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**Queensland
Government**

**GEOTECHNICAL
BOREHOLE LOG**

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

BOREHOLE No **CRR729**

Sheet 1 of 2

REFERENCE No **H12955**

PROJECT	Cross River Rail CRR2017 - Additional Geotechnical Investigation				
LOCATION	RNA showgrounds		COORDINATES 502889.1 E; 6963637.0 N		
PROJECT No	FG6470	SURFACE RL	12.36m	PLUNGE	90°
		DATE STARTED	27/09/2017	GRID DATUM	MGA94
JOB No		HEIGHT DATUM	AHD	BEARING	°
		DATE COMPLETED	28/09/2017	DRILLER	Schneider

DEPTH (m)	R.L. (m)	AUGER CASING WASHBORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS	
													EH
11.76						Gravelly SAND (Fill) Grey, moist to dry, fine to coarse grained. Fine grained, sub angular gravel.		(SP)			0.00m-0.60m: Non destructive drilling.		
11.46					A	SAND with Gravel (Fill) Brown, some orange, dry, fine to coarse grained sand, sub rounded grains. Fine to coarse grained, rounded gravel.		(SP)			30/140mm	SPT	
					(0)	Gravelly CLAY with Sand (Fill) Brown orange with some grey red, wet, very stiff to hard, medium plasticity. Fine to coarse grained, sub angular to angular gravel. Fine to coarse grained sand. Trace sub angular to angular cobbles.		CI					
9.56					B	TUFF (Rif) MW: Pale grey purple mottled orange, fine to coarse gravel sized clasts within fine grained matrix, massive, medium strength. -Js: 0°-15° (5/m), Un/Sm, OP, Cly Ct, FeSt		MW			6, 30/80mm LL=49% PI= 25% MC=24.5% LS= 10% <75µm= 62%	SPT	
					(66)	TUFF (Rif) SW: Purple pale grey minor orange, fine gravel sized clasts within fine grained matrix, massive, very high strength. With some iron staining. -Js: 40°-60° (2/m), Pl/Sm, OP, Cly Ct, FeSt		XW			Su(PP)=155 kPa	D (3.22m) A (3.25m)	
8.46					100	TUFF (Rif) SW: Purple pale grey minor orange, fine gravel sized clasts within fine grained matrix, massive, very high strength. With some iron staining. -Js: 0°-10° (2/m), Un/Sm, OP, Fe St					3.50m-3.83m: XW Zone: Clay, high plasticity, grey. 3.86m-3.90m: MW	D (4.09m) A (4.15m) D (4.37m) A (4.42m)	
					(87)	TUFF (Rif) SW: Purple pale grey minor orange, fine gravel sized clasts within fine grained matrix, massive, very high strength. With some iron staining. -Js: 40°-50° (2/m), Pl/Sm, CD, FeSt					Is(50)=0.10 MPa Is(50)=0.31 MPa	D (4.93m) A (4.95m) (5.11m) A (5.26m) D (5.28m)	
					100						Is(50)=5.10 MPa Is(50)=5.40 MPa Is(50)=4.30 MPa Is(50)=6.30 MPa	D (6.19m) A (6.25m)	
					(88)						Is(50)=5.30 MPa Is(50)=4.20 MPa UCS=85.60 MPa E=19.2 GPa v= 0.069	A (5.66m) D (5.61m)	
											Is(50)=5.80 MPa Is(50)=7.40 MPa	A (6.56m) D (6.61m)	
											Is(50)=6.20 MPa Is(50)=7.50 MPa UCS=78.10 MPa E=34.4 GPa v= 0.023	D (8.15m) A (8.18m) (8.34m)	
											Is(50)=6.30 MPa Is(50)=5.40 MPa	A (8.82m) D (8.84m)	
2.36											Is(50)=3.00 MPa Is(50)=5.90 MPa	A (9.51m) D (9.56m)	

Continued on next sheet

REMARKS: Rif - Brisbane Tuff

LOGGED BY	REVIEWED BY
ZC	S. Foley



Queensland Government

GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No CRR729

Sheet 2 of 2

REFERENCE No H12955

PROJECT Cross River Rail CRR2017 - Additional Geotechnical Investigation
LOCATION RNA showgrounds COORDINATES 502889.1 E; 6963637.0 N
PROJECT No FG6470 SURFACE RL 12.36m PLUNGE 90° DATE STARTED 27/09/2017 GRID DATUM MGA94
JOB No HEIGHT DATUM AHD BEARING ° DATE COMPLETED 28/09/2017 DRILLER Schneider

Table with columns: DEPTH (m), R.L. (m), AUGER, CASING, WASHBORING, CORE DRILLING, RQD (%), CORE REC %, SAMPLE, MATERIAL DESCRIPTION, LITHOLOGY, USCS WEATHERING, INTACT STRENGTH, DEFECT SPACING, ADDITIONAL DATA AND TEST RESULTS, SAMPLES TESTS. Includes data for TUFF (Rif) at 2.21m depth.

