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				_		FINAL 2	7/09/2018
	e.) 41	Gl	EOTECHNICAL		BOREHOLE No	CR	R903
Queens	land	BC	DREHOLE LOG		Shee	t 1 of 3	
Covernm	nent		R GEOTECHNICAL TERMS AND S REFER FORM F:GEOT 017/8-2014		REFERENCE No	H1	13111
Cross River Rail (CRR) P	roject - Additional Geotechnic	al Invest	igation				
Rocklea Station (North)					COORDINATES 501384.8	8 E; 695320	)7.6 N
DJECT No FG6470	SURFACE RL 8.65m	PLUNGE	90° DATE STA	RTED 05/07/201	GRID DATUM	MGA94	
3 No	HEIGHT DATUM AHD	BEARING	• DATE COMPL	ETED 06/07/201	B DRILLER	Geodrill	
RQD					ADDITIONAL DATA		
R.L. (M) HIGHER	MATERIAL DESCRIPTION	LITHOLOGY USCS WEATHERING	INTACT STRENGTH STRENGTH SPACING		TEST RESULTS		SAMPLES TESTS
8.05 8.05 A Pale groups tiff. Hi, B From grey n C 3 A Silty CL A Pale groups tiff. Hi, B C 3 A D A D A D A D A D A D A D A D	GRAVEL and COBBLES (Fill) dark brown, and grey, moist, to very dense. Cobbles are <u>ular, 60-80mm diameter.</u> AY (Alluvium) ey and brown, moist, firm to <u>gh plasticity</u> . 0.8m: Becoming grey to pale <u>mottled orang</u> e and red.	20) 20) 20) 20)		2.50m-2.95m: CU 1	riaxial Test MC=27.	Su(PP)=50 kPa MC=34.9% DD= 1.39 t/m3 WD= 1.88 t/m3 Su(PP)=90 kPa 1, 1, 2 N=3 3% Oedometer WD= 1.96 t/m3 Su(PP)=200 kPa	BULK U50 U50 U50 U50 U50 U50 U50 U50 U50
6 6.0m F 6.0m 6 6.0m 6 6.0m	Firm					1, 3, 4 N=7 N=7% PI= 65% 29.7% LS= 20% <75μm= 90%	SPT SPT
Pale gro moist, y grained	CLAY (Alluvium) ey mottled pale orange, very stiff. Fine to medium I sand. Low plasticity. edded with Clayey SAND and					4, 6, 10 N=16	SPT
-1.35	Continued on post shart		+ +				
	Continued on next sheet	iezom			100055		
	Continued on next sheet o Subgroup. Standpipe p	Diezom	eter installed.		LOGGED BY		<b>WED BY</b> Foley

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								_		FINAL 2	7/09/2018
	ig.					GE	OTECHNICAL		BOREHOLE No	CF	R903
				ensland		BC	REHOLE LOG		Shee	t 2 of 3	
N SE	(J)	0נ	ve	ernment	SY		GEOTECHNICAL TERMS AND REFER FORM F:GEOT 017/8-2014		REFERENCE No	H:	13111
OJECT	Cross R	iver R	ail (	CRR) Project - Additional Geotechnie	cal Ir	nvesti	gation				
CATION	Rocklea	a Stati	on (	North)					COORDINATES 501384.8	3 E; 695320	07.6 N
DJECT No	FG6470	0		SURFACE RL 8.65m	PLU		0° DATE ST	TARTED 05/07/2018	GRID DATUM	MGA94	
3 No				HEIGHT DATUM AHD	BEA	RING_	DATE COM	PLETED 06/07/2018	B DRILLER	Geodrill	
		RQD			×	ŰZ	INTACT DEFECT		ADDITIONAL DATA		(0
R.L. (m)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ORE EC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	STRENGTH SPACING	с И И	AND TEST RESULTS		SAMPLES TESTS
				Sandy CLAY (Alluvium) Cont'd.			+				
										6, 13, 12	
			L				-			N=25 L=30% PI= 18% =15.9% LS= 5%	SPT
1		Γ				CL				<75µm= 39%	
						-	+				
							±				
2 -3.35				Sravelly Clayey SAND (Alluvium)						12, 15, 23 N=38	SPT
		-		ale grey mottled orange, moist, ense. Fine to medium gravel,	14	-	<u>+</u>			MC=13.3% <75µm= 33%	571
			2	ubrounded to subangular. From 12.0m: Increase in gravel		-	+				
3				fraction. Fine to medium grained, subangular to subrounded.	-		+				
						(SC)				457	
			к	13.5m: Medium dense			+			4, 5, 7 N=12	SPT
4							+				
-5.85					-	-	+				
				SANDSTONE (Rjbw) XW: Recovered as brown, moist,							
