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Retrieved from the Queensland Geotechnical Database http://qgd.org.au/

													FINAL 1	1/12/2018
	. A A	A.C.	007 Select		Marih ali			GE	OTECHN	IICAL		BOREHOLE No	CF	RR932
			🤊 Qı	le	ensland			BC	REHOLE	LOG		Sheet	1 of 2	
	10g	20	Go)Ve	ernment		c.v		GEOTECHNICAL TE REFER FORM F:GE			REFERENCE No	н	13053
			D.	D :1						01017/8-2014				
PROJEC					(CRR) Project - Additio	nai Geotechnio	cal Ir	nvesti	gation			502074.0	5 60656	60 F N
LOCATI	ON			n St,	Windsor							COORDINATES 503874.0		68.5 N
PROJEC	CT No	FG	6470		SURFACE RL	6.03m	PLU	JNGE 9	0°		RTED 28/05/2018		MGA94	
JOB No)				HEIGHT DATUM	AHD	BEA	RING_		DATE COMPL	ETED 29/05/2018	DRILLER (Geodrill	
DEPTH (m)	R.L. (m)	AUGER CASING VASH BORING	RQD ()% CORE REC %	SAMPLE	MATERIAL DESC	RIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH 표근구구주구구권	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
			(17) (17) <u>100</u> (39) <u>100</u> (61)	A	Clayey GRAVEL with C Brown, moist, dense, coarse, angular gravel high plasticity. Some a cobbles. Sandy GRAVEL with C Dark grey, mottled pa loose, fine to coarse a angular gravel. Mediu grained sand. Some h fines. Anthropogenic throughout (ash, cera Grey, mottled pale bro firm, high plasticity. TUFF (Rif) XW: Recovered as Gra Brown, pale red, mottle moist, hard, high plas coarse grained san. TUFF (Rif) MW: Pale red, mottle and pale brown, fine a medium, subrounded clayey matrix, high str iron staining, massive Js: 0-20°, (4-6/m), Un, FeSt, some Vn Cly	medium to I. Medium to angular lay (Fill) le grey, dry, ingular to sub- im to coarse igh plasticity material mic). bwn, moist, dynamic fine to avelly CLAY. ticity. Fine to avel. Trace fine d. d pale grey grained, fine to clasts within rength, some		(GC) (GP- GM)			 7.08m-7.11m: XW B 7.21m-7.26m: XW B 7.21m-7.35m: HW 7.35m-7.40m: XW B 7.79m-7.82m: HW 8.54m-8.56m: XW B 	and and and and is(is(i is()	-70% PI= 40% 1.9% LS= 18% DD= 1 t/m3 DD= 1 t/m3 DD= 1.51 t/m3 hw, hw, 3 N=3 hw, hw, 3 N=3 50)=2.60 MPa 50)=1.80 MPa 50)=1.30 MPa 50)=1.30 MPa 50)=1.30 MPa 50)=1.30 MPa	U50 U50 SPT D (8.04m) A (8.10m) D (8.78m) A (8.90m) (9.41m)
	-3.97							мw						-
	-0.81				Continued on ne	xt sheet	223		J		I			I
RE	MARI	KS:	Rif - B	risb	ane Tuff. Standpipe	e piezomete	r in	stalle	ed.			LOGGED BY	REVI	EWED BY
												ND	S.	Foley

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TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

