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# **Queensland** Government

#### **GEOTECHNICAL BOREHOLE LOG**

FOR GEOTECHNICAL TERMS AND

**FINAL** 11/12/2018 BOREHOLE No **CRR924** 

Sheet 1 of 3

	A	705	Ì	00	•			SYI	MBOLS	REFER FORM F:GEOT	017/8-2014		REFEREN	CE No	H3	13050
PROJE	СТ	С	ross	River	Rail	(CRR) Project - Additio	onal Geotechnic	cal Ir	nvesti	gation						
LOCATION QR Mayne Yard											COORDINATES 5	03731.6	E; 696489	98.9 N		
PROJECT No FG6470 SURFACE RL 3.71m PL				PLUNGE 90° DATE STARTED 22/05/2018					8 GRID DATUM MGA94							
JOB N	0					HEIGHT DATUM	AHD	BEA	RING _		DATE COMPLET	22/05/201	8	DRILLER G	eodrill	
DEPTH (m)	R.L. (m)	AUGER CASING	WASH BORING CORE DRILLING	RQD ()%	SAMPLE	MATERIAL DESC	CRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING		ADDITIONAL DA AND TEST RESULT			SAMPLES TESTS
1	2.71					ASPHALT Silty Sandy GRAVEL (I Grey, moist. Medium sand; fine to medium Clayey GRAVEL with ( Light brown, moist. F gravel,	to coarse gravel.		(GM)							-
2 - 2 3	1.71				В	Silty CLAY (Alluvium) Grey, moist, stiff. Higl	n plasticity.	X	(CH)					WI	10, 7, 3 N=10 MC=37.2% = 1.34 t/m3 = 1.84 t/m3 u(PP)=50 kPa	SPT U50
- 4 	-0.29				C	CLAY (Alluvium) Grey mottled yellow- very soft. High plasticity. 4.30m: Grey mottled								LL= MC=59 DI	hw, hw, hw N<1 5u(PP)=0 kPa 52% PI= 38% 1.1% LS= 15% b= 0.99 t/m3 1= 1.57 t/m3	SPT
					E	7.0m: With some ded wood fibres.	composed		(CH)						hw, hw, hw N<1 MC=60.1% JD= 1.6 t/m3 WD= 1 t/m3	SPT
	-6.29 EMAR	KS:	R	tif- Bri	sba	9.5m: With Silt. Trace fine grained sand. Continued on no ane Tuff. Standpipe	ext sheet	ins	talle	d.			<b>LOGGE</b>	D BY		WED BY
							773 440 .	COTES	INICAL S	20511015100 005175011171						

# Queensland

### **GEOTECHNICAL BOREHOLE LOG**

**FINAL** 11/12/2018 **CRR924** BOREHOLE No

Sheet 2 of 3

	Re-	GU	VE	eniment	IYZ		REFER FORM F:GEOT			REFERENCE No	H1	13050
ROJECT	Cross I	River F	Rail	(CRR) Project - Additional Geotechnic	al Ir	nvesti	gation					
OCATION	QR Ma	ayne Y	ard							COORDINATES 503731.6	E; 696489	98.9 N
ROJECT No	FG647	70		SURFACE RL 3.71m	PLU	INGE 9	10°	DATE STARTE	− <sub>D</sub> 22/05/2018	3 GRID DATUM N	ЛGA94	
OB No				HEIGHT DATUM AHD	BEAF	RING °		DATE COMPLETE	D 22/05/2018	B DRILLER C	Geodrill	
DEPTH (m)	AUGEK CASING WASH BORING CORE DRILLING	RQD ()% CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
- 11 - 12 - 13 - 13 - 14 - 10.29 - 15 - 11.79 - 16 - 17	AND		G H K	CLAY (Alluvium) Cont'd. 10.10m: 50mm Silty SAND layer, fine to medium grained.  13.0m: With Silty SAND lenses.  Clayey SAND (Alluvium) Grey, wet, loose. Medium to coarse grained sand; trace medium to coarse grained sand; trace medium to coarse gravel. With some Sandy CLAY lenses.  Silty CLAY (Alluvium) Grey, moist, very soft to soft. High plasticity. With medium to coarse sand lenses <50mm thick.		(CH)	J. J			MC=5. D W	hw, hw, hw N<1  60% PI= 38% 6.6% LS= 16% 0= 1.16 t/m3 30 = 1.78 t/m3 Su(PP)=0 kPa  1, 1, 1, 1 N=2  4, 4, 3 N=7	SPT SPT SPT SPT
- 18 - 19			N		×						hw, hw, hw N<1	SPT
-16.29					×_		<u> </u>					
REMARK	KS: Ri	f- Bri:	sba	Continued on next sheet ane Tuff. Standpipe piezometer	ins	talle	d.			LOGGED BY	REVIF	WED BY
										MH		Foley
				TMR G	EOTEC	HNICAL BO	DREHOLE LOG - CREATED WITH	H HOLEBASE SI		1	<u> </u>	• 1

