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# Queensland

#### **GEOTECHNICAL BOREHOLE LOG**

**FINAL** 02/03/2018 **CRR728** 

BOREHOLE No

Sheet 1 of 2

		[% <sub>€</sub>		GO	Vŧ	ernment		SYN		GEOTECHNICAL TE REFER FORM F:GEO			REFERENCE No	Н	12954
PROJE	ECT	С	ross	River	Rail	CRR2017 - Additional Geotechn	ical Inve	esti	igatio	on					
LOCAT	ΓΙΟΝ	QR Land COORDINATES 502145.2 E; 696293											30.9 N		
PROJECT No		F	FG6470 SURFACE RL 23.71m				_ F	LUI	NGE 9	00°	DATE STAF	RTED 04/09/2017 GRID DATUM MGA94			
JOB N					HEIGHT DATUM AHD	В	EAR	ING °		DATE COMPLE	ETED 04/09/2017	DRILLER G	Geodrill		
DEPTH (m)	R.L. (m)	UGER ASING	WASH BORING CORE DRILLING	RQD ()%	SAMPLE	MATERIAL DESCRIPTION	200 T	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH ボススナンゴ	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
- - - - - - - - - - -		<u> </u>	w D			COBBLES with Gravel and Sand Clay (Fill)	У					0.00m-1.20m: Non o	destructive	3, 7, 9 N=16	SPT
- - - - - - - 2	21.21					Gravelly CLAY (Alluvium)				- - - - - - - - - - - - - - - - - - -	-			2, 3, 3	- - - - - - - -
- 3 - 3 					В	Dark brown with trace red brow moist, firm. Medium plasticity. angular to sub-angular gravel.			(CI)		-			N=6	SPT
— 4	19.71					Silty CLAY (Residual) (DCf) Grey, brown, yellow, moist, ver stiff. Medium plasticity. With silt and fine, angular to sub-angular gra	d .			-			MC=1	13.7% LS= 6%	SPT
- - - - - - - - - 6 -					D	From 5.6m: Becoming pale grey and grey.	,		CI		- - - - - - - - - - - - - - - - - - -		MC=1	12.8% LS= 6%	SPT
- - - - - - - 7	16.71	-			Е	ARGILLITE (DCf) XW: Recovered as Clayey Sandy GRAVEL: Grey to pale grey, moi	/ ()				- - - - - - - - -		LL= MC=10.	46% PI= 30% 9% LS= 150%	SPT
- - - - - 8 - -	15.06			(55)		very dense. Fine to coarse, ang gravel. With some quartz grave	ular. 🏿	\$\$\$\$\$\$\$\$\$	xw					2/0mm	
- - - - - - - - - - -	15.06			100 (25) 100		ARGILLITE (DCf) MW: Grey, orange brown, fine grained, foliated, medium strer With frequent quartz bands <10mm, parallel to foliation, so crenulatedFP: 40°-70° (8/m), PI-Un/Ro, O	ome	\$\$\$\$\$\$\$\$\$\$\$\$	HW XW HW	M VL M	vc c		is(5 is(5 is(5 is(5	hb 50)=0.25 MPa 50)=0.02 MPa 50)=0.26 MPa	D (8.90m) - A (8.92m) - D (9.25m) - A (9.27m) -
	13.71			(42)		Continued on next sheet	Y.	V.)							
R	EMAR	KS:		OCf - N	lera	anleigh Fernvale Beds. Star	CONDENSATE 502145 2 E; 6962930.9 N   CONDENSAT								
													GP	S.	Foley
													I	L	

