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Queensland Government

GEOTECHNICAL BOREHOLE LOG

FINAL 27/09/2018

BOREHOLE No CRR927

Sheet 1 of 3

(3)		Go	V	ernment		SYM		GEOTECHNICAL TER REFER FORM F:GEO			REFERENCE No	H1	3046
ROJECT	Cros	s River	Rail	(CRR) Project - Additional	Geotechnic	al In	vestig	gation		(
OCATION	QR I	Mayne \	'ard								COORDINATES 503840.8	E; 696510)8.4 N
ROJECT No	FG6470 SURFACE RL 4.41m					PLUI	NGE 9	0°	DATE STARTE	— ED_17/05/201	.8 GRID DATUM	ЛGA94	
OB No				HEIGHT DATUM AHI	 D	BEAR	ING °		DATE COMPLETE	 D 21/05/201	.8 DRILLER C	Geodrill	
(m) DEPTH (m)		RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIP		LITHOLOGY	USCS WEATHERING	INTACT STRENGTH 플루프	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
- 1				Gravelly SAND with Silt (I Pale grey, dry, medium d to coarse , angular to sub Some silt. Trace of cobble at 0.5m: becoming dark of at 2.0m Becoming very lo	ense, fine o-angular. es. grey, moist	~~~	(GP- GM)			0.00m: NDD to 2.3	55m	1, hw, 1 N=1	SPT
- 4 - 4			В	GRAVEL (Fill) Brown red, dry, dense, file medium, sub-angular. So and brick fragments. CLAY (Alluvium) Dark grey trace pale brownottling, moist, very soft high plasticity.	me cobbles		(GP)				MC=3 LL MC=6 0	3, 3, 2 N=5 F-67% PL= 37% 7.4% LS= 14% 475µm= 95% F-74% PL= 48% F-75% LS= 20% D= 0.86 f/m3 D= 0.144 f/m3	SPT
- 6 - 7 - 8 -3.7	9			at 6.5m: becoming dark of 6.5m: becoming dark of 6.5m: becoming dark of 6.5m: becoming dark of 6	ft to soft,		(CH)			8.00m-8.50m: UU	Triaxial Test	hw, hw, hw N<1 MC=54.9% D= 1.08 t/m3 D= 1.67 t/m3	SPT
-5.5 REMA		Rif - Br	F	Ingn plasticity. Fine grain Interbedded fine grained graded, loose to medium Clayey SAND layers. at 9.5m: shell fragments fragments throughout, sti Continued on next stand pipe p	, well dense and wood ff.	ins	(CH)	-			LOGGED BY	2, 5, 7 N=12	SPT WED BY
											ND	S.F	oley
											*	• — —	

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GEOTECHNICAL BOREHOLE LOG

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

FINAL 27/09/2018

BOREHOLE No CRR927

Sheet 2 of 3

FERENCE No H13046

20101	or ribritis				SY	MBOLS	REFER FORM F:GEO	OT 017/8-2014		REFERENCE N			3040
PROJECT	Cro	ss River	Rail	(CRR) Project - Additional Geotechni	ical Ir	nvesti	gation						
LOCATION	QR	Mayne \	ard/							COORDINATES 5038	340.8 E; 69	6510	8.4 N
PROJECT No	FG6470 SURFACE RL 4.41m				PLU	INGE S	0°	DATE STAR	TED 17/05/201	8 GRID DA	тим <u>MGA9</u>	4	
JOB No	HEIGHT DATUM AHD				BEA	RING _		DATE COMPLE	TED 21/05/201	8 DRI	ILLER Geodr	ill	
DEPTH (m)	AUGER CASING WASH BORING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS			SAMPLES TESTS
				Sandy CLAY (Alluvium) Cont'd CLAY (Alluvium) Dark grey, moist, very soft to soft, high plasticity.		(CH)					MC=6 DD= 0.92 WD= 1.53	N<1	SPT
-9.85				Sandy CLAY (Alluvium) Dark grey, moist, very soft to soft, high plasticity. Fine grained sand. at 15.5m: Stiff		(CH)							SPT
-13.59 -13.59 -15.59			K	CLAY (Alluvium) Dark grey, moist, very soft to soft, high plasticity. Sandy CLAY (Alluvium) (Q) Continued on next sheet		(CH)			19.50m: No sample U50	e recovery in	hw, hv LL=83% PI= MC=58.5% LS=	N<1 : 55%	SPT
BEVVVD	·Kc·	Rif - Pr	ich	ane Tuff. Standpipe piezomete	ar in	ctall				100055	2V 55	\ /·-	WED DY
NEIVIAD	ins.	mi - DI	ısD	ane ran. Standpipe piezoinett	-1 111	scalit	.u.			LOGGED E	or KE		WED BY
										ND		5.1	oley