5			_	hard, Sandy CLAY.	· · · · ·					30/140mm	SPT
		Γ		Fine to medium grained Sand. Medium plasticity.	::		+				
						xw	<u>+</u>				
.6					•••		<u> </u>				
-7.75			M		· · · · ·					30/20mm	
	(	84)	-	SANDSTONE (Rjbw) SW: Grey, fine to medium grained,	· · · · · ·					50/201111	-
7				thickly bedded, medium strength. - BP: 0°-20° (15-20/m), Pl/Sm, OP/	· · · · ·				Is	(50)=0.12 MPa	D (16.75) A (16.76)
				CD, Coal/Carb Vr or Ct.	: :			17.23m-17.53m: Co Coarse sandstone b	nglomerate /	(50)=0.39 MPa	
		100 90)			· · · · ·			rounded, <20mm.			
.8					· · ·						
					•••	SW	м	18.20m-18.46m: Co sandstone, dark gre		105-33 00 110	(10 )7
					· · · · ·					JCS=23.80 MPa E=9.72 GPa v= 0.021	(18.37m D (18.50r
9					••• ••• •••					(50)=0.36 MPa (50)=0.62 MPa	A (18.51ı
				From 19.0m: BP frequency increasing to ~20-30/m.	••• ••• •••						
					· · · · ·					(50)-0 96 **0-	D (10 CF-
-11.35					•••			19.78m-19.89m: Sa Conglomerate band	ndstone / Is	(50)=0.86 MPa (50)=0.94 MPa	D (19.65r A (19.66r
• •				Continued on next sheet				clasts <20mm.			
REMARK	S: Rjb	)w - \	No	ogaroo Subgroup. Standpipe	piez	ome	ter installed.		LOGGED BY		WED BY
									ND	S.	Foley

				_						FINAL 2	7/09/2018
A A	کیکٹی				GI	OTECHN	IICAL		BOREHOLE No	CF	RR903
N.		Que	ensland ernment		BC	DREHOLE	LOG		Sł	leet 3 of 3	
B		Gov	ernment			R GEOTECHNICAL TE S REFER FORM F:GE			REFERENCE No	H:	13111
PROJECT	Cros	ss River Rai	il (CRR) Project - Additi	J	Invest	igation					
LOCATION		klea Statio			mes	Batton			coordinates 50138	4.8 F: 695320	07.6 N
PROJECT No		5470	SURFACE RL	8.65m F	PLUNGE	90°	DATE STA	 RTED 05/07/201		м MGA94	
JOB No			HEIGHT DATUM		EARING			ETED 06/07/201		ER Geodrill	
					-	1					
() R.L. (m) DE b1 H		RQD ()% U)% CORE REC%	MATERIAL DES	CRIPTION	USCS	INTACT STRENGTH	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
-			SANDSTONE (Rjbw)	*	•						
		100	SW: Cont'd.	•	•						_
-		0			:			20.58m-20.85m: E m); OP/CD, Coal/C			-
- - 21 -				•	: sw					UCS=25.20 MPa	 
-				*	. 3vv					E=8.86 GPa v= 0.057	D (21.32m)
-				•	•					Is(50)=0.72 MPa Is(50)=0.63 MPa	A (21.33m)
- 22				•				22.12m-22.37m: S	Sandstone/	ls(50)=0.60 MPa	 D (22.06m)_
- 13.8	0	100						Conglomerate bar 22.38m-22.45m: E	nd, rounded clasts Becoming	Is(50)=0.86 MPa	A (22.07m)
-			Borehole complete	ed at 22.45m		-		Siltstone. Pale gre banded, fine grain high strength.			-
- - 23							<u>+</u>				
-						-					-
 							+				
- - - 24						_	÷ 				
-						-	E .				-
-							<u> </u>				-
- - - 25						_	+				-
-						-	+				-
-						-	<u> </u>				
- - - 26							-				-
						-	+				-
-						-	+				
							E_				
- 27 -							+				-
-							+				
						-	ŧ.				-
28											
							+				
-							+				
29 							<u>+</u>				
							E				
							+				-
		<u> </u>				1	I	I			<u> </u>
REMA	RKS:	Rjbw - W	'oogaroo Subgroup	o. Standpipe pie	ezom	eter installed	Ι.		LOGGED BY	REVIE	EWED BY
									ND	S.	Foley
				TMR GEO	TECHNICAL	BOREHOLE LOG - CREATED	WITH HOLEBASE SI				

# **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 - Stao	ge 2		Project No	FG6470		
Site ID / Bo	rehole No.	CRR903				Surface RL	8.65		
Geologist		N.DEWAR				Date	6/07/2018		
						Page	1	of	2
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 /	<b>CZ</b> /	
