FINAL 02/03/2018

Queensland Government

GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **CRR734**

Sheet 1 of 2

REFERENCE No **H12960**

PROJECT Cross River Rail CRR2017 - Additional Geotechnical Investigation

LOCATION QR land (Mayne Yard) COORDINATES 503716.4 E; 6964588.5 N

PROJECT No FG6470 SURFACE RL 4.57m PLUNGE 90° DATE STARTED 25/10/2017 GRID DATUM MGA94

JOB No HEIGHT DATUM AHD BEARING ° DATE COMPLETED 25/10/2017 DRILLER Geodrill

DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( ) % CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (EC VC C M W VW EW)	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
0					COBBLES with Gravel and Sandy Clay (Fill)					0.00m-1.00m: Non Destructive Drilling	
1	3.57			A	Clayey SAND (Residual) Yellow brown mottled white, moist, medium dense. Fine to coarse grained sand, angular. Medium plasticity Clay.		(SC)			hw, 3, 13 N=16	SPT
2	2.47		(34)		TUFF (Rif) MW: Yellow grey and brown, fine to coarse gravel sized clasts within fine grained matrix, massive, medium to high strength. -Js: 10°-25° (5/m), Pl/Ro, OP, FeSt -Js: 70°-80° (2/m), Pl-Un/Ro, OP-Tl, FeSt-Vr(Cly)		MW	H			
3	1.31							M		3.13m-3.20m: HFZ	
4			100 (61)		TUFF (Rif) SW: Grey, pale brown, fine to coarse gravel size clasts within fine grained matrix, massive, high to very high strength. -Js: 10°-25° (5/m), Pl/Ro, OP, FeSt		SW	H-VH	C	Is(50)=0.26 MPa Is(50)=0.32 MPa	D (3.46m) A (3.48m)
5										Is(50)=2.30 MPa Is(50)=4.30 MPa	D (4.55m) A (4.56m)
6			100 (91)							Is(50)=0.55 MPa Is(50)=0.65 MPa	D (5.12m) A (5.14m)
7			100 (91)				MW			5.60m-5.75m: HFZ Is(50)=0.84 MPa Is(50)=5.00 MPa	D (5.80m) A (5.81m)
8										UCS=70.20 MPa E=10.9 GPa v= 0.066 Is(50)=1.80 MPa Is(50)=0.84 MPa	(6.37m) D (6.56m) A (6.57m)
9							SW	VH		Is(50)=3.20 MPa Is(50)=6.10 MPa	D (8.06m) A (8.07m)
	-5.43		100 (74)					H-VH		UCS=77.00 MPa E=20.9 GPa v= 0.122 Is(50)=4.10 MPa Is(50)=3.70 MPa	(8.73m) D (8.90m) A (8.91m)
										Is(50)=2.90 MPa Is(50)=6.30 MPa	D (9.51m) A (9.52m)

Continued on next sheet

REMARKS: Rif - Brisbane Tuff. Standpipe piezometer installed.

LOGGED BY	REVIEWED BY
SB	S. Foley

Queensland Government

GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **CRR734**

Sheet 2 of 2

REFERENCE No **H12960**

PROJECT Cross River Rail CRR2017 - Additional Geotechnical Investigation

LOCATION QR land (Mayne Yard) COORDINATES 503716.4 E; 6964588.5 N

PROJECT No FG6470 SURFACE RL 4.57m PLUNGE 90° DATE STARTED 25/10/2017 GRID DATUM MGA94

JOB No HEIGHT DATUM AHD BEARING ° DATE COMPLETED 25/10/2017 DRILLER Geodrill

DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( ) % CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (EC VC C M W VW EW)	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
11	-6.53		100		TUFF (Rif) SW: Cont'd.		SW	H-VH	C	Is(50)=3.10 MPa Is(50)=0.57 MPa Is(50)=4.80 MPa Is(50)=5.70 MPa	D (10.45m) A (10.46m) D (10.86m) A (10.87m)
					Borehole completed at 11.10m						

REMARKS: Rif - Brisbane Tuff. Standpipe piezometer installed.