															FINAL 1	1/12/2018
	5 A	ins.			12x13 #7		0	GEO	OTECHN	IICA	۹L		BOREHO	LE No	CR	R932
M.		韵	Qu	e	ensland ernment		B	30	REHOLE	LO	G			Sheet	2 of 2	
t	<u>S</u>	2P	Go	Ve	ernment				GEOTECHNICAL TE REFER FORM F:GE				REFEREN	CE No	H	13053
			- Diver	Deil						01017	/8-2014					
PROJECT					(CRR) Project - Additio	onal Geolechnic	ai inve	estig	ation					02974 0		
LOCATIO				SL,	Windsor	(02m		0(<u>۵</u>			28/05/201	COORDINATES 5			N C.80
PROJECT	r No	FG6	470		SURFACE RL		PLUN)			RTED 28/05/201		D DATUM		
JOB No			1		HEIGHT DATUM	AHD	BEARIN	NG		DA	TE COMPLE	ETED 29/05/201	.8	DRILLER	Geodrill	
DEPTH (m)	R.L. (m)	CASING WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESC	RIPTION	USCS LITHOLOGY	WEATHERING	INTACT STRENGTH	SP			ADDITIONAL D/ AND TEST RESULT			SAMPLES TESTS
	-7.76		100 (60)		TUFF (Rif) MW: Cont'd Borehole complete			ww sw		c				Is(Is(CS=16.30 MPa E=2.25 GPa 50)=0.35 MPa 50)=0.78 MPa 50)=0.40 MPa 50)=0.94 MPa	(11.03m) D (11.29m) A (11.30m) A (11.30m) A (13.38m) A (13.41m)
REI	MARK	S: F	Rif - Br	isba	ane Tuff. Standpip	e piezometer	inst	alle	d.				LOGGE	D BY	REVIE	WED BY
													NE			Foley
						TMR GE	OTECHNI	ICAL BOI	REHOLE LOG - CREATED	VITH HOLE	BASE SI		1		1	,

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		Cross Rive	r Rail - Stag	ge 2		Project No. FG6470							
Site ID / Bo	rehole No.	CRR932				Surface RI	6.03						
Geologist		Nick Dewar	•			Date							
						Page	1	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)	Pl	SI		TI	Ct ¹	AZ					
7.08	J	5	Un	Ro	IV	OP	St		Fe				
7.14	J	5	Un	Sm	V	OP	St		Fe				
7.18	J	10	Un	Sm	V	OP	St		Fe				
7.21	J	0	Un	Sm	V	OP	St		Fe				
7.28	J	50	Un	Sm	V	OP	Cn						
7.35	J	40	Un	Sm	V	OP	Cn		Cly				
7.41	J	80	Un	Sm	V	OP	St		Fe				
7.42	J	10	Un	Sm	V	OP	St		Fe				
7.56	J	5	Un	Sm	V	OP	St		Fe				
7.62	J	5	Un	Sm	V	CD	St		Fe				
7.80	J	20	Un	Sm	V	OP	Cn						
8.01	J	5	Un	Sm	V	V OP Vr			Cly				
8.06	J	10	Un	Sm	V	OP	St		Fe				
8.14	J	15	Un	Sm	V	FL	Ct/St	Cly(15	mm)/Fe				
8.19	J	70	Un	Sm	V	OP	St	Fe, J: 8.	19-8.44m				
8.34	J	10	Un	Sm	V	OP	Cn						
8.40	J	10	Un	Sm	V	OP	Cn						
8.55	J	5	Un	Sm	V	FL	Ct/St		Cly/Fe				
8.64	J	10	Un	Sm	V	FL	Ct/St		Cly/Fe				
8.73	J	10	Un	Sm	V	OP	St		Fe				
8.81	J	5	Un	Sm	V	OP	Cn						
8.97	J	20	Un	Sm	V	FL	Ct		Cly				
9.05	J	30	Un	Sm	V	OP	Cn						
9.13	J	20	Un	Sm	V	OP	St		Minor Fe				
9.31	J	20	Un	Sm	V	OP	St		Fe				
9.34	J	10	Un	Sm	V	TI							
9.40	J	5	Un	Sm	V	OP	St		Minor Fe				
9.40	J	0-15	Un			CD	St	Fe, J: 9.	4-9.65m				
9.67	J	10	Stp	Sm	II	OP	St		Fe				
9.85	J	5	Stp	Sm	II	OP	St		Fe				
9.88	J	10	Un	Sm	V	FL			Cly				

