.30	6.98					<b>Clayey SILT (TOPSOIL)</b> Dark brown, dry, soft.	(ML)												
					A	<b>SAND (ALLUVIUM)</b> Brown, moist, loose. Fine grained sand. Trace silt.												2,3,4 N=7	SPT
					B		(SP)											3,4,5 N=9	SPT
					C	3.00m: Becoming loose to medium dense.												4,5,5 N=10	SPT
3.70	3.58				D	<b>SAND (ALLUVIUM)</b> Brown, moist, loose to medium dense. Fine to coarse grained sand. Trace fine gravel.												2,4,5 N=9	SPT
					E		(SW)											5,8,10 N=18	SPT
5.70	1.58				F	<b>Gravelly SAND (ALLUVIUM)</b> Brown, moist, medium dense. Fine to coarse grained sand. Fine to medium gravel.												6,6,6 N=12	SPT
					G		(SW)										6.50m: Water Loss - No volume recorded.	6,8,8 N=16	SPT
7.70	-0.42				H	<b>Sandy GRAVEL (ALLUVIUM)</b> Brown, moist, medium dense. Fine to medium, subrounded gravel. Fine to coarse grained sand.												5,11,14 N=25	SPT
					J	<b>Gravelly SAND (ALLUVIUM)</b> Brown, moist, medium dense. Fine to coarse grained sand. Fine to medium gravel.												5,7,8 N=15	SPT
8.90	-1.62						(SW)												
10.10	-2.72																		

TMJR JAN 15.GLB Log A - ENGINEERING BOREHOLE LOG W LITHOLOGY FG6184 - BOREHOLES.GPJ <<DrawingFile>> Datget CPT Tool gInt Add-In 04/03/2015 10:51

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



LOGGED BY  
**ME**

# ENGINEERING BOREHOLE LOG

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

BOREHOLE No   BH136    
SHEET   2   of   3    
REFERENCE No   12081  

PROJECT   Mackay Ring Road Geotechnical Investigation - Stage 1    
LOCATION   Fursden Creek Bridge Abutment A; CH: 9056m;   COORDINATES   721468.0 E; 7661374.4 N    
PROJECT No   FG6184   SURFACE R.L.   7.28m   PLUNGE            DATE STARTED   3/11/14   GRID DATUM   GDA 94 /MGA Zone 5    
JOB No            HEIGHT DATUM   AHD   BEARING            DATE COMPLETED   4/11/14   DRILLER   Saxon Drilling  

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING											DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS		
									EH	VH	H	M	J	VL	EL	EC	VC	W	VW					WW	EW
10	-2.72				K	<b>GRAVEL (ALLUVIUM)</b> Brown, wet, dense to very dense. Fine to medium gravel. Trace clay and sand. Occasional cobbles.	 (GP)																26,30/135	SPT	
11					L																			13,30/140	SPT
12					M																			15,17,14 N=31	SPT
13					N																			21,30/115	SPT
14					P																			24,30/145	SPT
14.60	-7.32					<b>GRANODIORITE (Kgwu)</b> HW: Grey, black and white, medium to coarse grained, very low strength.	 HW																23,30/110	SPT	
15					Q																			25,30/110	SPT
16					R																			19,30/85	SPT
17					S																			30/145	SPT
18					T																			30/145	SPT
19					U																			30/145	SPT
20																									

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

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# ENGINEERING BOREHOLE LOG

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

BOREHOLE No	<u>  BH136  </u>
SHEET	<u>  3  </u> of <u>  3  </u>
REFERENCE No	<u>  12081  </u>

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1  
 LOCATION Fursden Creek Bridge Abutment A; CH: 9056m; COORDINATES 721468.0 E; 7661374.4 N  
 PROJECT No FG6184 SURFACE R.L. 7.28m PLUNGE \_\_\_\_\_ DATE STARTED 3/11/14 GRID DATUM GDA 94 /MGA Zone 55  
 JOB No \_\_\_\_\_ HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 4/11/14 DRILLER Saxon Drilling

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD ( ) %	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING							DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS	
									EH	VH	I	M	J	L	VL					EL
20	-12.72				V	GRANODIORITE (Kgwu) HW: (Cont'd)												30/140	SPT	
21					W													28,30/60	SPT	
22					X													30/125	SPT	
23					Y													11,30/95	SPT	
23.25	-15.97					GRANODIORITE (Kgwu) SW: Grey and pink, medium to coarse grained, massive, mainly very high strength. Defects: - Js; 0°-30° (4/m); Pl/Ro, OP;														
24		(0) 100					MW												Is(50) = 6.59MPa Is(50) = 4.47MPa	D (23.48m) A (23.52m)
		(37) 100																		
		(0) 0																		
		(100) 100																		
		(100) 100																		
		(100) 100																		
		(100) 100																		
25																		Is(50) = 2.45MPa; # Is(50) = 6.13MPa UCS=160MPa	D (24.37m) A (24.63m)	
26																		Is(50) = 9.17MPa Is(50) = 11.13MPa	A (25.45m) D (25.50m)	
27		100 (78)																Is(50) = 5.78MPa Is(50) = 5.80MPa	D (26.53m) A (26.60m)	
27.75	-20.47		100			Borehole terminated at 27.75m .														
28																				
29																				
30																				

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

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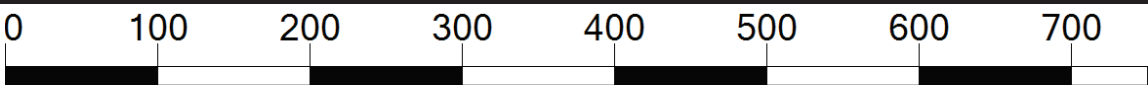
**CORE PHOTO LOG**

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	<b>Mackay – Ring Road</b>		
Project No	FG6184	Date	04/11/14
Borehole No	BH136	TMR H No	12081
Location	Fursden Creek Bridge	Start Depth (m)	23.25
Detail	Abutment A	Finish Depth (m)	27.75
Chainage	<b>9056</b>	Submitted By	M.Ensor
Remarks			



SCALE 1:5