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Queensland Government	
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GEOTECHNICAL BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014 FINAL 27/09/2018

CRR909

Sheet 1 of 3

BOREHOLE No

REFERENCE No

H13100

PROJEC	T	C	ros	s River	Rail	(CRR) Project - Additional Geotechnic	al In	vesti	gation					
LOCATI	ON	C	lap	ham Ya	ard							COORDINATES 501319.3	E; 695438	36.4 N
PROJEC	CT No	FG6470 SURFACE RL 8.76m PL		PLU	PLUNGE 90° DATE STARTED 25/			RTED 25/06/2018	GRID DATUM	MGA94				
JOB No	I					HEIGHT DATUM AHD	BEAF	RING_		DATE COMPLI	ETED 26/06/2018	DRILLER (Geodrill	
DEPTH (m)	R.L. (m)	AUGER CASING	WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	ПТНОГОСУ	USCS WEATHERING	INTACT STRENGTH 표구구구목구구 교			ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
- - - - - - - - - - - - - - - - - - -	7.96				A	COBBLES with Clay trace Sand (Fill) Brown grey, dry, dense. Cobbles 20-70mm, angular ballast. Clay fraction is medium to high plasticity. Sand fraction is fine to coarse. CLAY with Sand (Alluvium) Grey mottled pale red and brown, moist, firm. Medium plasticity. Interbedded Sandy Clay and Clay with sand layers. Fine to medium				-			3, 3, 4 N=7	BULK
2					с	from 2.5m: stiff.		(CI)					7, 9, 7 N=16	SPT
- - - - - - 4					D	from 3.5m: very stiff to hard.				- - - -	3.50m-3.95m: CU Tri	D	MC=24.1% DD= 1.63 t/m3 /D= 2.02 t/m3	U50
- - - - - - - - -					E	from 4.5m: pale grey mottled pale red and orange. Trace fine grained sand.				-			5, 13, 13 N=26 =40% PI= 22% 25.3% LS= 8% <75μm= 63%	SPT
6 6 6	3.26	-			F	Sandy CLAY (Alluvium) Grey to pale brown, moist, very stiff to hard. Medium plasticity. Fine grained sand.							9, 19, 19 N=38	SPT
- - - - - - - - - - - - - - - - - - -					G			CI					8, 7, 10 N=17	SPT
- - - - - - - - - - - - - - - - - - -					н								5, 8, 10 N=18 =36% PI= 16% 6.1% LS= 11% <75µm= 46%	SPT
-	-1.24				1	Continued on next sheet			1+		I			
RE	MAR	KS:	l	Rip - A	Aspl	ey Formation						LOGGED BY		WED BY
						T540 /	FOTEC	INICAL P	DREHOLE LOG - CREATED WI	TH HOLERASE SI		ND	S.	Foley
						TMR G	CULECH	INICAL BO	INCHOLE LOG - CKEATED WI	III NULEBASE SI				

