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ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH605
SHEET 1 of 5
REFERENCE No 11574

PROJECT Townsville Ring Road Section 4 Dalrymple Overpass
LOCATION Dalrymple Overpass COORDINATES 467185.8 E; 7867038.7 N
PROJECT No FG 6020 SURFACE R.L. 16.53m PLUNGE _____ DATE STARTED 8/9/13 GRID DATUM MGA94 Zone 55
JOB No _____ HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 10/9/13 DRILLER Cairns Drilling Pty Ltd

DEPTH (m)	R.L. (m)	AUGER 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				
0	16.53					Sandy SILT (Topsoil): Pale brown, dry, firm. Some grass roots.												
16.23						Sandy SILT: Grey to brown, moist, very stiff to hard.												
1			(0)															
2																		
3																		
4						3.7m: High sand content.	(ML)											
5																		
6						Colour change to yellow, brown, grey.												
7	9.63		100			Silty SAND: Pale orange, brown, grey, moist, very dense. Fine to coarse grained sand.												
8					B												14,26,31 N>50	SPT
9																		
10					C	Becoming Silty Clayey SAND.											10,21,30 N>50	SPT

REMARKS Standpipe Piezometer Installed.

LOGGED BY
MS

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SHEET 2 of 5
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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				
10	6.53					Silty SAND: (Cont'd)		(SM)										
	6.03					Sandy SILT: Pale grey to brown, moist, hard.												
11					D											7,15,21 N=36	SPT	
12						Low sand content.										8,15,21 N=36	SPT	
13					F													
14					F	Becoming very stiff.										6,9,16 N=25	SPT	
15								(ML)										
16					G	Becoming hard. High content of sand.										12,16,18 N=34	SPT	
17					H											19,30/130 N>50	SPT	
18																		
19					I	Becoming mottled yellow, brown, grey.										12,26,30/110 N>50	SPT	
20																		

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									EH	VH	H	M	J	VL				
20	-3.47				J	Sandy SILT: (Cont'd)											8,13,27 N=40	SPT
21	-4.67				K	Silty SAND: Pale grey, brown, moist, dense. Fine to medium grained sand.	(ML)										16,20,21 N=41	SPT
22					L	Some coarse angular gravel. Becoming very dense.											18,23,30 N>50	SPT
23					M	Sandy SILT: Pale grey to brown, moist, hard.											9,14,18 N=32	SPT
24	-7.72				N	Becoming pale orange, brown.											9,15,29 N=44	SPT
25					P	Some fine grained sand.											12,22,23 N=45	SPT
26					Q	High content of fine grained sand.											11,22,30/130 N>50	SPT
27																		
28																		
29																		
30																		

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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	20	60	200	600
30	-13.47					Sandy SILT: (Cont'd)																		
31					R																14,18,30/110 N>50	SPT		
32	-14.97				S	Silty SAND: Pale grey to brown, moist, very dense. Fine to medium grained sand.																12,30/150 N>50	SPT	
33						Some coarse gravel.																	30/40 N>50; No sample recovery.	SPT
34							(SM)																	
35						Becoming Clayey SAND.																		
36	-19.57					Sandy SILT: Pale grey, yellow, moist, hard.																		
37																								
38						Becoming dark brown, Clayey SILT.																		
39																								
40																								

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									EH	VH	H	M	J	VL	EL	20	60			
40	-23.47					Sandy SILT: (Cont'd)		(ML)												
41	-24.27					DOLERITE Fine to medium grained, intrusive, igneous rock of mafic composition. XW: Generally exhibits the engineering properties of a dark brown, black, moist, very dense, silty SAND. Fine to medium grained sand. Some medium sized HW rock fragments.														
42																				
43																				
44	-27.22		(77)			SW: Black, dark grey, fine to medium grained, massive, high to very high strength. Some MW to HW zones of low strength. Defects: -Joints at 60°-70° (1/m) -Joints at 70°-80° (2/m) Defects are mainly confined to MW-HW zones. Defects are generally medium to widely spaced, planar, rough, open and iron stained.		SW												
45								HW-MW												FZ
46								SW												
47	-30.22		100			Borehole terminated at 46.75m		HW-MW SW												FZ
48																				
49																				
50																				

REMARKS Standpipe Piezometer Installed.