## **Queensland** Government

#### **GEOTECHNICAL BOREHOLE LOG**

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

**FINAL** 11/12/2018 **CRR924** BOREHOLE No

Sheet 3 of 3

H13050 REFERENCE No

PROJE	СТ	(	Cro	SS	River I	Rail	(CRR) Project - Additional Geotechnic	al Ir	nvesti	gation						
LOCAT	ION	-	QR	M	ayne Y	ard						c	oordinates 5	03731.6	E; 696489	98.9 N
PROJE	CT No	_	FG	64	70		SURFACE RL 3.71m	PLU	INGE S	00°	DATE STAF	22/05/2018	GRIE	NUTAD O	/IGA94	
JOB No	)	_					HEIGHT DATUM AHD	BEAF	RING _		DATE COMPLE	22/05/2018		DRILLER G	ieodrill	
DЕРТН (m)	R.L. (m)	AUGER	WASH BORING	CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	ПТНОГОБУ	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	,	ADDITIONAL DA AND TEST RESULT:			SAMPLES TESTS
222	-18.39 -18.67 -19.29 -19.96 -20.26				94 (85)	CORE	high strength.  TUFF (Rif)  XW: Recovered as Sandy CLAY or Clayey SAND. Orange-brown and grey, stiff/dense.  TUFF (Rif)  MW: Orange-brown and grey, high strength.  Js: 0-15° (5-7/m) PI/Sm, CD, Fe St Some XW clayey layers.  TUFF (Rif)  SW: Grey, massive, fine grained matrix with gravel sized clasts, high strength. Some MW zones and iron staining.  Js: 60° (1/m) Un/Sm, CD, Cn. 25.7m: Green-grey chlorite alteration.  Borehole completed at 26.65m		(CH)  HW  MW  MW  MW  SW  SW	H H H	W W	23.19m: J, ~90°, FD C 450mm long.		Is(5)	MC=60.5% D= 0.94 t/m3 D= 1.51 t/m3 u(PP)=80 kPa 0)=0.08 MPa 0)=0.36 MPa 0)=2.60 MPa 0)=2.60 MPa S=38.80 MPa E=6.72 GPa 0)=1.80 MPa 0)=1.10 MPa	SPT  SPT  D (24.60m) A (24.61m) D (25.09m) A (25.10m) C (25.76m) D (26.11m) C (26.11m)
RI	MAR	KS	:	Ri	f- Bri	sba	ne Tuff. Standpipe piezometer	ins	talle	d.			<b>LOGGE</b>			<b>WED BY</b> Foley
							TMP.G	EOTECI	UNICAL B	OREHOLE LOG - CREATED V	MITH HOLEBASE SI		IVII		ی.	готсу