LOGGED BY	REVIEWED BY
SB	S. Foley

FINAL 06/03/2018

Queensland Government

STANDPIPE INSTALLATION LOG

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

BOREHOLE No **CRR734**

Sheet 1 of 2

PIEZOMETER No **CRR734**

PROJECT Cross River Rail CRR2017 - Additional Geotechnical Investigation

LOCATION QR land (Mayne Yard) COORDINATES 503716.4 E; 6964588.5 N

PROJECT No FG6470 SURFACE RL 4.57m PLUNGE 90° DATE STARTED 25/10/2017 GRID DATUM MGA94

JOB No HEIGHT DATUM AHD BEARING ° DATE COMPLETED 25/10/2017 DRILLER Geodrill

DEPTH (m)	R.L. (m)	LITHOLOGY	MATERIAL DESCRIPTION
0			COBBLES with Gravel and Sandy Clay(Fill)
1	3.57		Clayey SAND(Residual) Yellow brown mottled white, moist, medium dense. Fine to coarse grained sand, angular. Medium plasticity Clay.
2	2.47		TUFF Yellow grey and brown, fine to coarse gravel sized clasts within fine grained matrix, massive, medium to high strength. -Js: 10°-25° (5/m), Pl/Ro, OP, FeSt -Js: 70°-80° (2/m), Pl-Un/Ro, OP-TI, FeSt-Vr(Cly)
3	1.31		TUFF Grey, pale brown, fine to coarse gravel size clasts within fine grained matrix, massive, high to very high strength. -Js: 10°-25° (5/m), Pl/Ro, OP, FeSt
4			
5			
6			
7			
8			
9	-5.43		

Standpipe Construction Details

Depth (m) /RL (AHD)	50mm PVC Class No. 18 Stick Up = 0.00m	Backfill Details
		Grout: Cement / Bentonite mix
1.10m / 3.47 AHD		
		Bentonite Seal
2.10m / 2.47 AHD		
5.10m / -0.53 AHD		Top of Slotted Pipe
		Filter: Washed / Graded Sand

Continued on next sheet

REMARKS: Rif - Brisbane Tuff. Standpipe piezometer installed.

LOGGED BY	REVIEWED BY
SB	S. Foley

TMR STANDPIPE INSTALLATION LOG - CREATED WITH HOLEBASE SI

Queensland Government

STANDPIPE INSTALLATION LOG

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

BOREHOLE No **CRR734**

Sheet 2 of 2

PIEZOMETER No **CRR734**

PROJECT Cross River Rail CRR2017 - Additional Geotechnical Investigation

LOCATION QR land (Mayne Yard) COORDINATES 503716.4 E; 6964588.5 N

PROJECT No FG6470 SURFACE RL 4.57m PLUNGE 90° DATE STARTED 25/10/2017 GRID DATUM MGA94

JOB No HEIGHT DATUM AHD BEARING ° DATE COMPLETED 25/10/2017 DRILLER Geodrill

DEPTH (m)	R.L. (m)	LITHOLOGY	MATERIAL DESCRIPTION	Standpipe Construction Details: Depth (m) /RL (AHD)	50mm PVC Class No. 18 Stick Up = 0.00m	Backfill Details
11	-6.53		TUFF Cont'd.	11.10m / -6.53 AHD		
			Borehole completed at 11.10m			

REMARKS: Rif - Brisbane Tuff. Standpipe piezometer installed.

LOGGED BY	REVIEWED BY
SB	S. Foley

TMR STANDPIPE INSTALLATION LOG - CREATED WITH HOLEBASE SI

CORE PHOTO LOG
DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

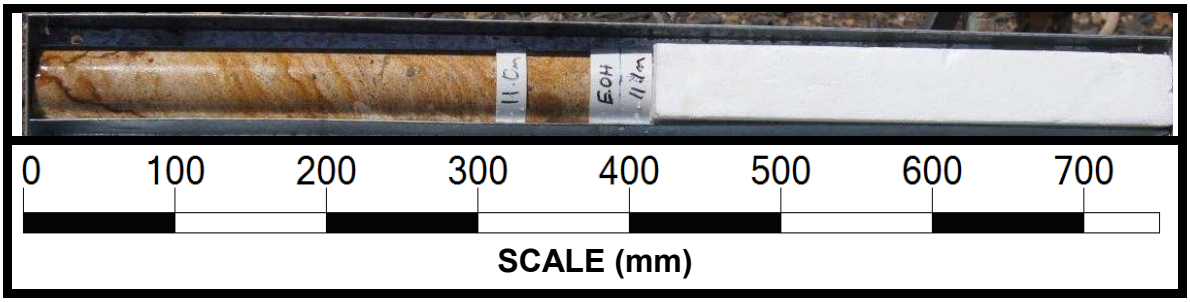
Queensland Government

Project Name	**Cross River Rail CRR2017 – Geotechnical Investigation**		
Project No.	FG6470	Date	25/10/2017
Borehole No.	CRR734	Reference No.	H12960
Location	QR land (Mayne Yard)	Start Depth (m)	2.10
Submitted By	M. de Gee	Finish Depth (m)	11.10