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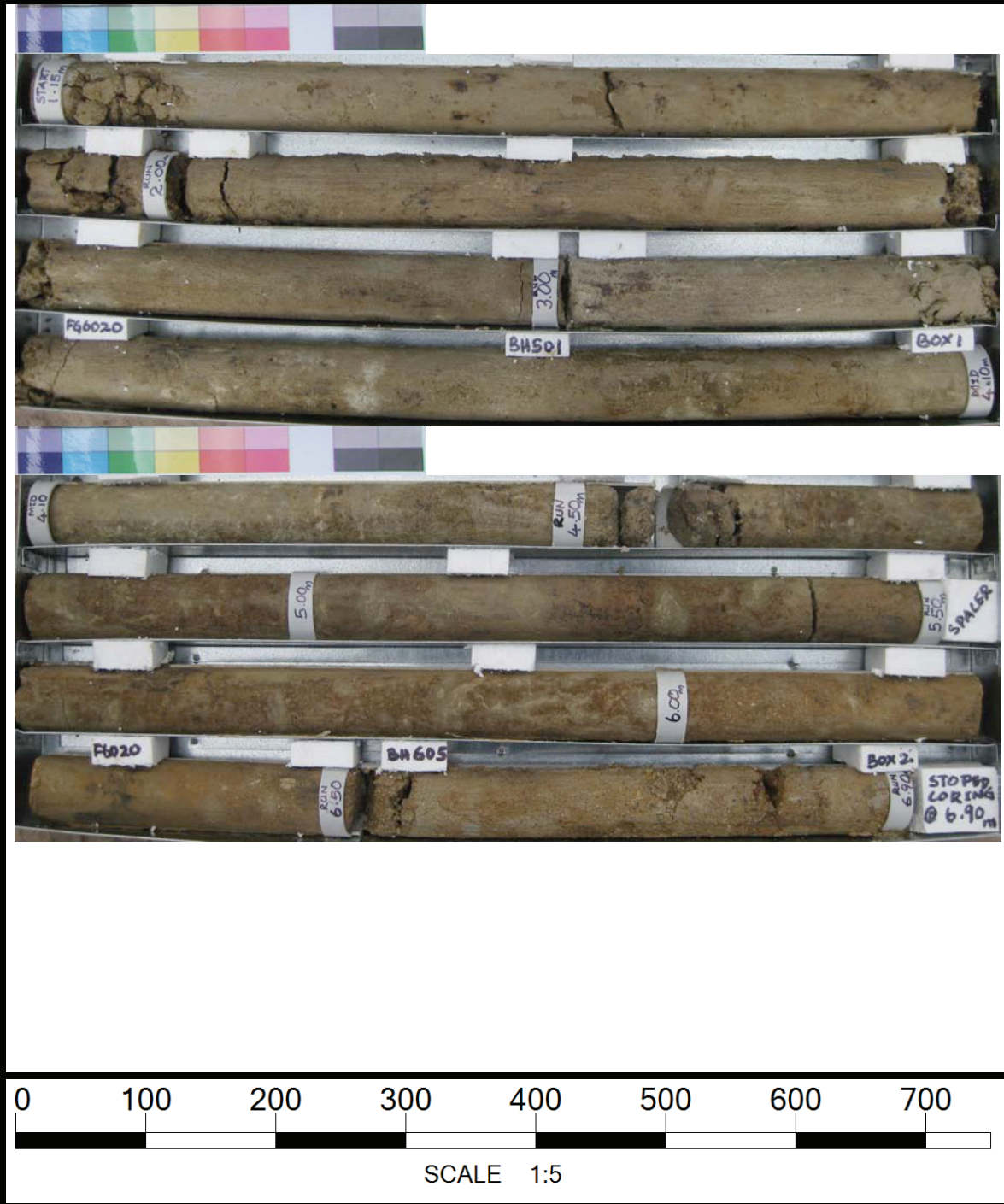
CORE PHOTO LOG

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	Townsville Ring Road Section 4		
Project No	FG 6020	Date	10/09/13
Borehole No	BH 605	TMR H No	11574
Location	Dalrymple Overpass	Start Depth (m)	1.15
Detail		Finish Depth (m)	6.90
Chainage		Submitted By	MS
Remarks			



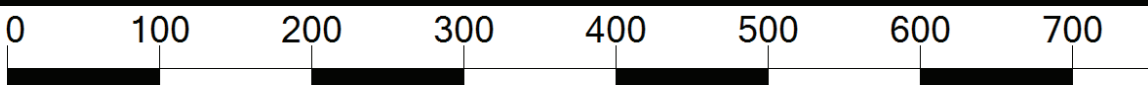
CORE PHOTO LOG

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	Townsville Ring Road Section 4		
Project No	FG 6020	Date	10/09/13
Borehole No	BH 605	TMR H No	11574
Location	Dalrymple Overpass	Start Depth (m)	43.75
Detail		Finish Depth (m)	46.75
Chainage		Submitted By	J. Lopez
Remarks			



SCALE 1:5