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GEOTECHNICAL BOREHOLE LOG

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

FINAL 27/09/2018

CRR909

Sheet 2 of 3

BOREHOLE No

REFERENCE No

H13100

PROJE	ст		Cros	s River	Rail	(CRR) Project - Additional Geotechnic	al Ir:	nvesti	gation					
LOCAT	ION		Clap	ham Ya	ard						(COORDINATES 501319.3	E; 69543	86.4 N
PROJE	CT No	_	FG6	470		SURFACE RL 8.76m	PLU	INGE 9	0°	DATE STAI	RTED 25/06/2018	GRID DATUM	MGA94	
JOB N	D	_				HEIGHT DATUM AHD	BEAF	RING_		DATE COMPL	ETED 26/06/2018	DRILLER C	Geodrill	
DEPTH (m)	R.L. (m)	AUGER	WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPI	MATERIAL DESCRIPTION	ПТНОГОСУ	USCS WEATHERING	INTACT STRENGTH 표근구구구구권	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
-					I	Clayey Sandy GRAVEL (Alluvium) Grey to brown mottled orange and							MC=10.9% <75µm= 20%	SPT
- - -						dark grey, moist, very dense. Fine to coarse gravel, subrounded.		(GC)		- 		1	5, 30/145mm	
11					J	Medium to coarse sand. High plasticity.				- - -		1	9, 30/120mm	SPT
- - - - - - - - - - - - -	-2.74					GRAVEL with Sand and Clay (Alluvium) Grey to brown, moist, very dense. Coarse gravel and cobbles <100mm, subrounded to subangular. Coarse							30/50mm	
- - - - - - - -					K	at 12.30m: Clay band. Grey, moist, hard. Medium plasticity.		(GP- GC)						
- - - - - - -	-5.24					SILTSTONE (Rip) XW: Recovered as black with trace orange mottling, moist, hard, Sandy SILT. Fine grained. With interbedded coal and carbonaceous siltstone.	***********	xw					30/100mm	
15 16	-6.24			(0) 100 (12)		SILTSTONE (Rip) HW: Black with trace orange mottling, fine grained, thinly bedded, very low to medium strength. Interbedded carbonaceous siltstone, typically low strength.	*****	MW HW MW HW	LM LM VL-L M	E C C	 15.13m-15.15m: BZ 15.24m-15.35m: BZ, 15.42m-15.61m: Coz 15.65m-15.61m: Coz 15.65m-15.96m: BZ, 16.01m-16.05m: HW 16.09m-16.20m: HW 	Coal Is(5 al Coal / / Coal	50)=0.04 MPa 50)=0.01 MPa	D (15.15m) A (15.16m) - - - - - - - - - - - - - - - - - - -
- - -	-8.04					- BP: 0°-10° (8-14/m), Pl/Sm, OP, Cn, Clay / Coal Vr.	****	нw	L	VC E.	16.46m-16.80m: HW			
- - - - -				100 (71)		SANDSTONE (Rip) MW: Grey, fine to medium grained, thinly bedded, medium strength. Siltstone/Carbonaceous siltstone	· · · · · · · · · · · · · ·		м	M C	₩ 16.83m-16.86m: BZ	Is(S	50)=0.38 MPa 50)=0.04 MPa	A (16.92m) ⁻ D (16.97m)-
- - - 18 -						beds throughout. -BP: 0°-10° (1-3/m, PI/Sm, OP, Cn.	· · · · · · · · · · ·	MW	VL	м	⇒ 18.33m-18.35m: XW	ls(S ls(S	S=15.00 MPa E=1.25 GPa v= 0.045 50)=0.07 MPa 50)=0.40 MPa	(17.63m) <u> </u> D (17.81m) <u> </u> A (17.82m)
- - - - - - 19	-9.91			100 (82)		SILTSTONE (Rip) MW: Grey, fine grained, thinly	· · · · · · · · · · · · · · · · · · ·	MW	LM	C	, 10.33III: 20.37III: 20.37IIII: 20.37III: 20.37III: 20.37III: 20.37III: 20.37III: 20.	is(S	50)=0.31 MPa 50)=0.52 MPa	– – – – – – – – – – – – – – – – – – –
-	-10.60					bedded, medium strength. -BP: 0°-10° (1-3/m), Pl/Sm, OP, Cn SANDSTONE (Rip) MW:	****	MW		C	➡ 19.34m-19.36m: XW			- (10.31111)- - - - - - - - -
-	-11.24	 				Continued on next sheet	::							-
R	EMAF	RKS	:	Rip - A	Aspl	ey Formation						LOGGED BY	REVIE	EWED BY
												ND	S.	Foley