### Queensland Government

## GEOTECHNICAL BOREHOLE LOG

FINAL 02/03/2018

**CRR728** 

Sheet 2 of 2

BOREHOLE No

			7	Go	V	ernment	SY		GEOTECHNICAL TE REFER FORM F:GE			REFERENCE No	H1	12954	
ROJEC	T	Cr	oss	River	Rail	CRR2017 - Additional Geotechni	cal Inves	tigatio	on						
OCATI	ON	QF	R La	nd								COORDINATES 502145.2 E; 6962930.9 N			
ROJEC	T No	FC	664	70		surface rl 23.71m	PLU	JNGE 9	0°	DATE STAR	— <sub>ТЕD</sub> 04/09/201	7 GRID DATUM N	MGA94		
OB No						HEIGHT DATUM AHD	BEA	RING °		DATE COMPLE	TED 04/09/201	7 DRILLER C	Geodrill		
DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING	CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	ГІТНОГОĞҮ	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS	
- 11	12.82	AUC WAR		100 (70) 100 (50) 100 (100)		Ct-FeSt  ARGILLITE (DCf)  MW: Cont'dJs: 45°-75° (1-2/m Pl/Ro, OP-TI, Ct  ARGILLITE (DCf)  SW: Grey, dark grey, fine grainer foliated, mainly high strength. Frequent quartz bands <15mm thick, parallel to foliation.  -FP: 35°-40° (8/m), Pl/Ro, OP-TI, FeSt  Borehole completed at 12.25m	d,	MW XW MW SW SW	H H	c vc vc vc	□ 10.41m-10.52m: S □ 11.87m-11.89m: H		50)=0.91 MPa 50)=1.90 MPa 50)=2.40 MPa 50)=2.40 MPa 50)=5.00 MPa 5=18.90 MPa 5=18.90 MPa 6=8.22 GPa 50)=3.90 MPa 50)=3.30 MPa 50)=3.50 MPa 50)=3.50 MPa 50)=2.50 MPa 50)=2.50 MPa 50)=2.50 MPa 50)=2.50 MPa	D (10.68m)— A (10.69m)— D (10.78m)— A (10.79m)— A (10.95m)— (11.10m) — D (11.36m)— A (11.53m)— D (11.53m)— A (11.53m)— D (12.16m)— A (12.17m)— D (12.16m)— A (12.17m)— D (12.16m)— D (12.16m)— D (12.16m)— D (12.16m)— D (12.16m)— D (12.17m)— D (12.16m)— D (12.17m)— D (12.1	
Dr	N / I / D	Nc.	D.	Cf N	lor	anleigh Fernyala Pada Star	dnina	niozo	meterineta	llad		100055 511	<b></b>		
KE	IVIAK	.CA:	יט	CI - I\	iera	anleigh Fernvale Beds. Star	iuhibe	piezo	meter insta	neu.		LOGGED BY		WED BY	
												GP	S.	Foley	



#### **STANDPIPE INSTALLATION LOG**

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

**CRR728** BOREHOLE No

Sheet 1 of 2

**CRR728** PIEZOMETER No Cross River Rail CRR2017 - Additional Geotechnical Investigation PROJECT COORDINATES 502145.2 E; 6962930.9 N QR Land LOCATION FG6470 SURFACE RL 23.71m PLUNGE 90° DATE STARTED 04/09/2017 GRID DATUM MGA94 PROJECT No HEIGHT DATUM AHD BEARING ° DATE COMPLETED 04/09/2017 DRILLER Geodrill JOB No Standpipe Construction Details Ξ LITHOLOG R.L. DEPTH ( MATERIAL DESCRIPTION (m) Depth (m) /RL 50mm PVC Class No. 18 **Backfill Details** (AHD) Stick Up = 0.00m COBBLES with Gravel and Sandy Clay(Fill) Grout: Cement / Bentonite mix 21.21 Gravelly CLAY(Alluvium) Dark brown with trace red brown, moist, firm. Medium plasticity. Fine, angular to sub-angular gravel. 19.71 Silty CLAY(Residual) 4.15m / 19.56 AHD Grey, brown, yellow, moist, very stiff. Medium plasticity. With silt and fine, angular to subangular gravel. Bentonite Seal 5.15m / 18.56 AHD Top of Slotted Pipe From 5.6m: Becoming pale grey and grey. 16.71 ARGILLITE Recovered as Clayey Sandy GRAVEL: Grey to pale grey, moist, very dense. Fine to coarse, angular. Filter: Washed / Graded Sand gravel. With some quartz gravel. 15.06 ARGILLITE Grey, orange brown, fine grained, foliated, medium strength. With frequent quartz bands <10mm, parallel to foliation, some crenulated. -FP: 40°-70° (8/m), Pl-Un/Ro, OP-TI, Ct-FeSt Continued on next sheet REMARKS: DCf - Neranleigh Fernvale Beds. Standpipe piezometer installed. **LOGGED BY REVIEWED BY** GP S. Foley TMR STANDPIPE INSTALLATION LOG - CREATED WITH HOLEBASE SI