### **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 - Stac	ge 2		Project No FG6470					
Site ID / Bo	rehole No.	CRR924			Surface RL 3.71						
Geologist		Mark Hayes	;			Date	24/05/2018				
						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			
23.05	J	40	Un	Sm	V	CD	Cn				
23.19	J	30	Un	Sm	V	CD	Cn				
23.45	J	85	Un	Sm	V	FL	Ct		Cly(20-40mr		
23.19	J	0-30							23.19-23.65		
23.67								HFZ	nes, HFZ(30		
23.97	J	5	PI	Sm	VIII	CD	Cn				
24.00	J	5	Un	Sm	V	CD	St		Fe		
24.07	J	20	PI	Sm	VIII	CD	St		Fe		
24.16	J	80	PI	Sm	VIII	FL	Ct		Cly(3-10mm		
24.38	J	20	Un	Sm	V	FL	Ct		Cly(5-10mm		
24.45	J	10	Un	Sm	٧	FL	Ct		Cly(20mm)		
24.63	J	10	PI	Sm	VIII	FL	Ct		Cly(10mm)		
24.79	J	10	PI	Sm	VIII	FL	Ct		Cly(40mm)		
24.87	J	10	PI	Sm	VIII	OP	St		Fe		
25.13	J	0	Un	Sm	٧	CD	Cn				
25.35	J	10	PI	Sm	VIII	OP	St		Fe		
25.62	J	65	Un	Sm	٧	CD	Cn				
25.76	J	30	PI	Sm	VIII	CD	St		Fe		
26.45	J	65	PI	Sm	VIII	CD	Cn				

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

F:GEOT 533/9 - 2014



### STANDPIPE INSTALLATION LOG

BOREHOLE No CRR924

Sheet 1 of 3

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014 **CRR924** PIEZOMETER No Cross River Rail (CRR) Project - Additional Geotechnical Investigation PROJECT COORDINATES 503731.6 E; 6964898.9 N QR Mayne Yard LOCATION DATE STARTED 22/05/2018 FG6470 SURFACE RL 3.71m PLUNGE 90° GRID DATUM MGA94 PROJECT No HEIGHT DATUM AHD BEARING ° DATE COMPLETED 22/05/2018 DRILLER Geodrill JOB No Standpipe Construction Details DEPTH (m) LITHOLOG R.L. MATERIAL DESCRIPTION (m) Depth (m) /RL 50mm PVC Class No. 18 **Backfill Details** (AHD) Stick Up = 0.00m ASPHALT Silty Sandy GRAVEL(Fill) Grey, moist. Medium to coarse sand; fine to medium gravel. 2.71 Clayey GRAVEL with Cobbles(Fill) Light brown, moist. Fine to coarse gravel, 1.71 Silty CLAY(Alluvium) Grey, moist, stiff. High plasticity. -0.29 CLAY(Alluvium) Grey mottled yellow-brown, moist, very soft. High plasticity. 4.30m: Grey mottled orange-brown. Grout: Bentonite / Cement Mix 7.0m: With some decomposed wood fibres. 9.5m: With Silt. Trace shells. Trace fine grained Continued on next sheet REMARKS: Rif- Brisbane Tuff. Standpipe piezometer installed. **LOGGED BY REVIEWED BY** MΗ 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

**CRR924** BOREHOLE No

Sheet 2 of 3

**CRR924** PIEZOMETER No

Cross River Rail (CRR) Project - Additional Geotechnical Investigation PROJECT COORDINATES 503731.6 E; 6964898.9 N QR Mayne Yard LOCATION DATE STARTED 22/05/2018 FG6470 SURFACE RL 3.71m PLUNGE 90° GRID DATUM MGA94 PROJECT No HEIGHT DATUM AHD BEARING ° DATE COMPLETED 22/05/2018 DRILLER Geodrill JOB No Standpipe Construction Details DEPTH (m) LITHOLOGY R.L. MATERIAL DESCRIPTION (m) Depth (m) /RL 50mm PVC Class No. 18 **Backfill Details** (AHD) Stick Up = 0.00m CLAY(Alluvium) Cont'd. 10.10m: 50mm Silty SAND layer, fine to medium grained. 13.0m: With Silty SAND lenses. -10.29 Clayey SAND(Alluvium) Grey, wet, loose. Medium to coarse grained sand; trace medium to coarse gravel. With some Sandy CLAY lenses. 15 -11.79 Silty CLAY(Alluvium) Grey, moist, very soft to soft. High plasticity. With medium to coarse sand lenses 16.10m / -12.39 AHD 16 <50mm thick. 17 Bentonite Pellet Seal 18 19.00m / -15.29 AHD 19 Continued on next sheet REMARKS: Rif- Brisbane Tuff. Standpipe piezometer installed. **LOGGED BY REVIEWED BY** MΗ 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 CRR924