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													FINAL 2	7/09/2018
		ìc.	n - 2002		4345.0 MG			GE	OTECHN	IICAL		BOREHOLE No	CF	RR909
			Qu	le	ensland			BC	REHOLE	LOG		She	et 3 of 3	
	13 M	XI'	Go	Ve	ernment		SY		GEOTECHNICAL TE REFER FORM F:GE			REFERENCE No	H	13100
PROJE	ст	Cros	s River	Rail	(CRR) Project - Additio	nal Geotechni								
LOCAT			ham Ya		(entry reject / dution			West	Bation			COORDINATES 501319	.3 F: 69543	86.4 N
PROJE			470		SURFACE RL 8	3.76m	PLU	JNGE S	0°	DATE STA	 RTED 25/06/201			
JOB No					HEIGHT DATUM									
								-						
DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCI	RIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
22	-12.84		100		SANDSTONE (Rip) MW: Cont'd. Grey, white and pale g to coarse grained, thir low to medium streng Siltstone interbeds thr 30mm thick. BP: 0°-20° (~30/m), P 21.00m to 21.22m: Sil (MW): Grey, fine grain strength. Borehole completed	Ily bedded, th. roughout I/Sm, OP, Cn. tstone bed ed, medium		MW					Is(50)=0.06 MPa Is(50)=0.27 MPa UCS=6.45 MPa Is(50)=0.08 MPa Is(50)=0.33 MPa Is(50)=0.33 MPa Is(50)=0.08 MPa	A (20.30m) (20.43m) _ D (20.70m)- A (20.71m)
29 2 														
R	MAR	<s: 1<="" td=""><td>Rip - A</td><td>sple</td><td>ey Formation</td><td></td><td></td><td></td><td></td><td></td><td></td><td>LOGGED BY</td><td>REVIE</td><td>EWED BY</td></s:>	Rip - A	sple	ey Formation							LOGGED BY	REVIE	EWED BY
												ND	S.	Foley
-						TMR	GEOTEC	HNICAL B	OREHOLE 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 - Stag	ge 2		Project No. FG6470					
Site ID / Bor	rehole No.	CRR909				Surface RL 8.76					
Geologist		N.DEWAR				Date 27/06/2018					
						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			
17.06	BP	5°	UN	SM		OP	CN				
17.07	BP	5°	PI	SM		OP	CN				
17.13	BP	10°	UN	SM		OP	CN				
17.14	J	70°	PI	SM		OP	CN				
17.25	BP	20°	UN	SM		OP	CN				
17.36	BP	0°	PI	Ro		OP	CN				
17.43	J	0-40°	UN	SM		OP	CN				
17.46	-	-	-	-		-	-				
17.81	J	20°	UN	Ro(coarse sa	ndstone)	OP	CN				
18.08	BP	10°	UN	SM		OP	Vr		SILT/CLAY		
18.28	J	25°	UN	SM		OP	Vr		-		
18.54	BP	5°	PI	SM		OP	Vr		COAL/CLAY		
18.62	BP	0°	PI	SM		OP	Vr		CLAY		
18.66	J	50°	UN	SM		OP	Ct		COAL(2mm		
18.82	J	0°	PI	Ro(coarse sa	ndstone)	OP	CN				
19.09	BP	0°	PI	SM		OP	CN				
19.33	BP	10°	PI	SM		OP	CN				
19.34	J	40°									
19.45	BP	10°	PI	SM		OP	Vr		CLAY		
19.34-19.54	J	80-90°	UN	SM		OP	CN				
19.54	J	5°	UN	Ro(coarse sa	ndstone)	OP	CN				
19.70	J	10°	PI	-		OP	CN				
19.94	J	30°	UN	SM		OP	Vr		CLAY		
20.55	J	5°	UN	Ro(coarse sa	ndstone)	OP	CN				
20.86	J	10°	PI	-		OP	CN				
21.09	J	20°	UN			CD					
21.21	BP	0°	PI	SM		OP	CN				
21.50	J	50°	UN	Ro(coarse sa	ndstone)	OP	CN				
21.53	J	10°	UN	-		-	-				
21.55	J	10°	UN	-		OP	Vr		CLAY		
21.57	J	30°	UN	-		OP	CN				

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

F:GEOT 533/9 - 2014

CORE PHOTO LOG DEPARTMENT OF TRANSPORT AND MAIN ROADS GEOTECHNICAL SECTION



Project Name	Cross River Rail CRR 2018 – Geotechnical Investigation										
Project No.	FG6470	Date	25/06/2018								
Borehole No.	CRR909	Reference No.	H13100								
Location	Clapham Yard	Start Depth (m)	15.0								
Submitted By	J. Armstrong	Finish Depth (m)	21.6								

