

COPYRIGHT NOTICE

This geotechnical log and its associated data (the Document) is licensed by the Queensland Department of Transport and Main Roads under the [Creative Commons Attribution 4.0 Licence](#) (CC BY 4.0). When reusing the Document, in whole or in part, please attribute the Department as follows: "*(c) State of Queensland (Department of Transport and Main Roads) 2020, licensed under the CC BY 4.0 Licence*". This licence does not apply to the Queensland Government logo or trademarks.

LIMITATION OF LIABILITY

The CC BY 4.0 Licence contains a comprehensive Disclaimer of Warranties and Limitation of Liability. In addition, please note that this Document was prepared for Departmental use only. Reuse of the Document by anyone for any other purpose could result in error and/or loss. You should obtain professional advice before making decisions based on the contents of the Document.

When reproducing any part of this Document, you must also reproduce this limitation of liability notice in addition to the italicised attribution statement above.

Retrieved from the Queensland Geotechnical Database <http://qgd.org.au/>



ENGINEERING BOREHOLE LOG

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

BOREHOLE No	BH405
SHEET	1 of 4
REFERENCE No	H11493

PROJECT Townsville Ring Road Section 4 _____
 LOCATION Geaney Lane Overpass _____ COORDINATES 464718.5 E; 7871690.1 N _____
 PROJECT No FG6020 SURFACE R.L. 13.08m PLUNGE _____ DATE STARTED 22/4/13 GRID DATUM GDA 94 _____
 JOB No 268/10M/5 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 23/4/13 DRILLER Cairns Drilling _____

DEPTH (m)	R.L. (m)	CASING OTHER 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	L	VL				
0	13.08					Engineered Road Base and Fill												
1																Non Destructive Digging Techniques Used.		
1.58						Clayey SAND Brown, moist, dense to very dense. Medium to coarse grained sand. Trace fine gravel.												
2					C												14,20,20 N=40	SPT
3					D	Becoming very dense.											25,30/110 N>50	SPT
4	9.08					Silty SAND Brown, moist, dense to mainly very dense. Fine to medium grained. Trace fine gravel.												
4					E												30/120 N>50	SPT
5																		
6					F												30/125 N>50	SPT
7																		
7					G		(SM)										16,23,27 N=50	SPT
8																		
9					H	Becoming dense.											14,19,21 N=40	SPT
10	3.08																	

REMARKS _____

LOGGED BY
VP

ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH405
SHEET 2 of 4
REFERENCE No H11493

PROJECT Townsville Ring Road Section 4
LOCATION Geaney Lane Overpass COORDINATES 464718.5 E; 7871690.1 N
PROJECT No FG6020 SURFACE R.L. 13.08m PLUNGE DATE STARTED 22/4/13 GRID DATUM GDA 94
JOB No 268/10M/5 HEIGHT DATUM AHD BEARING DATE COMPLETED 23/4/13 DRILLER Cairns Drilling

DEPTH (m)	R.L. (m)	CASING OTHER 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	L	VL					EL
10	3.08					Clayey SAND Pale brown, moist, dense to mainly very dense. Fine to medium grained.													
11					J												10,18,27 N=45	SPT	
12					K	Becoming very dense and iron stained.											13,21,30/130 N>50	SPT	
13					L	Becoming dense.											11,16,22 N=38	SPT	
14					M	Becoming pale brown and medium dense.											8,11,14 N=25	SPT	
15							(SC)												
16					N	Becoming very dense. Clay bands sizing up to 200mm throughout.											12,22,30/105 N>50	SPT	
17					Q	Colour changed to brown, red-brown.											20,30/110 N>50	SPT	
18					R	Becoming dark brown.											30/100 N>50	SPT	
19																			
20	-6.92																		

REMARKS _____

LOGGED BY
VP



ENGINEERING BOREHOLE LOG

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

BOREHOLE No	BH405
SHEET	3 of 4
REFERENCE No	H11493

PROJECT Townsville Ring Road Section 4 -----
 LOCATION Geaney Lane Overpass ----- COORDINATES 464718.5 E; 7871690.1 N -----
 PROJECT No FG6020 SURFACE R.L. 13.08m PLUNGE _____ DATE STARTED 22/4/13 GRID DATUM GDA 94 -----
 JOB No 268/10M/5 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 23/4/13 DRILLER Cairns Drilling -----

DEPTH (m)	R.L. (m)	CASING OTHER 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				
20	-6.92					Clayey SAND (Cont'd)	(SC)										
21	-7.92					VOLCANIC BRECCIA Pyroclastic rock consisting of angular fragments embedded in a finer grained matrix. XW: Exhibits engineering properties of a dark brown to red brown/grey, slightly moist, very dense, Clayey Sand with some trace fine to medium sized, angular gravel.	△										
22							△										
23					S		△									30/70 N>50	SPT
24					T		△	XW								30/50 N>50	SPT
25					U		△									30/40 N>50	SPT
26					V		△									30/20 N>50	SPT
27	-13.92		(93)			MW: Dark brown/red to dark grey, medium to coarse grained, massive, medium to mainly high strength. Defects: Defects: - Joints @ 30° (1/m) - Joints @ 45° (2/m) - Joints @ 60° (1/m) Defects are generally planar, rough & open. Defect spacing: Mainly medium to wide.	△								Is(50) = 1.68MPa	o	
28							△	MW							UCS=8.31 MPa Is(50) = 0.85MPa	o	
29							△							Is(50) = 0.99MPa	o		
30							△							Is(50) = 1.12MPa	o		
							△							Is(50) = 1.21MPa	o		
							△										

REMARKS -----

LOGGED BY
VP



ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH405
SHEET 4 of 4
REFERENCE No H11493

PROJECT Townsville Ring Road Section 4
LOCATION Geaney Lane Overpass COORDINATES 464718.5 E; 7871690.1 N
PROJECT No FG6020 SURFACE R.L. 13.08m PLUNGE DATE STARTED 22/4/13 GRID DATUM GDA 94
JOB No 268/10M/5 HEIGHT DATUM AHD BEARING DATE COMPLETED 23/4/13 DRILLER Cairns Drilling

DEPTH (m)	R.L. (m)	CASING OTHER 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				
30	-16.92		(100)			VOLCANIC BRECCIA MW:(Cont'd)	△										Is(50) = 2.04MPa	o
							△										Is(50) = 0.87MPa	o
							△										Is(50) = 2.13MPa	o
							△										Is(50) = 2.14MPa	o
							△										Is(50) = 2.83MPa	o
33	-19.92		100			Borehole terminated at 33m	△											
34																		
35																		
36																		
37																		
38																		
39																		
40																		

REMARKS _____

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	Townsville Ring Road Section 4		
Project No	FG 6020	Date	23/04/13
Borehole No	BH 405	TMR H No	11493
Location	Geaney Lane Overpass	Start Depth (m)	27.00
Detail	Pier 2 (Right)	Finish Depth (m)	33.00
Chainage		Submitted By	MS
Remarks			