depth	FP /	horizontal	Un /	Sm /		FL /	Vr /	HFZ /	
(rock core)	J etc.	(rock core)	PI	SI		ті	Ct <sup>1</sup>	AZ	
16.52	FP/BP	0-15°	UN	SM		OP	Vr		Carb
16.63	FP/BP	0°	PI	SM		OP	Vr		Carb
10 775	50/00		D.	CD( no roughness)					
16.775	FP/BP	0°	PI	CD( no		CD/DIS	Vr		Carb
16.785	FP/BP	5°	PI	roughness)		CD	Vr		Carb
10.00	50/00	50	D.	CD( no roughness)		0.5			
16.80	FP/BP	5°	PI	CD( no		CD	Vr		Carb
16.98	FP/BP	0°	PI	roughness)		CD	Vr		Carb
17.10	FP/BP	10°	UN	SM		OP	Vr		Carb/COAL
17.12	FP/BP	10°	UN			CD	Ct		Carb(7mm)
17.17	FP/BP	20°	UN			CD	Ct		Carb(1mm)
17.18	FP/BP	20°	UN			CD	Vr		Carb
17.19	FP/BP	20°	PI	SM		OP	Ct		COAL(4mm)
17.22	FP/BP	10°	UN	SM		OP	Ct	COAL/C	arb(4mm)
17.24	FP/BP	30°	UN			CD	Vr		Carb
17.30	FP/BP	10°	UN			CD	Vr		Carb
17.52	FP/BP	0°	UN			CD	Ct		COAL(2mm)
17.63	FP/BP	0°	PI	SM		OP	Vr		Carb
18.15	FP/BP	0-20°	UN	SM		OP	Vr		COAL
18.16	FP/BP	5°	UN			CD	Ct	Carb/CO	AL(1-2mm)
18.18	FP/BP	5°	UN	SM		OP/TI	Vr		Carb/COAL
18.73	FP/BP	0°	UN			CD	Ct		Carb
18.74	FP/BP	5°	UN			CD	Vr		Carb(4mm)
18.745	FP/BP	5°	UN			CD	Vr		Carb
18.75	FP/BP	5°	UN			CD	Vr		Carb
19.04	FP/BP	0°	PI	SM		OP	Ct		COAL(1mm)
19.07	FP/BP	0-5°	UN			CD	Vr		Carb
19.10	FP/BP	0°	UN	SM		OP	Vr		COAL

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 Nan	ne	Cross Rive	r Rail - Sta	ge 2	 Project No	FG6470			
Site ID / Boi	rehole No.	CRR903			Surface RL 8.65				
Geologist		N.DEWAR			Date	6/07/2018			
		•			Page	2	of	2	
19.30	FP/BP	0°	PI	SM	OP	Vr		Carb/COAL	
19.31	FP/BP	0°	PI		CD	Vr		Carb	
.19.315	FP/BP	0°	PI		CD	Vr		Carb	
19.32	FP/BP	0°	PI		OP	Vr		Carb	
19.56	FP/BP	10°	PI	SM	CD	Vr		Carb	
19.57	FP/BP	10°	UN		CD			Carb/COAL	
19.60	FP/BP	0°	UN		CD	Ct		Carb/COAL( 2mm)	
19.76	FP/BP	20°	PI	SM	OP	Ct		COAL(10mm	
19.87	J	5°	UN	SM	OP	CN			
19.90	FP/BP	10°	UN		CD	Vr		Carb	
20.34	FP/BP	10°	PI		OP	Ct		COAL(5mm)	
20.50	FP/BP	0°	UN		OP	Vr		COAL	
20.72	FP/BP	30°	UN	SM	OP	Vr		COAL(1mm)	
20.75	FP/BP	0°	UN	SM	OP	Ct		COAL(3mm)	
20.81	FP/BP	25°	UN	SM	COAL	Ct		COAL(2mm)	
20.95	FP/BP	20-40°	UN		CD	Ct			
20.97	FP/BP	0°	PI	SM	OP	CN/trace Vr		trace Carb	
21.02	FP/BP	20°	PI	SM	CD	Ct		COAL(2mm)	
21.33	FP/BP	20°	UN		CD	Vr		Carb/COAL	
21.52	FP/BP	10°	UN	SM	OP	Vr		Carb/COAL	
21.66	FP/BP	0°	PI	SM	OP	Vr		Carb/COAL	
21.68	FP/BP	15°	UN		CD	Vr		Carb/COAL	
21.88	BP								
21.88-21.95	FP/BP								
					Ī				
					1				

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

STANDPIPE PIEZOMETR   STANDPIPE PIEZOMETR   International State Piezon Research Colspan="2">International State Piezon Research Colspan="2">International State Piezon Research Colspan="2"   International Colspan="2"   Inte									FINAL 27/09/2018
Operation         Description         Description         Description           NNAT         COSE New York (CMR) Project - Additional Geneticinal Investigation         Conservations SULSEN & E. (1992) (2.0.11)         Conservations SULSEN & E. (1992) (2.0.11)           NNAT         Medical Science (New York)         Conservations SULSEN & E. (1992) (2.0.11)         Science (1992) (2.0.11)         Science (1992) (2.0.11)         Science (1992) (2.0.11)         Science (1992) (2.0.11)           Nat         Medical Science (1992) (2.0.11)         Medical Science (1992) (2.0.11)			Ì		NDPIPE PIE	ZOMETE	R	BOREHOLE No	CRR903