Queensland Government

GEOTECHNICAL BOREHOLE LOG

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

FINAL 27/09/2018

BOREHOLE No CRR927

Sheet 3 of 3

REFERENCE No H13046

PROJE	СТ	_	Cro:	ss River	Rail	(CRR) Project - Additional Geotechnic	al Ir	nvesti	gation					
LOCAT	ION	_	QR	Mayne '	Yard							COORDINATES 503840.8	E; 696510	08.4 N
PROJE	CT No	_	FG	5470		SURFACE RL 4.41m	PLU	INGE 9	0°	DATE STAF	17/05/2018	GRID DATUM	MGA94	
JOB N	0	_				HEIGHT DATUM AHD	BEAI	RING _		DATE COMPLE	21/05/2018	DRILLER (Geodrill	
DEPTH (m)	R.L. (m)	AUGER	WASH BORING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
21 	-16.59 -17.59					Sandy CLAY (Alluvium) (Q) Cont'd Dark grey, moist, very soft to soft, high plasticity. Fine grained sand. Clayey GRAVEL (Alluvium) White, dark grey, pale grey, pale red, medium dense, coarse, sub- angular to sub-rounded. Medium to high plasticity clay. Some quartz.		(CH)						- - - - - - - - - - - - - - - - - - -
23 23 24 24 25 25 25					М	Sandy CLAY trace Gravel (Residual) Pale brown, mottled pale grey and pale red, moist, very stiff, medium to high plasticity. Fine to coarse, sub-angular to sub-rounded sand. Trace fine to medium, sub-angular gravel.		(CH)					8, 11, 13 N=24	SPT
- - - - - - - - - - - - - - - -	-21.09				N	TUFF (Rif) XW: Recovered as CLAY, pale grey mottled pale brown, moist, hard, medium plasticity. Trace fine to coarse grained, sub-angular sand. Trace fine, sub-angular gravel.	9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(CI)					22, 30/80mm	SPT
27 - 27 28	<u>-22.59</u>			(61) 100 (87)		TUFF (Rif) HW: Pale green and grey, fine grained matrix with fine to coarse sub-angular gravel clasts, low strength. Some iron staining. Js 10°-20°, (2/m) Un-Pl/Sm, OP, Cn		нw	٠	С			5/0mm hb	
- - 29 - - - - - - - -	-24.84 -25.59			100 (68)		TUFF (Rif) MW: Pale grey and pale green, fine grained, fine to coarse sub-angular clasts, high strength, massive. Borehole completed at 30.00m	9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	MW HW MW HW	M H	M C		ls(: ls(: ls(:	50)=0.53 MPa 50)=0.86 MPa 50)=0.42 MPa 50)=0.48 MPa 55)=0.48 MPa E=2.33 GPa	D (28.90m) A (28.91m) D (29.35m) A (29.36m) (29.40m)
RI	EMAR	KS	:	Rif - B	risb	ane Tuff. Standpipe piezometer	in	stalle	 ed.			LOGGED BY	REVIE	WED BY
												ND		Foley
						TMRG	EOTEC	HNICAL B	OREHOLE LOG - CREATED V	VITH HOLEBASE SI			J.1	3107

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 - Stag	je 2		Project No. FG6470					
Site ID / Bo	rehole No.	CRR927				Surface RL 4.411					
Geologist		Nick Dewar	•			Date					
						Page	1	of	1		
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			
27.04	J	10	Un	Sm	٧	OP	Cn				
27.13	J	20	Un	Sm	V	OP	Cn				
27.21	J	20	Un	Sm	V	OP	Cn				
27.35	J	0	PI	Sm	VIII	OP	Cn				
27.59	J	0	PI	Sm	VIII	OP	Cn				
27.62	J	80	Un	Sm	V	OP	Cn		27.62-27.71		
27.71	J	5	Un	Sm	V	OP	Cn				
27.78	J	0	PI	Sm	VIII	OP	Cn				
28.01	J	10	Un	Sm	V	OP	Cn				
28.45	J	0	PI	Sm	VIII	OP	Cn				
28.50	J	15	Un	Sm	V	OP	Cn				
28.71	J	0	PI	Sm	VIII	OP	Cn				
29.25	J	10	Un	Sm	V	OP	Cn				
29.66	J	5	Stp	Sm	II	OP	Cn				
29.66	J	80	Un			CD	Cn		29.66-29.73		
29.73	J	20	Un	Sm	V	OP	Cn				
29.80	J	40	Un	Sm	V	OP	Cn				
29.80	J	80	Un			CD	Cn		29.8-29.87n		
	-										
	-										
				_							

