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# ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND  
SYMBOLS REFER FORM F:GEOT 017/6-2010

BOREHOLE No   BH110    
SHEET   1   of   5    
REFERENCE No   11469  

PROJECT   Townsville Ring Road Section 4    
LOCATION   Kalynda Parade Overpass   COORDINATES   467771.7 E; 7866527.1 N    
PROJECT No   FG6020   SURFACE R.L.   14.21m   PLUNGE            DATE STARTED   15/4/13   GRID DATUM   GDA 94    
JOB No   268/10M/5   HEIGHT DATUM   AHD   BEARING            DATE COMPLETED   16/4/13   DRILLER   Cairns 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
									EH	VH	H	M	L	VL				
0	14.21					<b>Silty SAND (TOPSOIL)</b> Brown, moist, loose. Some tree roots.												
13.81					A	<b>Silty SAND with some Gravel</b> Light brown to brown, slightly moist, loose. Fine to medium grained sand. Fine to medium grained gravel; subrounded to subangular.											2,3,3 N=6	SPT
					B	Becoming medium dense. Weakly cemented in part.											7,10,15 N=25	SPT
			(0)			Becoming dense to very dense and with some clay.												
			27 (0)															
			100 (0)			Becoming iron stained.	(SM)											
			100 (0)															
			90 (0)															
	5.86		100 (0)			<b>Clayey SAND</b> Pale brown, slightly moist, very dense. Fine to medium grained sand.												
			100 (0)		C		(SC)										16,26,30 N>50	SPT
10																		

14/06/13

REMARKS   Standpipe piezometer installed.  

LOGGED BY  
VP

# ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND  
SYMBOLS REFER FORM F:GEOT 017/6-2010

BOREHOLE No   BH110    
SHEET   2   of   5    
REFERENCE No   11469  

PROJECT   Townsville Ring Road Section 4    
LOCATION   Kalynda Parade Overpass   COORDINATES   467771.7 E; 7866527.1 N    
PROJECT No   FG6020   SURFACE R.L.   14.21m   PLUNGE            DATE STARTED   15/4/13   GRID DATUM   GDA 94    
JOB No   268/10M/5   HEIGHT DATUM   AHD   BEARING            DATE COMPLETED   16/4/13   DRILLER   Cairns 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
									EH	VH	H	M	L	J				
10	4.21					<b>Clayey SAND (Cont'd)</b>	(SC)									10.5-10.8m: Very dense layer, N>50; No recovery	30/40 SPT	
11	3.41					<b>Silty SAND</b> Brown, moist, very dense. Fine grained sand.												
12					E	Fine to medium grained sand.											15,30/110 N>50	SPT
14					F		(SM)										13,28,30/110 N>50	SPT
15					G	Iron stained in parts.											9,17,26 N=43	SPT
17					H												9,17,28 N=45	SPT
18					J	<b>Clayey SAND</b> Pale brown, moist, dense. Fine to medium grained sand. Occasional coarse grained sand layers sizing up to 20mm.	(SC)										8,16,25 N=41	SPT
19					K												9,15,21 N=36	SPT
20	-3.29																	

REMARKS   Standpipe piezometer installed.  

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# ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND  
SYMBOLS REFER FORM F:GEOT 017/6-2010

BOREHOLE No   BH110    
SHEET   3   of   5    
REFERENCE No   11469  

PROJECT   Townsville Ring Road Section 4    
LOCATION   Kalynda Parade Overpass   COORDINATES   467771.7 E; 7866527.1 N    
PROJECT No   FG6020   SURFACE R.L.   14.21m   PLUNGE            DATE STARTED   15/4/13   GRID DATUM   GDA 94    
JOB No   268/10M/5   HEIGHT DATUM   AHD   BEARING            DATE COMPLETED   16/4/13   DRILLER   Cairns 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
									EH	VH	H	M	L	VL				
20	-5.79					<b>Clayey SAND (Cont'd)</b> 20.3-20.8m: Sandy Clay layer. Pale brown, moist, hard.  Becoming medium to coarse grained sand.	(SC)									7,15,16 N=31	SPT	
22	-7.79					<b>Sandy CLAY</b> Pale brown, slightly moist, hard. Fine grained sand.	(CL)									13,18,28 N=46	SPT	
24						<b>Silty SAND</b> Brown, moist, very dense. Fine to medium grained sand.	(SM)									14,25,30/110 N>50	SPT	
27	-12.29					<b>Sandy CLAY</b> Pale brown, moist, hard. Fine grained sand. Occasional sub rounded, medium sized gravel. Low plasticity.	(SC)									14,21,30/115 N>50	SPT	
28	-13.79															13,22,33 N>50	SPT	