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		Cross Rive	r Rail - Stag	ge 2		Project No.FG6470						
Site ID / Bor	rehole No.	CRR932				Surface RI	6.03					
Geologist		Nick Dewar				Date	29/05/2018	-	-			
						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				
10.11	J	10	Un	Sm	V	OP	St		Fe			
10.24	J	0	Un	Sm	V	CD						
10.30	J	10	Un	Sm	V	OP	St		Fe			
10.46	J	5	Un	Sm	V	OP	Cn					
10.52	J	5	Un	Sm	V	FL	Ct		Cly(8mm)			
10.52	J	90	Un	Sm	V	OP	St	Fe, J: 10.	52-10.65m			
10.61	J	20	Un	Sm	V	OP	St		Fe			
10.70	J	30	Un	Sm	V	OP	St		Fe			
10.84	J	20	PI	Sm	VIII	OP	Cn					
11.00	J	0	Un	Sm	V	OP	Cn					
11.24	J	10	Un	Sm	V	OP	Cn					
11.50	J	10	Un	Sm	V	OP	Cn					
11.56	J	0	Un	Sm	V	OP	Cn					
11.61	J	10	Un	Sm	V	OP	St		Minor Fe			
11.63	J	10	Un			CD/FL	Ct		Cly			
11.78	J	10	Un	Sm	V	OP	St		Minor Fe			
11.81	J	5	Un	Sm	V	OP	Cn					
11.91	J	5	Un	Sm	V	OP	Cn					
12.02	J	10	Un	Sm	V	OP	Cn					
12.08	J	10	Un	Sm	V	TI						
12.20	J	0	Un	Sm	V	OP	St		Fe			
12.33	J	10	Un	Sm	V	OP	Cn					
12.37	J	10	Un	Sm	V	OP	St		Fe			
12.41	J	5	Un	Sm	V	OP	St		Fe			
12.52	J	0	Un	Sm	V	OP	Cn					
12.54	J	5	Un	Sm	V	OP	St		Fe			
12.61	J	0	Un	Sm	V	OP	Cn					
12.72	J	20	Un	Sm	V	TI	St		Fe			
12.87	J	20	Un	Sm	V	OP	St		Fe			
13.14	J	10	Un	Sm	V	OP	Cn					
13.24	J	20	Un	Sm	V	OP	St		Fe			

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.

				je 2		Project No. FG6470							
Site ID / Bor	ehole No.	CRR932				Surface RL	6.03						
Geologist		Nick Dewar				Date	29/05/2018						
						Page	3	of	3				
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		ті	Ct ¹	AZ					
13.43	J	0	Un	Sm	V	OP	St		Fe				
13.63	J	10	Un	Sm	V	OP	Cn						
t													
ł													

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

F:GEOT 533/9 - 2014

													FINAL 1	1/12/2018
	. A A	A.C.	007 Select		Marih ali			GE	OTECHN	IICAL		BOREHOLE No	CF	RR932
			🤊 Qı	le	ensland			BC	REHOLE	LOG		Sheet	1 of 2	
	10g	20	Go)Ve	ernment		CV.		GEOTECHNICAL TE REFER FORM F:GE			REFERENCE No	н	13053
			D.	D :1						01017/8-2014				
PROJEC					(CRR) Project - Additio	nai Geotechnio	cal Ir	nvesti	gation			502074.0	5 60656	60 F N
LOCATI	ON			n St,	Windsor							COORDINATES 503874.0		68.5 N
PROJEC	CT No	FG	6470		SURFACE RL	6.03m	PLU	JNGE 9	0°		RTED 28/05/2018		MGA94	
JOB No)				HEIGHT DATUM	AHD	BEA	RING_		DATE COMPL	ETED 29/05/2018	DRILLER (Geodrill	
DEPTH (m)	R.L. (m)	AUGER CASING VASH BORING	RQD ()% CORE REC %	SAMPLE	MATERIAL DESC	RIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH 표근구구주구구권	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
			(17) (17) <u>100</u> (39) <u>100</u> (61)	A	Clayey GRAVEL with C Brown, moist, dense, coarse, angular gravel high plasticity. Some a dobbles. Sandy GRAVEL with C Dark grey, mottled pal loose, fine to coarse a angular gravel. Mediu grained sand. Some h fines. Anthropogenic throughout (ash, cera Grey, mottled pale bro firm, high plasticity. TUFF (Rif) XW: Recovered as Gra Brown, pale red, mottle moist, hard, high plas coarse grained san. TUFF (Rif) MW: Pale red, mottle and pale brown, fine a medium, subrounded clayey matrix, high str iron staining, massive Js: 0-20°, (4-6/m), Un, FeSt, some Vn Cly	medium to I. Medium to angular lay (Fill) le grey, dry, ingular to sub- im to coarse igh plasticity material mic). bwn, moist, dynamic fine to avelly CLAY. ticity. Fine to avel. Trace fine d. d pale grey grained, fine to clasts within rength, some		(GC) (GP- GM)			 7.08m-7.11m: XW B 7.21m-7.26m: XW B 7.21m-7.35m: HW 7.35m-7.40m: XW B 7.79m-7.82m: HW 8.54m-8.56m: XW B 	and and and and is(is(i is()	-70% PI= 40% 1.9% LS= 18% DD= 1 t/m3 DD= 1 t/m3 DD= 1.51 t/m3 hw, hw, 3 N=3 hw, hw, 3 N=3 50)=2.60 MPa 50)=1.80 MPa 50)=1.30 MPa 50)=1.30 MPa 50)=1.30 MPa 50)=1.30 MPa	U50 U50 SPT D (8.04m) A (8.10m) D (8.78m) A (8.90m) (9.41m)
	-3.97							мw						-
	-0.81				Continued on ne	xt sheet	223		J		I			I
RE	MARI	KS:	Rif - B	risb	ane Tuff. Standpipe	e piezomete	r in	stalle	ed.			LOGGED BY	REVI	EWED BY
												ND	S.	Foley