Sheet 3 of 3

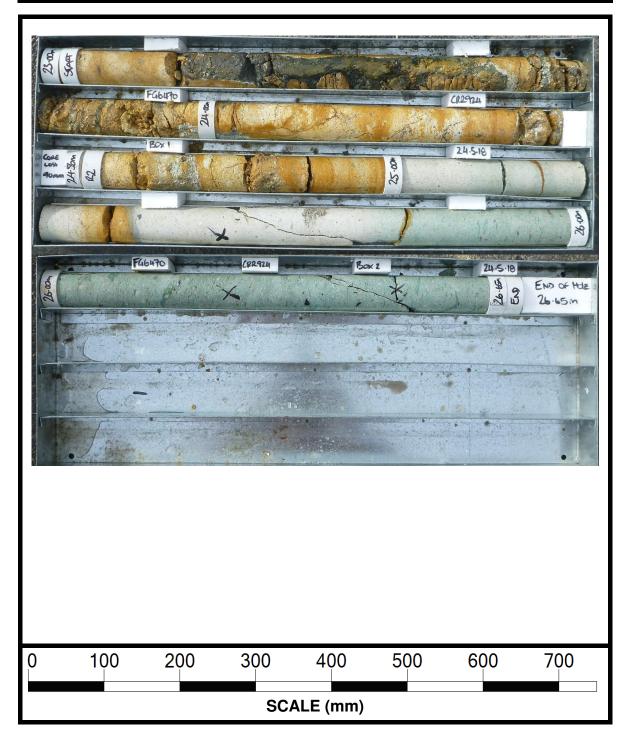
PIEZOMETER No CRR924

				STIMBOLS REFERENCE	201 017/0 2014		
ROJE	СТ	C	cross River Rail (CRR) Project - Additional Geotechnical	Investigation			
OCAT	ION		QR Mayne Yard			COORDINATES <u>503731.6</u>	E; 6964898.9 N
ROJE	CT No	_	FG6470 SURFACE RL 3.71m F	PLUNGE 90°	DATE STARTED 22/05/2018	GRID DATUM	ЛGA94
OB N	o		HEIGHT DATUM AHD B	EARING	DATE COMPLETED 22/05/2018	B DRILLER C	Geodrill
DЕРТН (m)	E R.L.		MATERIAL DESCRIPTION		Standpipe Constru	ction Details	
DEP	(m)	ПТНОГОБУ		Depth (m) /RL (AHD)	50mm PVC Class No. 18 Stick Up = 0.00m	Backfill D	etails
- 21	-19.96	X_ X_ X_ X_ X_ X_ X_	Recovered as Sandy CLAY or Clayey SAND. Orange- brown and grey, stiff/dense. TUFF Orange-brown and grey, high strength. - Js: 0-15° (5-7/m) PI/Sm, CD, Fe St	23.35m / -19.64 AHD	Stick Up = 0.00m	Filter: Washed / C Top of Slotte	Graded Sand ad Pipe
- 26			clasts, high strength. Some MW zones and iron staining.				
- 27	<u>-22.94</u>		Borehole completed at 26.65m	26.35m / -22.64 AHD	Ezzaj wiesal laj biesalza		
- 28							
- 29							
RI	EMAR	RKS:	Rif- Brisbane Tuff. Standpipe piezometer installed.			LOGGED BY	REVIEWED BY
						MH	S. Foley
			TMR STA	NDPIPE 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	22/05/2018					
Borehole No.	CRR924	Reference No.	H13050					
Location	QR Rail Corridor	Start Depth (m)	23.00					
Submitted By	J. Armstrong	Finish Depth (m)	26.65					



1