## STANDPIPE INSTALLATION LOG

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

BOREHOLE No CRR728

Sheet 2 of 2

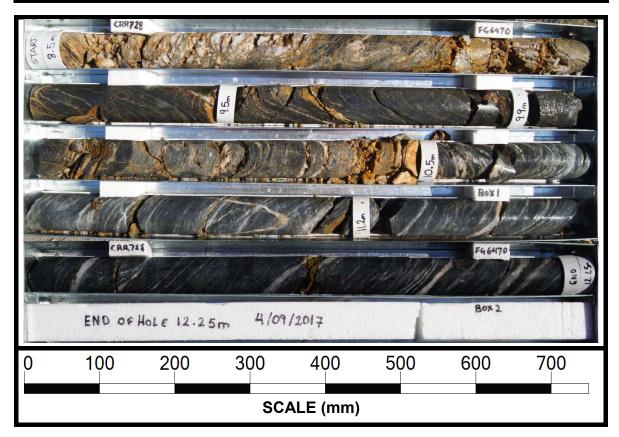
PIEZOMETER No CRR728

ROJE	СТ	C	Cross River Rail CRR2017 - Additional Geotechnica	l Investigation			
.OCAT	ION	C	QR Land			COORDINATES 502145.2	E; 6962930.9 N
ROJE	CT No	_	FG6470 SURFACE RL 23.71m	plunge 90°	DATE STARTED 04/09/2017	GRID DATUM	MGA94
OB N	0	_	HEIGHT DATUM AHD	BEARING *	DATE COMPLETED 04/09/2017	DRILLER C	Geodrill
DЕРТН (m)	R.L. (m)	LITHOLOGY	MATERIAL DESCRIPTION	Depth (m) /RL	Standpipe Constru	ction Details	etails
-	12.82	*****	ARGILLITE Cont'dJs: 45°-75° (1-2/m), PI/Ro, OP-TI, Ct ARGILLITE	(AHD)	Stick Up = 0.00m		
- 11 - 12	11.46	$\propto$	Grey, dark grey, fine grained, foliated, mainly hig strength. Frequent quartz bands <15mm thick, parallel to foliation. -FP: 35°-40° (8/m), PI/Ro, OP-TI, FeSt			Drill Cutt	ings
- 13							
- 14							
- 15							
- 16							
- 17 -							
- <sub>18</sub>							
- 19							
DI	EMAR	.Kc·	DCf - Neranleigh Fernvale Beds. Standpipe piez	zometer installed		100055 77	DEVIEWES ST
K	LIVIAK	.ca:	. Dei - Merameign remivale beus, Staniupipe pie	cometer matalieu.		GP	S. Foley
				MR STANDPIPE INSTALLATION LOG - CREATED	WITH HOLEBASE SI	Ur Ur	J. FUIEY
						-	

# CORE PHOTO LOG DEPARTMENT OF TRANSPORT AND MAIN ROADS GEOTECHNICAL SECTION



Project Name	Cross River Rail CRR2017 – Geotechnical Investigation							
Project No.	FG6470	Date	04/09/2017					
Borehole No.	CRR728	Reference No.	H12954					
Location	QR land / Portal	Start Depth (m)	8.50					
Submitted By	M. de Gee	Finish Depth (m)	12.25					



### **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 River	r Rail			Project No. FG6470						
Site ID / Bor	rehole No.	CRR728				Surface RL 23.71						
Geologist		G.P.				Date	Date 4/09/2017					
						Page	1	of	1			
Traverse	Туре	Dip ° / Dip	Planarity	Roughness	Roughness	Aperture	Infilling	Zones <sup>1</sup>	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				
9.05	FP	40	Un	Ro	IV	OP	St					
8.55-8.63	FP	=	-	Ro	VII	OP	Cn	CZ				
9.10	FP	0	Un	Ro	IV	CD	Cn	SZ				
9.36	J	45	Un	Ro	IV	CD	St					
9.58	J	35	Un	Ro	IV	CD	St					
9.65	FP	40	Un	Ro	IV	CD	St					
9.73	FP	40	Un	Ro	IV	CD	St					
9.83-9.87	-	=	Un	Ro	IV	OP	St	BZ				
10.08-10.11	FP	0-30	Un	Ro	IV	OP	St	HFZ				
10.17	J	45	Stp	Ro	IV	OP	St					
10.26-10.29	FP	40	Un	Ro	IV	FL	Vr		Qz VN			
10.37-10.40	FP	40	Un	Ro	IV	FL	Ct		Qz VN			
10.40-10.50	FP	40	Un	Ro	IV	OP	St	CZ				
10.60	J	15	Un	Sm	V	OP	St					
10.86-11.15	FP	40	Un	Ro	IV	OP	St	CZ				
11.37	FP	35	Un	Ro	IV	CD	St					
11.39	J	35	Un	Sm	V	OP	Cn					
11.44	FP	30	Stp	Ro	IV	CD	Cn					
11.57	J	10	Stp	Ro	IV	OP	Cn					
11.62	J	10	Stp	Ro	IV	OP	St					
11.64	FP	30	Un	Ro	IV	CD	St					
11.81	J	0	PI	Ro	IV	CD	St					
11.87-11.89	FP	35	Un	Ro	IV	OP	St	CZ				
11.91	FP	35	Un	Ro	IV	CD	Cn					
11.96-12.30	FPs	35	Un	Ro	IV	OP	Cn	SZ, (~50mr	m spacings)			

Note: 1. Describe zones and coatings in terms of composition and thickness (mm)  $F:GEOT\ 533/9-2014$