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Queensland

GEOTECHNICAL BOREHOLE LOG

FINAL 27/09/2018 BOREHOLE No **CRR929**

Sheet 1 of 2

		De.		GO	Vŧ	ernment	SYI		GEOTECHNICAL TER REFER FORM F:GEO			REFERENCE No	H:	13049
PROJE	СТ	С	ros	s River I	Rail	(CRR) Project - Additional Geotechni	cal Ir	nvesti	gation					
OCAT	ION	С	R N	/layne Y	ard							COORDINATES 503928.4	E; 696544	48.0 N
PROJE	OJECT No FG6470 SURFACE RL 4.35m						PLU	PLUNGE 90° DATE STARTED 16/05/2018 GRID DATUM N				/IGA94		
OB N	0					HEIGHT DATUM AHD	BEA	BEARING DATE COMPLETED 17/05/2018			B DRILLER C	DRILLER Geodrill		
DEPTH (m)	R.L. (m)	AUGER CASING	WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
1 2 2 3 3 5 5 6 6 7 7 9	1.00	A M	10 MM		В	Ashphalt GRAVEL with sand and silt (Fill) Dark grey, black, moist, very loose to loose, fine to coarse, angular to sub-angular. Some fine to medium grained sand. Some low plasticity fines. Broken brick, metal pieces within the material. CLAY (Alluvium) Dark brown, moist, very soft, high plasticity. at 4.0m: becoming dark grey Sandy SILT (Alluvium) Dark grey, moist, very soft, high plasticity. Fine grained, sub- rounded, well graded sand. Some high plasticity clay. at 7.35m: becoming dark grey mottled pale brown		(GP-GM)			0.00m-2.10m: NDD	riaxial Test MC=62.69 D Wi	1, 1, 2 N=3 1, hw, hw N<1 hw, hw, hw, hw N<1 hw, hw, 1 N=1 1.53 t/m3 hw, hw, 1 N=1 1.56% PI= 18% 1.6% LS=2 81%	SPT
-	5.05													
	-5.65			<u> </u>	<u> </u>	Continued on next sheet	<u> </u>	<u> </u>	ΙΤ					_
RI	EMAF	RKS:	F	Rif - Br	isb	ane Tuff						LOGGED BY	REVIE	WED BY
												ND		Foley
												IND	٥.	. J.Cy

Queensland

GEOTECHNICAL BOREHOLE LOG

FINAL 27/09/2018 BOREHOLE No **CRR929**

	TAR.	Queenstand						BOREHOLE LOG					Sheet				
		K.	2	Go	VE	ernment		SYN		GEOTECHNICAL TE REFER FORM F:GE			REFERENCE No	H:	13049		
PROJE	СТ	С	ross	River	Rail	(CRR) Project - Additional Ge	otechnica	ıl In	vesti	gation							
OCAT	ION	N QR Mayne Yard								coordinates 503928.4 E; 69654							
PROJE	CT No	F	G64	70		SURFACE RL 4.35m		PLU	NGE 9	0°	DATE STAF	RTED 16/05/2018	GRID DATUM N	/IGA94			
OB No)	_				HEIGHT DATUM AHD	E	BEAR	ING °		DATE COMPLI	17/05/2018	DRILLER C	Geodrill			
DEPTH (m)	R.L. (m)	AUGER CASING	ASH BORING ORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	I	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS		
- 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 19 - 19 - 19 - 19 - 19 - 19	<u>-10.93</u>		WASS		Н	TUFF (Rif) MW: Pale brown and grey w some pale red bands, fine g matrix with fine to medium angular to sub-rounded grav clasts, massive, high strengt Js 10°-30° (4-5/m) Pl-Un/Ro- OP, St-Cn Js 60°-80° (2-3/m) Un, heele Cn TUFF (Rif) SW: Pale brown and grey wi pale red bands, fine grained with fine to medium sub-an sub-rounded gravel sized cla massive, high to very high st Js 10°-30° (4-5/m) Pl-Un/Ro- OP, St-Cn, some Vr Js 60°-80° (2/m) Un, Sm, Ct Borehole completed at 18.9	th some matrix gular to ists, rrength. S.m., TI-		MH MW	H-VH H-VH	C M M M	14.35m-14.55m: Qz thick 14.78m-14.88m: BZ	Is(5) Is(5) Is(5) Is(5) Is(6)	3, 6, 7 N=13 5, 6, 9 N=15-61% PI= 42% 1.3% LS= 25% 5/0mm hb io)=1.50 MPa io)=2.80 MPa io)=2.80 MPa S=56.20 MPa io)=5.80 MPa io)=5.80 MPa io)=5.80 MPa io)=5.40 MPa io)=5.40 MPa	SPT SPT SPT D (13.45m) A (13.46m) D (15.34m) A (15.35m) (16.11m) D (16.45m) A (16.46m) D (17.20m) A (17.21m)		
-																	
RF	MAR	KS.	R	if - Rr	ish	ane Tuff							LOGGED BY	DE//IE	WED BY		
IVL	-141/71		11	וט ו.	JU	and fall											
													ND	5.	Foley		