Operation         Description         Description         Description           NNAT         COSE New York (CMR) Project - Additional Geneticinal Investigation         Conservations SULSEN & E. (1992) (2.0.11)         Conservations SULSEN & E. (1992) (2.0.11)           NNAT         Medical Science (New York)         Conservations SULSEN & E. (1992) (2.0.11)         Science (1992) (2.0.11)         Science (1992) (2.0.11)         Science (1992) (2.0.11)         Science (1992) (2.0.11)           Nat         Medical Science (1992) (2.0.11)         Medical Science (1992) (2.0.11)				Queensland	NSTALLATIO	ON LOG		Sheet	1 of 3
CACHAEN			R	l <sup>e</sup> Government				PIEZOMETER No	CRR903
CDB170       SUBJECTS, 82.550       FUNCE 92"       OUT COMPUTE 05/07/2018       OUTCOMPUTE	PROJE	СТ	C	ross River Rail (CRR) Project - Additional Geotechnical	Investigation				
CDB170       SUBJECTS, 82.550       FUNCE 92"       OUT COMPUTE 05/07/2018       OUTCOMPUTE	LOCAT	ION	R	ocklea Station (North)			(	coordinates 501384.8	E; 6953207.6 N
DD IND         LUE IT PRIVAL ALTO         RUERING         Data Contracts         DRUTCH DR	PROJE	CT No	F	-G6470 SURFACE RL 8.65m P	lunge 90°	DATE STAF			
Standpipe Piezometer Construction Details           Bit Material Description         Standpipe Piezometer Construction Details           Depth (m) /RL (AND)         Somm PVC Case No. 18 Stock Up = 0.00m         Backfill Details           Image: Standpipe Piezometer Construction Details (mit) Brown, dark brown, and greg, molt, dense to very degreg and trown, and greg, molt, dense to very degreg and trown, molt, firm to stift. High Harder, Details (mit)         Image: Standpipe Piezometer Construction Details           1         Image: Standpipe Piezometer Construction Details         Crout: Cameet / Bentonite mit           2         Image: Standpipe Piezometer Construction Details         Crout: Cameet / Bentonite mit           2         Image: Standpipe Piezometer Construction Details         Crout: Cameet / Bentonite mit           2         Image: Standpipe Piezometer Construction Details         Crout: Cameet / Bentonite mit           2         Image: Standpipe Piezometer Construction Details         Crout: Cameet / Bentonite mit           2         Image: Standpipe Piezometer Construction Details         Standpipe Piezometer Construction Details           2         Image: Standpipe Piezometer Construction Details         Standpipe Piezometer Construction Details           2         Image: Standpipe Piezometer Construction Details         Standpipe Piezometer Construction Details           3         Image: Standpipe Piezometer Construction Details         Standpipe Piezometer Constructi	IOB N	n		HEIGHT DATUM AHD BE					Geodrill
g       h       g       MATRIAL DESCRIPTION       Depth (m) /RL (AHD)       Some PVC Class No. 18 Stack Up = 0.00m       Backtill Details         a       a       B       Clayer (GRAVEL and COBRES (TIII) Made grey and thorow, most, firm to stift. High Pade grey and thorow, mos		-	_						
a       Cayey GRAVEL and COBBLES (Fill) Brown, dark thrown, and grey, molt, dense to very brown, dark thrown, and grey, molt, dense to very structure. Cobbine an solution.       Corout: Cement / Bentomic grey for use of the for	4 (m)	R.L.	LOGY						