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

F:GEOT 533/9 - 2014



STANDPIPE PIEZOMETER INSTALLATION LOG

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

BOREHOLE No CRR927

Sheet 1 of 3

PIEZOMETER No CRR927

	AURAS	AT FIBRES		SYMBOLS REFER FORM F:G	EOT 017/8-2014		TIEZOWIETEKTO	
ROJE	СТ		cross River Rail (CRR) Project - Additional Geotechn	ical Investigation				
OCAT	ION		QR Mayne Yard				COORDINATES 503840.8	E; 6965108.4 N
ROJE	CT No	_	FG6470 SURFACE RL 4.41m	PLUNGE 90°	DATE STAR	TED 17/05/2018	GRID DATUM	MGA94
OB N	o		HEIGHT DATUM AHD	BEARING °	DATE COMPLE	TED 21/05/2018	DRILLER C	Geodrill
=		≿		S	Standpipe Pic	ezometer Co	onstruction Deta	ils
DEPTH (m)	R.L. (m)	LITHOLOGY	MATERIAL DESCRIPTION	Depth (m) /RL (AHD)	50mm PVC (Stick Up		Backfill	Details
- 1 - 2 - 3 4 5 6	1.41		Gravelly SAND with Silt (Fill) Pale grey, dry, medium dense, fine to coarse , angular to sub-angular. Some silt. Trace of cobble at 0.5m: becoming dark grey, moist at 2.0m Becoming very loose GRAVEL (Fill) Brown red, dry, dense, fine to medium, sub-angu some cobbles and brick fragments. CLAY (Alluvium) Dark grey trace pale brown mottling, moist, very soft to firm, high plasticity.				Grout: Bentonit	e / Cement Mix
-			at 6.5m: becoming dark grey	7.00m / 3.50 AUD			Bentonite I	Pellet Seal
- 7	-3.79			7.00m / -2.59 AHD				
- g -			Sandy CLAY (Alluvium) Dark grey, moist, very soft to soft, high plasticity. Fine grained sand. Interbedded fine grained, well graded, loose to medium dense Clayey SAND laye at 9.5m: shell fragments and wood fragments throughout, stiff.					
	-5.59		Continued on next sheet					
RI	EMAF	RKS:	Rif - Brisbane Tuff. Standpipe piezometer installe	ed.			LOGGED BY	REVIEWED BY
							ND	S.Foley
			TMR STAN	IDPIPE PIEZOMETER INSTALLATION LOG - CR	EATED WITH HOLEBASE SI		I	i



STANDPIPE PIEZOMETER INSTALLATION LOG

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

BOREHOLE No CRR927

Sheet 2 of 3

PIEZOMETER No CRR927

Cross River Rail (CRR) Project - Additional Geotechnical Investigation PROJECT COORDINATES 503840.8 E; 6965108.4 N QR Mayne Yard LOCATION DATE STARTED 17/05/2018 FG6470 SURFACE RL 4.41m PLUNGE 90° GRID DATUM MGA94 PROJECT No DATE COMPLETED 21/05/2018 HEIGHT DATUM AHD BEARING ° DRILLER Geodrill JOB No **Standpipe Piezometer Construction Details** DEPTH (m) LITHOLOGY R.L. MATERIAL DESCRIPTION Depth (m) /RL 50mm PVC Class No. 18 (m) **Backfill Details** (AHD) Stick Up = 0.00m Sandy CLAY (Alluvium) Cont'd -6.59 CLAY (Alluvium) Dark grey, moist, very soft to soft, high plasticity. 13 14.00-14.26m: Clayey SAND -9.85 Sandy CLAY (Alluvium) Dark grey, moist, very soft to soft, high plasticity. Fine grained sand. Filter: Washed / Graded Sand 15 at 15.5m: Stiff 16 -13.59 18 CLAY (Alluvium) Dark grey, moist, very soft to soft, high plasticity. 19 -15.09 Sandy CLAY (Alluvium) (Q) Continued on next sheet REMARKS: Rif - Brisbane Tuff. Standpipe piezometer installed. **LOGGED BY REVIEWED BY** ND S.Foley TMR STANDPIPE PIEZOMETER INSTALLATION LOG - CREATED WITH HOLEBASE SI