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 Nan	ne	Cross Rive	r Rail - Sta	ge 2		Project No. FG6470					
Site ID / Bo	rehole No.	CRR929				Surface RL 4.354					
Geologist		Nick Dewar	•			Date					
						Page	1	of	2		
Traverse	Туре	Dip ° / Dip	Planarity	Roughness	Roughness	Aperture	Infilling	Zones ¹	Other		
Chainage;		Direction °;			Class						
or	LP/	or				CD/	Cn /	SZ/			
Down hole	BP/	Angle ° from	Stp /	Ro /	I to IX	OP /	St /	CZ /			
depth	FP/	horizontal	Un /	Sm /		FL/	Vr/	HFZ/			
(rock core)	J etc.	(rock core)	PI	SI		TI	Ct 1	AZ			
13.11	J	5	PI	Sm	VIII	OP	Cn				
13.31	J	0	Un	Sm	V	OP	Cn				
13.53	J	20	PI	Sm	VIII	OP	Cn				
13.63	J	65	Un	Sm	V	OP	Cn				
13.75	J	10	Un	Sm	V	OP	Cn				
13.80	J	10	Un	Sm	V	OP	Cn				
13.92	Vn	65	Un			CD	Vr	Fe, Vn: 1	3.92-14m		
13.96	Vn	65	Un			CD	Vr	Fe, Vn: 1	3.96-14.02		
14.04	Vn	80	Un	Sm	V	TI/CD	Vr	Fe, Vn: 14	.04-14.19m		
14.09	J	0	Un	Sm	V	OP	Cn				
14.36	J	20	PI	Sm	VIII	OP	Cn				
14.39	Vn	40	Un			CD	Vr		Qz		
14.40	J	20	Un	Sm	V	OP	Cn				
14.43	Vn	30	Un			CD	Ct		Qz		
14.45	Vn	10	Un			CD	Ct		Qz		
14.48	Vn	50	Un			CD	Ct		Qz		
14.50	J	90	Un			TI/CD	Vr		Fe		
14.63	Vn	30	Un			CD	Ct		Qz		
14.63	J	60	PI			CD	St	Fe, J: 14.	63-14.69m		
14.65	J	70	Un			CD	St	Fe, 14.6	5-14.78m		
14.78						OP	Cn	CZ	14.78-14.88		
15.02	J	20	Un	Sm	V	OP	Cn				
15.18	J	20	Un			CD	Vr		Fe		
15.22	J	10	Un	Sm	V	OP	Cn				
15.24	J	10	Un	Sm	V	OP	Cn				
15.30	J	30	Un	Sm	V	OP	Cn				
15.53	J	20	Stp	Sm	II	OP	Cn				
15.64	J	10	Un			CD	St		Fe		
15.70	J	80	Un	Sm	V	TI	St	Fe, J: 15	.7-16.15m		
15.70	J	80	Un	Sm	V	TI	St		-15.91m		
15.75	J	20	Un	Sm	V	OP	Cn				