8.00       Brown, dark thrown, and grey, motist, demis to very and the second and the	DEPTH		ПТНО	MATERIAL DESCRIPTION				Backfill	Details
100       Edense. Cobbins are subangular, 60:80mm diameter.         1			*						
1       Image: Set Set CAM (Mandam)         1       Image: Set	-	9.05							
- 1       -	-	0.05	<u>~~</u>	Silty CLAY (Alluvium)					
2       Image and red.       2.00m / 6.65 AHD       Image and red.         2       Image and red.       3.00m / 5.65 AHD       Image and red.         3       Image and red.       3.00m / 5.65 AHD       Image and red.         4       Image and red.       3.00m / 5.65 AHD       Image and red.         5       Image and red.       3.00m / 5.65 AHD       Image and red.         6       Image and red.       3.00m / 5.65 AHD       Image and red.         7       Image and red.       Image and red.       Image and red.         9       Image and red.       Image and red.       Image and red.         9       Image and red.       Image and red.       Image and red.         9       Image and red.       Image and red.       Image and red.         9       Image and red.       Image and red.       Image and red.         9       Image and red.       Image and red.       Image and red.         9       Image and red.       Image and red.       Image and red.         9       Image and red.       Image and red.       Image and red.         9       Image and red.       Image and red.       Image and red.         9       Image and red.       Image and red.       Image and red. <t< td=""><td>— 1</td><td></td><td>×_</td><td></td><td></td><td></td><td></td><td>Grout: Cement</td><td>Bentonite mix</td></t<>	— 1		×_					Grout: Cement	Bentonite mix
2       200m / 6.85 AHD       Bentonite seal         3       3.5m Soft       3.00m / 5.85 AHD       Bentonite seal         4       4       4       4       5.5m Soft       Bentonite seal         -       4       5.5m Soft       Bentonite seal       Bentonite seal         -       4       5.5m Soft       Bentonite seal       Bentonite seal         -       6       6.0m Fm       Bentonite seal       Bentonite seal         -       6       6.0m Fm       Bentonite seal       Bentonite seal         -       6       6.0m Fm       Bentonite seal       Bentonite seal         -       0.15       Bandy CLAY (Alluvium)       Bentonite seal       Bentonite seal         -       0.15       Bandy CLAY (Alluvium)       Bentonite seal       Bentonite seal         -       0.15       Bandy CLAY (Alluvium)       Bentonite seal       Bentonite seal         -       0.15       Bandy CLAY (Alluvium)       Bentonite seal       Bentonite seal         -       0.15       Bandy CLAY (Alluvium)       Bentonite seal       Bentonite seal         -       0.15       Bandy CLAY (Alluvium)       Bentonite seal       Bentonite seal         -       1.5       Bandy CLAY (All				From 0.8m: Becoming grey to pale grey mottled					
2       Bentonite seal         3       3.00m / 5.65 AHD         4       2.00m / 5.65 AHD         4       2.00m / 5.65 AHD         5       3.00m / 5.65 AHD         6       2.00m / 5.65 AHD         6       2.00m / 5.65 AHD         7       5.00m / 5.65 AHD         6       2.00m / 5.65 AHD         7       5.00m / 5.65 AHD         8       5.00m / 5.65 AHD         9       5.00m / 5.65 AHD         9       5.00m / 5.65 AHD         9       5.00m / 5.05 AHD         9       1.00m / 5.05 AHD </td <td>-</td> <td></td> <td></td> <td>orange and red.</td> <td></td> <td></td> <td></td> <td></td> <td></td>	-			orange and red.					