REMARKS: Rif - Brisbane Tuff
LOGGED BY ZC
REVIEWED BY S. Foley

Project Name	Cross River Rail CRR2017 – Geotechnical Investigation		
Project No.	FG6470	Date	27/09/2017
Borehole No.	CRR729	Reference No.	H12955
Location	RNA Showgrounds	Start Depth (m)	1.15
Submitted By	M. de Gee	Finish Depth (m)	10.15



Detailed Discontinuity Description Log



This form is intended for the detailed description of discontinuities and defects as measured in outcrop by line mapping, or as they occur downhole in drilled rock core. The descriptions and abbreviations used shall be in accordance with Australian Standard AS1726-1993 Geotechnical site investigations and TMR Geotechnical Terms and Symbols Form F:GEOT017/8.

Project Name		Cross River Rail				Project No.	FG6470			
Site ID / Borehole No.		CRR729				Surface RL	12.36			
Geologist		Z.C.				Date	27/09/2017			
						Page	1	of	2	
Traverse Chainage; or Down hole depth (rock core)	Type LP / BP / FP / J etc.	Dip ° / Dip Direction °; or Angle ° from horizontal (rock core)	Planarity Stp / Un / PI	Roughness Ro / Sm / SI	Roughness Class I to IX	Aperture CD / OP / FL / TI	Infilling Cn / St / Vr / Ct ¹	Zones ¹		Other
								SZ / CZ / HFZ / AZ		
3.02	J	10°	Un	Sm	V	OP	Cn			
3.02	J	80°	PI	Sm	VIII	OP	Ct			Cly
3.10	J	40°	Stp	Sm	VIII	OP	Ct			Sm
3.13	J	30°	Un	Sm	II	OP	Ct			Cly
3.45	J	10°	Un	Sm	V	OP	Ct			Cly
3.48	J	5°	Un	Sm	V	OP	Cn			Cly
3.51	J	10°	Un	Ro	IV	OP	Ct			Cly
3.61	Seam	10°	Un	Sm	V	OP	Ct, St			Cly Seam, Fe
3.82	J	5°	Un	Sm	V	OP	Ct			Cly
3.87	J	5°	Un	Sm	V	OP	Cn			
3.89	J	50°	PI	Sm	VIII	OP	Cn			
4.29	J	3°	Un	Sm	V	CD	St			Fe
4.46	J	10°	Un	Sm	V	OP	Cn			
4.56	J	55°	Un	Sm	V	OP	Cn			
4.76	J	5°	Un	Sm	V	OP	St			Fe
5.36	J	10°	Un	Sm	V	OP	St			Fe
5.39	Cz	85°	Un	Ro	IV	OP	St,Ct	CZ, 10mm		Fe, Gravel
5.40	J	30°	Un	Sm	V	CD	St			Fe
5.55	J	5°	Un	Sm	V	OP	St			Fe
5.87	Cz	5°	Un	Ro	IV	OP	St,Ct	CZ, 10mm		Fe
5.88	J	10°	Un	Sm	V	OP	St			Fe,Gravel/Clay
6.46	J	10°	Un	Sm	V	OP	St			Fe
6.87	J	10°	Un	Sm	V	OP	St			Fe
6.96	J	50°	Un	Sm	V	OP	St			Fe
7.06	J	50°	PI	Ro	VII	OP	St			Fe
7.07	J	40°	Un	Ro	IV	CD	St			
7.36	J	4°	PI	Sm	VIII	OP	St			Fe
7.56	J	7°	Un	Sm	V	OP	Cn			Fe
7.71	J	40°	Un	Sm	V	OP	St			Fe
8.02	J	30°	Un	Sm	V	OP	St			
8.75	J	15°	Un	Sm	V	OP	Cn			Fe

Note: 1. Describe zones and coatings in terms of composition and thickness (mm)

F:GEOT 533/9 – 2014

Detailed Discontinuity Description Log



This form is intended for the detailed description of discontinuities and defects as measured in outcrop by line mapping, or as they occur downhole in drilled rock core. The descriptions and abbreviations used shall be in accordance with Australian Standard AS1726-1993 Geotechnical site investigations and TMR Geotechnical Terms and Symbols Form F:GEOT017/8.

Project Name		Cross River Rail				Project No.	FG6470			
Site ID / Borehole No.		CRR729				Surface RL	12.36			
Geologist		Z.C.				Date	27/09/2017			
						Page	2	of	2	
Traverse Chainage; or Down hole depth (rock core)	Type LP / BP / FP / J etc.	Dip ° / Dip Direction °; or Angle ° from horizontal (rock core)	Planarity Stp / Un / Pl	Roughness Ro / Sm / Sl	Roughness Class I to IX	Aperture CD / OP / FL / TI	Infilling Cn / St / Vr / Ct ¹	Zones ¹		Other
								SZ / CZ / HFZ / AZ		
9.34	J	40°	Pl	Sm	VIII	OP	St			Fe
9.46	J	80°	Un	Sm	V	CD	St			Fe
9.78	J	25°	Un	Sm	V	CD	St			Fe
10.01	J	10°	Un	Sm	V	OP	Cn			Fe

Note: 1. Describe zones and coatings in terms of composition and thickness (mm)

F:GEOT 533/9 – 2014