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 Nam	ne	Cross Rive	r Rail - Staç	ge 2		Project No FG6470					
Site ID / Bor	rehole No.	CRR929			Surface RL 4.354						
Geologist		Nick Dewar	•			Date	16/05/2018				
						Page	2	of			
Traverse	Туре	Dip ° / Dip	Planarity	Roughness	Roughness	Aperture	Infilling	Zones ¹	Other		
Chainage;		Direction °;			Class						
or	LP /	or				CD/	Cn /	SZ/			
Down hole	BP/	Angle ° from	Stp /	Ro/	I to IX	OP /	St /	CZ /			
depth	FP/	horizontal	Un /	Sm /		FL/	Vr/	HFZ /			
(rock core)	J etc.	(rock core)	PI	SI		TI	Ct 1	AZ			
16.09	J	5	Un	Sm	V	OP	Cn				
16.35	J	0	Un	Sm	V	TI/CD	Cn				
16.36	J	5	PI	Sm	VIII	OP	St		Fe		
16.49	J	0	Un	Sm	V	OP	Cn				
16.50	J	20	Un	Sm	V	OP	Cn				
16.65	J	5	Stp	Sm	II	OP	Cn				
17.58	J	0	Un	Sm	V	OP	Cn				
17.88	J	30	Un	Sm	V	OP	Cn				
18.15	J	10	Un	Sm	V	OP	Cn				
18.25	J	0	Un	Sm	V	OP	Cn				
18.25	J	80	Un	Sm	V	TI	Ct	Fe, J:18.2	25-18.33m		
18.32	J	0	PI	Sm	VIII	OP	Cn				
18.46	J	0	PI	Sm	VIII	OP	Cn				
18.73	J	0	PI	Sm	VIII	OP	Cn				
18.74	J	60	Un	Sm	V	OP	Cn	18.74	-18.8m		
18.76	J	5	Un	Sm	V	OP	Cn				

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

F:GEOT 533/9 - 2014

STANDPIPE PIEZOMETER INSTALLATION LOG

CRR929 BOREHOLE No

FINAL 27/09/2018

Sheet 1 of 2

	()	1%.	Government	FOR GEOTECHNICAL 1 SYMBOLS REFER FORM F:G			PIEZOMETER No	CRR929	
ROJE	СТ	C	ross River Rail (CRR) Project - Additional Geotechnical	Investigation					
OCAT	ION	С	R Mayne Yard			c	OORDINATES 503928.4	E; 6965448.0 N	
ROJE	CT No	F	-G6470 SURFACE RL 4.35M F	rlunge 90°	DATE STAR	TED 16/05/2018	GRID DATUM MGA94		
OB No		_	HEIGHT DATUM AHD BI	EARING	DATE COMPLE	TED 17/05/2018	DRILLER (Geodrill	
=		≿		5	Standpipe Pi	ezometer Co	nstruction Deta	ils	
DEРТН (m)	R.L. (m)	ГІТНОГОБУ	MATERIAL DESCRIPTION	Depth (m) /RL (AHD)	50mm PVC (Stick Up		Backfill	Details	
- 1 - 2 - 3 - 4	1.00		Ashphalt GRAVEL with sand and silt (Fill) Dark grey, black, moist, very loose to loose, fine to coarse, angular to sub-angular. Some fine to medium grained sand. Some low plasticity fines. Broken brick, metal pieces within the material. CLAY (Alluvium) Dark brown, moist, very soft, high plasticity. at 4.0m: becoming dark grey Sandy SILT (Alluvium)				Grout: Bentonit	e / Cement Mix	
			Dark grey, moist, very soft, high plasticity. Fine grained, sub-rounded, well graded sand. Some high	6.30m / -1.95 AHD					
			plasticity clay.				Bentonite I	Pellet Seal	
- 7		=		7.30m / -2.95 AHD					
			at 7.35m: becoming dark grey mottled pale brown	2.007.11.10					
- 8		=							
			at 8.5m: Stiff.						
- 9		_							
		=							
	-5.65	=							
			Continued on next sheet						
R	EMAR	KS:	Rif - Brisbane Tuff				LOGGED BY	REVIEWED BY	
						F	ND	S.Foley	
			TMR STANDPIPE	PIEZOMETER INSTALLATION LOG - CR	EATED WITH HOLEBASE SI			1	