CORE PHOTO LOG
DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

Queensland Government

Project Name	**Cross River Rail CRR2017 – Geotechnical Investigation**		
Project No.	FG6470	Date	25/10/2017
Borehole No.	CRR734	Reference No.	H12960
Location	QR land (Mayne Yard)	Start Depth (m)	2.10
Submitted By	M. de Gee	Finish Depth (m)	11.10



Detailed Discontinuity Description Log

Queensland Government

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.	**CRR734**					**Surface RL**	**4.57**		
Geologist	**S.B.**					**Date**	**25/10/2017**		
						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 / Pl	Roughness Ro / Sm / Sl	Roughness Class I to IX	Aperture CD / OP / FL / Tl	Infilling Cn / St / Vr / Ct [1]	Zones [1] SZ / CZ / HFZ / AZ	Other
2.31	J	0	Un	Ro	IV	OP	Cn		
2.37	J	0	Un	Ro	IV	OP	Cn		
2.37-2.42	J	90	Stp	Ro	I	OP	Cn		
2.42	J	0	Un	Ro	IV	OP	Cn		
2.52	J	0	Un	Ro	IV	OP	Cn		
2.72	J	20	Un	Ro	IV	OP	Cn		
2.83	J	20	Un	Ro	IV	OP	Cn		
3.01	J	0	Un	Ro	IV	OP	Cn		
3.04-3.24	J/FP	70	Un	Ro	IV	OP	St		
3.31	Grinding fracture								
3.83	J	30	Un	Ro	IV	OP	Cn		
3.77	J	30	Un	Ro	IV	OP	Cn		
			Un	Ro	IV	OP	Cn		
4.22-4.42	FP	60	Pl	Ro	VII	OP	St		
4.42-4.45	J	0	Un	Ro	IV	OP	Ct	CZ	
4.65	J	0	Stp	Ro	I	OP	Cn		
4.73	FP	45	Un	Ro	IV	OP	Cn		Int
4.75	J	0	Un	Ro	IV	OP	Cn		Int
5.55-5.72	FP	60	Un/Pl	Ro	IV-VII	CD	St		
5.74	J	30	Stp	Ro	I	OP	Cn		
5.91	J	15	Pl	Ro	VII	OP	St		
5.82-6.07	J	70	Pl	Ro	VII	Tl	Cn		
6.02	J	30	Un	Ro	IV	OP	Cn		
6.51	J	15	Pl	Ro	VII	OP	Cn		
6.68	J	15	Pl	Ro	VII	OP	Cn		
7.03	J	0	Un	Ro	IV	OP	Cn		
7.28	J	20	Un	Ro	IV	OP	Cn		
7.49	DI	15	Un	Ro	IV	OP	Cn		
7.53	DI	15	Un	Ro	IV	OP	Cn		
7.39-7.59	J	60	Un	Ro	IV	OP	St		
7.84	J	10	Un	Ro	IV	OP	St		

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

Detailed Discontinuity Description Log

Queensland Government

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.	**CRR734**	**Surface RL**	**4.57**		
Geologist	**S.B.**	**Date**	**25/10/2017**		
		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 / Tl	Infilling Cn / St / Vr / Ct [1]	Zones [1] SZ / CZ / HFZ / AZ	Other
8.33	J	0	Un	Ro	IV	Tl	St		
8.37	J	20	Un	Ro	IV	OP	St		
8.42-8.55	J	70	Pl	Ro	VII	OP	St		
8.62	J	0	Un	Ro	IV	OP/CD	St		
8.87	J	5	Un	Ro	IV	OP	St		
9.31	J	30	Un	Ro	IV	OP	Cn		
9.62-9.64	J	0	Un	Ro	IV	OP	St		
9.96-10.14	J	60	Pl	Ro	VII	OP/CD	Cn		
10.12	J	5	Un	Ro	IV	OP	Cn		
10.19	J	30	Un	Ro	IV	OP	St		
10.22	J	15	Un	Ro	IV	OP	St		
10.27	J	30	Stp	Ro	I	OP	St		
10.68	J	0	Un	Ro	IV	OP	Cn		

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