Bentonite seal Bentonite seal Benton	-		÷						
3 00m / 5.85 AHD       3 00m / 5.85 AHD         - 4       - 4         - 4       - 4         - 5       - 4         - 6       - 4         - 7       - 5         - 8       - 6         - 9       - 6         - 10       - 7 </td <td>- 2</td> <td></td> <td>÷</td> <td></td> <td>2.00m / 6.65 AHD</td> <td></td> <td></td> <td></td> <td></td>	- 2		÷		2.00m / 6.65 AHD				
3 00m / 5.85 AHD       3 00m / 5.85 AHD         - 4       - 4         - 4       - 4         - 5       - 4         - 6       - 4         - 7       - 5         - 8       - 6         - 9       - 6         - 10       - 7 </td <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	-								
-       -	-							Benton	te seal
-       -	-				2 00 - / 5 65 4 4 0				
- 4       - 4.5m: Very stiff         - 5       - 5         - 6       - 6         - 7       - 7         - 8       - 7         - 9       - 8         - 15       - 8         - 15       - 8         - 15       - 8         - 15       - 9     <	- 3				3.00m / 5.65 AHD				
- 4       - 4.5m: Very stiff         - 5       - 5         - 6       - 6         - 7       - 7         - 8       - 7         - 9       - 8         - 15       - 8         - 15       - 8         - 15       - 8         - 15       - 9     <	-								
-       -	-		<u>×</u> _	3.5m: Soft					
-       -	-		<u>×</u>						
s s s du la construir de la	- 4		×						
s s s du la construir de la	-		<u>×</u>						
- 6       - 7       -	-		×_	4.5m: Very stiff					
- 6       - 7       -	- - 		×						
- 7       -			×						
- 7       -	-		×						
- 7       -			<u> </u>						
- 7       - 7         - 7       - 7         - 8       - 15         - 8       - 15         - 9       - 15         - 1.35       - 1000 pairs         -	- 6		×	6.0m: Firm					
- s       x         - s       x			Ļ,						
- s       x         - s       x	-		É-						
- s       x         - s       x			È-						
0.15       Sandy CLAY (Alluvium)         Pale grey mottled pale orange, moist, very stiff. Fine to medium grained sand. Low plasticity. Interbedded with Clayey SAND and Clay.         - 9       - 1.35         Continued on next sheet         LOGGED BY         REVIEWED BY         ND       S. Foley	7		×						
0.15       Sandy CLAY (Alluvium)         Pale grey mottled pale orange, moist, very stiff. Fine to medium grained sand. Low plasticity. Interbedded with Clayey SAND and Clay.         - 9       - 1.35         Continued on next sheet         LOGGED BY         REVIEWED BY         ND       S. Foley	-		×_						
0.15       Sandy CLAY (Alluvium)         Pale grey mottled pale orange, moist, very stiff. Fine to medium grained sand. Low plasticity. Interbedded with Clayey SAND and Clay.         - 9       - 1.35         Continued on next sheet         LOGGED BY         REVIEWED BY         ND       S. Foley	-		×_						