STANDPIPE PIEZOMETER INSTALLATION LOG

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

BOREHOLE No CRR927

Sheet 3 of 3

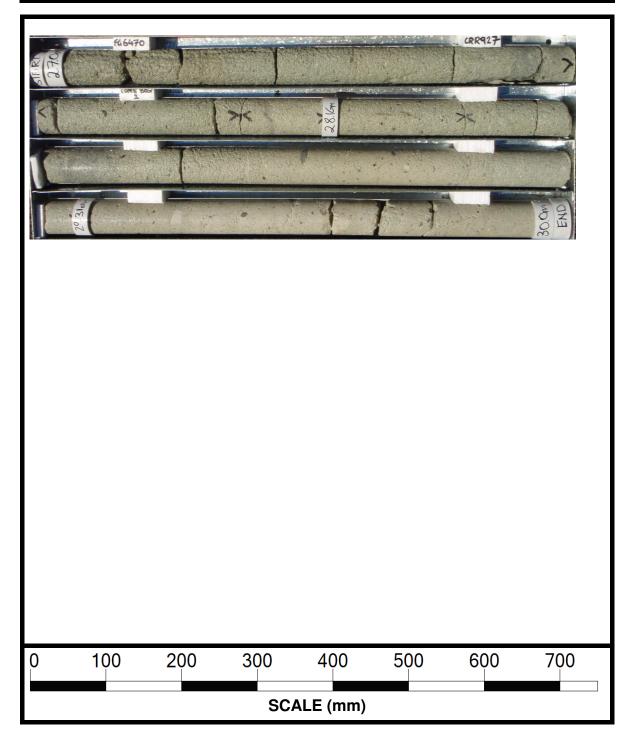
PIEZOMETER No CRR927

Cross River Rail (CRR) Project - Additional Geotechnical Investigation PROJECT COORDINATES 503840.8 E; 6965108.4 N QR Mayne Yard LOCATION DATE STARTED 17/05/2018 GRID DATUM MGA94 FG6470 SURFACE RL 4.41m PLUNGE 90° PROJECT No height datum AHD BEARING ° DATE COMPLETED 21/05/2018 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 CLAY (Alluvium) (Q) Cont'd Dark grey, moist, very soft to soft, high plasticity. Fine grained sand. -16.59 Clayey GRAVEL (Alluvium) White, dark grey, pale grey, pale red, medium dense, coarse, sub-angular to sub-rounded. Medium to high plasticity clay. Some quartz. -17.59Sandy CLAY trace Gravel (Residual) Pale brown, mottled pale grey and pale red, moist, very stiff, medium to high plasticity. Fine to coarse, sub-angular to sub-rounded sand. Trace fine to medium, sub-angular gravel. 23 25 TUFF (Rif) -21.09 XW: Recovered as CLAY, pale grey mottled pale brown, moist, hard, medium plasticity. Trace fine to 26 coarse grained, sub-angular sand. Trace fine, subangular gravel. 27.00m / -22.59 AHD Top of Slotted Pipe 27 TUFF (Rif) HW: Pale green and grey, fine grained matrix with fine to coarse sub-angular gravel clasts, low strength. Some iron staining. Is 10°-20°, (2/m) Un-PI/Sm, OP, Cn 28 29 TUFF (Rif) MW: Pale grey and pale green, fine grained, fine to coarse sub-angular clasts, high strength, massive. 30.00m / -25.59 AHD Borehole completed at 30.00m REMARKS: Rif - Brisbane Tuff. Standpipe piezometer installed. **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	17-21/5/18					
Borehole No.	CRR927	Reference No.	H13046					
Location	QR Mayne yard	Start Depth (m)	27.00					
Submitted By	J. Armstrong	Finish Depth (m)	30.00					



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