STANDPIPE PIEZOMETER INSTALLATION LOG

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

BOREHOLE No CRR929

Sheet 2 of 2

PIEZOMETER No

CRR929

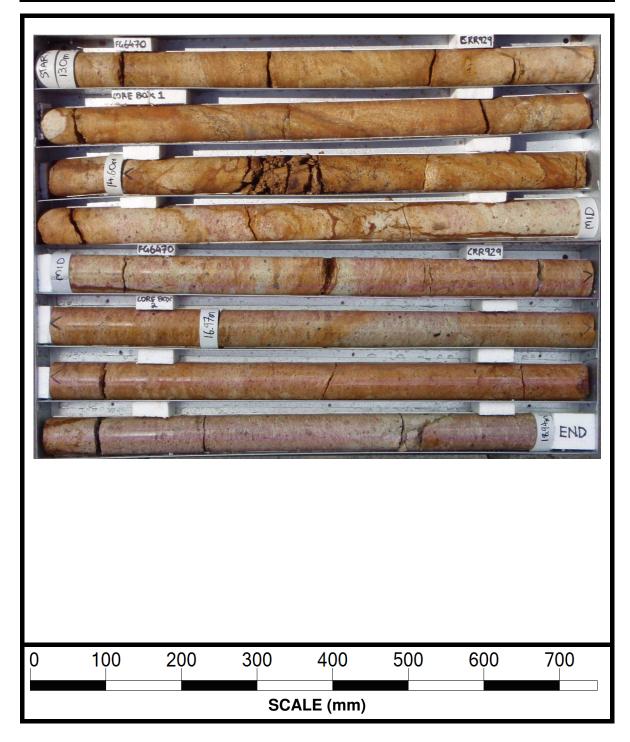
Cross River Rail (CRR) Project - Additional Geotechnical Investigation PROJECT COORDINATES 503928.4 E; 6965448.0 N QR Mayne Yard LOCATION DATE STARTED 16/05/2018 FG6470 SURFACE RL 4.35m PLUNGE 90° GRID DATUM MGA94 PROJECT No HEIGHT DATUM AHD BEARING ° DATE COMPLETED 17/05/2018 DRILLER Geodrill JOB No **Standpipe Piezometer Construction Details** Ξ LITHOLOG R.L. DEPTH (MATERIAL DESCRIPTION Depth (m) /RL 50mm PVC Class No. 18 (m) **Backfill Details** (AHD) Stick Up = 0.00m Sandy SILT (Alluvium) Cont'd -8.65 TUFF (Rif) MW: Pale brown and grey with some pale red bands, fine grained matrix with fine to medium subangular to sub-rounded gravel sized clasts, massive, high strength. Is 10°-30° (4-5/m) PI-Un/Ro-Sm, TI-OP, St-Cn Js 60°-80° (2-3/m) Un, heeled, CD, Cn Filter: Washed / Graded Sand 15 -10.93 TUFF (Rif) SW: Pale brown and grey with some pale red bands, fine grained matrix with fine to medium sub-angular to sub-rounded gravel sized clasts, massive, high to 16.00m / -11.65 AHD Top of Slotted Pipe 16 very high strength.

Js 10°-30° (4-5/m) Pl-Un/Ro-Sm, Tl-OP, St-Cn, some Js 10°-30° (4-5/m) PI-Un/Ro-Sm, ⁻
Vr
Js 60°-80° (2/m) Un, Sm, CD, Cn 14.59 19.00m / -14.65 AHD Borehole completed at 18.94m 19 REMARKS: Rif - Brisbane Tuff **LOGGED BY REVIEWED BY** ND S.Foley TMR STANDPIPE PIEZOMETER INSTALLATION LOG - CREATED WITH HOLEBASE SI

CORE PHOTO LOG
DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION



Project Name	Cross River Rail CRR 2018 – Geotechnical Investigation						
Project No.	FG6470	Date	16-17/5/18				
Borehole No.	CRR929	Reference No.	H13049				
Location	QR Mayne yard	Start Depth (m)	13.00				
Submitted By	J. Armstrong	Finish Depth (m)	18.94				



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