0.15       Sandy CLAY (Alluvium)         Pale grey mottled pale orange, moist, very stiff. Fine to medium grained sand. Low plasticity. Interbedded with Clayey SAND and Clay.         - 9       - 1.35         Continued on next sheet         LOGGED BY         REVIEWED BY         ND       S. Foley	-		×						
- 9       Sandy CLAY (Alluvium)         Pale grey mottled pale orange, moist, very stiff. Fine to medium grained sand. Low plasticity.       Interbedded with Clayey SAND and Clay.         Interbedded with Clayey SAND and Clay.       Interbedded with Clayey SAND and Clay.         - 1.35       Continued on next sheet         ECONTINUE on next sheet         REMARKS: Rjbw - Woogaroo Subgroup. Standpipe piezometer installed.         Image: Reviewed by the standpipe piezometer installed.       Image: Reviewed by the standpipe piezometer installed.         ND       S. Foley	- 8		×						
Pale grey mottled pale orange, moist, very stiff. Fine to medium grained sand. Low plasticity. Interbedded with Clayey SAND and Clay. -1.35 Continued on next sheet REMARKS: Rjbw - Woogaroo Subgroup. Standpipe piezometer installed. REMARKS: Rjbw - Woogaroo Subgroup. Standpipe piezometer installed. ND S. Foley	-	0.15	×						
- 9 - 9 - 1.35 - 1.35 - Continued on next sheet REMARKS: Rjbw - Woogaroo Subgroup. Standpipe piezometer installed. REMARKS: Rjbw - Woogaroo Subgroup. Standpipe piezometer installed. ND S. Foley	-								
Image: Continued on next sheet       LOGGED BY       REVIEWED BY         REMARKS: Rjbw - Woogaroo Subgroup. Standpipe piezometer installed.       ND       S. Foley	- 9			to medium grained sand. Low plasticity.					
Continued on next sheet         REMARKS:       Rjbw - Woogaroo Subgroup. Standpipe piezometer installed.       LOGGED BY       REVIEWED BY         ND       S. Foley	-			Interbedded with Clayey SAND and Clay.					
Continued on next sheet         REMARKS:       Rjbw - Woogaroo Subgroup. Standpipe piezometer installed.       LOGGED BY       REVIEWED BY         ND       S. Foley	-								
Continued on next sheet         REMARKS:       Rjbw - Woogaroo Subgroup. Standpipe piezometer installed.       LOGGED BY       REVIEWED BY         ND       S. Foley	_	4.05							
ND     S. Foley		-1.35	<u> </u>	Continued on next sheet	1				
ND     S. Foley	RI	EMAR	KS:	Rjbw - Woogaroo Subgroup. Standpipe piezometer	installed.			LOGGED BY	REVIEWED BY
				TMR STANDPIPF	PIEZOMETER INSTALLATION LOG - CF	EATED WITH HOLEBASE SI			5. TOICY

						_		FINAL 27/09/2
4	*		7 Ma	NDPIPE PIE		ER	BOREHOLE No	CRR903
			l Government	FOR GEOTECHNICAL TE SYMBOLS REFER FORM F:GE	RMS AND		Sheet PIEZOMETER No	2 of 3
IEC	т.		ross River Rail (CRR) Project - Additional Geotechnical					
			cocklea Station (North)	Investigation				E. COE 2207 C N
	ON						COORDINATES 501384.8	
	T No	-		PLUNGE 90°		RTED 05/07/2018		
lo			неіднт датим <u>АНD</u> в	EARING		ETED 06/07/2018		
	R.L.	QG√		5	tandpipe P	iezometer Co	onstruction Deta	IIIS
	(m)	ГІТНОГОGY	MATERIAL DESCRIPTION	Depth (m) /RL (AHD)		Class No. 18 o = 0.00m	Backfill	Details
			Sandy CLAY (Alluvium) Cont'd.					
l								
	-3.35		Gravelly Clayey SAND (Alluvium)	-				
		77	Pale grey mottled orange, moist, dense. Fine to					
		_	medium gravel, subrounded to subangular. From 12.0m: Increase in gravel fraction. Fine to					
		_	medium grained, subangular to subrounded.					