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TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

															FINAL 1	1/12/2018
	5 A	ins.			12x13 #7		0	GEO	OTECHN	IICA	۹L		BOREHO	LE No	CR	R932
M.		韵	Qu	e	ensland ernment		B	30	REHOLE	LO	G			Sheet	2 of 2	
t	<u>S</u>	2P	Go	Ve	ernment				GEOTECHNICAL TE REFER FORM F:GE				REFEREN	CE No	H	13053
			- Di	Deil						01017	/8-2014					
PROJECT					(CRR) Project - Additio	onal Geolechnic	ai inve	estig	ation					02974 0		
LOCATIO				SL,	Windsor	(02m		0(<u>۵</u>			28/05/201	COORDINATES 5			N C.80
PROJECT	r No	FG6	470		SURFACE RL		PLUN)			RTED 28/05/201		D DATUM		
JOB No			1		HEIGHT DATUM	AHD	BEARIN	NG		DA	TE COMPLE	ETED 29/05/201	.8	DRILLER	Geodrill	
DEPTH (m)	R.L. (m)	CASING WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESC	RIPTION	USCS LITHOLOGY	WEATHERING	INTACT STRENGTH	SP			ADDITIONAL D/ AND TEST RESULT			SAMPLES TESTS
	-7.76		100 (60)		TUFF (Rif) MW: Cont'd Borehole complete			ww sw		c				Is(Is(CS=16.30 MPa E=2.25 GPa 50)=0.35 MPa 50)=0.78 MPa 50)=0.40 MPa 50)=0.94 MPa	(11.03m) D (11.29m) A (11.30m) A (11.30m) A (13.38m) A (13.41m)
REI	MARK	S: F	Rif - Br	isba	ane Tuff. Standpip	e piezometer	inst	alle	d.				LOGGE	D BY	REVIE	WED BY
													NE			Foley
						TMR GE	OTECHNI	ICAL BOI	REHOLE LOG - CREATED	VITH HOLE	BASE SI		1		1	,

GEOT043/3

CORE PHOTO LOG DEPARTMENT OF TRANSPORT AND MAIN ROADS GEOTECHNICAL SECTION



Project Name	Cross River Rail CRR 2018 – Geotechnical Investigation											
Project No.	FG6470	Date	29/05/2018									
Borehole No.	CRR932	Reference No.	H13053									
Location	QR Rail Corridor	Start Depth (m)	7.04									
Submitted By	J. Armstrong	Finish Depth (m)	13.79									