REMARKS   Standpipe piezometer installed.  

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# ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND  
SYMBOLS REFER FORM F:GEOT 017/6-2010

BOREHOLE No	<b>BH110</b>
SHEET	4 of 5
REFERENCE No	<b>11469</b>

PROJECT Townsville Ring Road Section 4  
 LOCATION Kalynda Parade Overpass COORDINATES 467771.7 E; 7866527.1 N  
 PROJECT No FG6020 SURFACE R.L. 14.21m PLUNGE \_\_\_\_\_ DATE STARTED 15/4/13 GRID DATUM GDA 94  
 JOB No 268/10M/5 HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 16/4/13 DRILLER Cairns 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
									EH	VH	H	M	L	VL				
30	-15.79				S	<b>Sandy CLAY (Cont'd)</b>											13,21,29 N=50	SPT
31					T													
32						Silty SAND layer. Fine to medium grained, approximately 300mm thick.	(SC)											
33					U												12,21,26 N=47	SPT
34	-20.09				V	<b>Clayey SAND</b> Pale brown, slightly moist, very dense. Medium to coarse grained sand.	(SC)										13,24,30/120 N>50	SPT
35					W	<b>Silty SAND</b> Pale brown, iron stained, slightly moist, very dense. Medium to coarse grained sand.	(SM)										13,22,31 N>50	SPT
36	-21.59																	
37	-22.99				X	<b>GRANITE</b> Medium to coarse grained, intrusive, igneous rock of felsic composition. XW: Generally exhibits engineering properties of a pale red brown, slightly moist, very dense to extremely low strength Clayey Sand.											30/50 N>50	SPT
38																		
39					Y												30/60 N>50	SPT
40																		

REMARKS Standpipe piezometer installed.

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# ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/6-2010

BOREHOLE No   BH110    
 SHEET   5   of   5    
 REFERENCE No   11469  

PROJECT   Townsville Ring Road Section 4    
 LOCATION   Kalynda Parade Overpass   COORDINATES   467771.7 E; 7866527.1 N    
 PROJECT No   FG6020   SURFACE R.L.   14.21m   PLUNGE            DATE STARTED   15/4/13   GRID DATUM   GDA 94    
 JOB No   268/10M/5   HEIGHT DATUM   AHD   BEARING            DATE COMPLETED   16/4/13   DRILLER   Cairns 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		
										EH	VH	H	M	J	VL	EL	20	60				200	600
40	-25.79					<b>GRANITE XW: (Cont'd)</b>	+	XW															
	-26.33					Borehole terminated at 40.54m																	30/40 N>50; No recovery
41																							
42																							
43																							
44																							
45																							
46																							
47																							
48																							
49																							
50																							

QLD\_DMR\_LIB\_01A.GLB Log A\_ENGINEERING BOREHOLE LOG W LITHOLOGY TOWNSVILLE RING ROAD 4 KALYNDIA PARADE GPJ <<DrawingFile>> Dataget CPT Tool gINT Add-In 17/10/2013 11:46

REMARKS   Standpipe piezometer installed.  

LOGGED BY   VP



**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>Townsville Ring Road Section 4</b>		
Project No	FG 6020	Date	15/04/13
Borehole No	BH 110	TMR H No	11469
Location	Kalynda Parade Overpass	Start Depth (m)	2.5
Detail	Abutment B (Left)	Finish Depth (m)	9.0
Chainage		Submitted By	VP
Remarks			