		_						
			13.5m: Medium dense					
		7						
ŀ	-5.85		SANDSTONE (Rjbw)					
		•••	XW: Recovered as brown, moist, hard, Sandy CLAY.					
		•••	Fine to medium grained Sand. Medium plasticity.				Filter: Washed	/ Graded sand
		::						
		::						
		•••						
l		•••						
ŀ	-7.75			-				
l			SANDSTONE (Rjbw) SW: Grey, fine to medium grained, thickly bedded,					
		••• •••	medium strength.					
		· · ·	- BP: 0°-20° (15-20/m), PI/Sm, OP/CD, Coal/Carb Vr or Ct.					
		::						
		::						
		::						
		· · · ·						
		••• ••• •••						
		· · · ·						
		•••	From 10.0m; DD from and increasing to 00.001					
		•••	From 19.0m: BP frequency increasing to ~20-30/m.					
1		· · ·		19.45m / -10.80 AHD			Top of slo	otted pipe
L	-11.35	::	Continued on next sheet			- 2: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2:		
E	MAR	KS:		installed.			LOGGED BY	REVIEWED
				PIEZOMETER INSTALLATION LOG - CRE			ND	S. Foley

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						-		FINAL 27/09/2018
	* 11	È		STA	NDPIPE PIE	ZOMETER	BOREHOLE No	CRR903
0.000	N.		Queensland	<b>I</b>	NSTALLATIO	ON LOG	Sheet	3 of 3
	N	X	Government	S	FOR GEOTECHNICAL 1 SYMBOLS REFER FORM F:G		PIEZOMETER No	CRR903
PROJEC	T	C	ross River Rail (CRR) Project - Addition	nal Geotechnical	Investigation			
LOCATI	ON	R	ocklea Station (North)				COORDINATES 501384.8	E; 6953207.6 N
PROJEC	CT No	F	G6470 SURFACE RL 8	8.65m PI	lunge 90°	DATE STARTED 05/07/2018	GRID DATUM	/IGA94
JOB No	1	_	HEIGHT DATUM A	HD BE	ARING	DATE COMPLETED 06/07/2018	B DRILLER G	Geodrill
(u		G۷			5	Standpipe Piezometer C	onstruction Deta	ils
DEPTH (m)	R.L. (m)	гітногоду	MATERIAL DESCRIPTIO	DN	Depth (m) /RL (AHD)	50mm PVC Class No. 18 Stick Up = 0.00m	Backfill	Details
23 24 25 25 25 25 27 27 28	-13.80	<ul> <li>* * *</li> <li>* * *</li> <li>* * *</li> <li>* * *</li> <li>* *</li> <li>*</li></ul>	SANDSTONE (Rjbw) SW: Cont'd. Borehole completed at 22.45	im .	_22.45m / -13.80 AHD			
29 								
pr		Κ¢·	Rjbw - Woogaroo Subgroup. Standp	oipe piezometer	installed			
κt	IVIAK	1/2:	nyaw woogaroo sungroup, sidilup	איר אינצטוווכנפו	motuneu.		LOGGED BY	REVIEWED BY
							ND	S. Foley

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CORE PHOTO LOG DEPARTMENT OF TRANSPORT AND MAIN ROADS GEOTECHNICAL SECTION



Project Name	Cross River Rail CRR	Cross River Rail CRR 2018 – Geotechnical Investigation							
Project No.	FG6470	Date	05/07/2018						
Borehole No.	CRR903	Reference No.	H13111						
Location	Rocklea Station	Start Depth (m)	16.45						
Submitted By	J. Armstrong	Finish Depth (m)	22.45						

Fal470 Fal470 Fal470		ERTERING (RATION)	
			X
ACC DATA	6	CORTOS	Cim Style
SALE CONTRACTOR			
Sugar Contraction			
< 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	33.Dm		<b>Z</b> U45IN
0 100 200	300 400	500 600	700
	SCALE (mm	)	