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**Queensland
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**GEOTECHNICAL
BOREHOLE LOG**

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

BOREHOLE No **CRR728**

Sheet 1 of 2

REFERENCE No **H12954**

PROJECT	Cross River Rail CRR2017 - Additional Geotechnical Investigation		
LOCATION	QR Land	COORDINATES 502145.2 E; 6962930.9 N	
PROJECT No	FG6470	SURFACE RL 23.71m	PLUNGE 90°
			DATE STARTED 04/09/2017
			GRID DATUM MGA94
JOB No		HEIGHT DATUM AHD	BEARING °
			DATE COMPLETED 04/09/2017
			DRILLER Geodrill

DEPTH (m)	R.L. (m)	AUGER CASING WASHBORING CONE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS	
													EH
0 - 1					A	COBBLES with Gravel and Sandy Clay (Fill)					0.00m-1.20m: Non destructive drilling	3, 7, 9 N=16	SPT
1 - 3	21.21				B	Gravelly CLAY (Alluvium) Dark brown with trace red brown, moist, firm. Medium plasticity. Fine, angular to sub-angular gravel.	(C)					2, 3, 3 N=6	SPT
3 - 4	19.71				C	Silty CLAY (Residual) (DCf) Grey, brown, yellow, moist, very stiff. Medium plasticity. With silt and fine, angular to sub-angular gravel.						4, 9, 10 N=19 LL=41% PI= 25% MC=13.7% LS= 6% <75µm= 53%	SPT
4 - 6					D	From 5.6m: Becoming pale grey and grey.	CI					5, 12, 15 N=27 LL=47% PI= 31% MC=12.8% LS= 6% <75µm= 52%	SPT
6 - 8	16.71				E	ARGILLITE (DCf) XW: Recovered as Clayey Sandy GRAVEL: Grey to pale grey, moist, very dense. Fine to coarse, angular gravel. With some quartz gravel.	XW					10, 19, 30/100mm LL=46% PI= 30% MC=10.9% LS= 150% <75µm= 37%	SPT
8 - 9	15.06		(55)			ARGILLITE (DCf) MW: Grey, orange brown, fine grained, foliated, medium strength. With frequent quartz bands <10mm, parallel to foliation, some crenulated. -FP: 40°-70° (8/m), PI-Un/Ro, OP-TI,	HW XW HW MW				8.55m-8.86m: Qz Vn 2/0mm hb	D (8.90m) A (8.92m) D (9.25m) A (9.27m)	
9 - 10	13.71		100 (25) 100 (42)								9.84m-10.02m: HFZ		

Continued on next sheet

REMARKS: DCf - Neranleigh Fernvale Beds. Standpipe piezometer installed.

LOGGED BY	REVIEWED BY
GP	S. Foley



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STANDPIPE INSTALLATION LOG

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

BOREHOLE No **CRR728**

Sheet 1 of 2

PIEZOMETER No **CRR728**

PROJECT	Cross River Rail CRR2017 - Additional Geotechnical Investigation		
LOCATION	QR Land	COORDINATES 502145.2 E; 6962930.9 N	
PROJECT No	FG6470	SURFACE RL 23.71m	PLUNGE 90°
			DATE STARTED 04/09/2017
			GRID DATUM MGA94
JOB No		HEIGHT DATUM AHD	BEARING °
			DATE COMPLETED 04/09/2017
			DRILLER Geodrill

DEPTH (m)	R.L. (m)	LITHOLOGY	MATERIAL DESCRIPTION	Standpipe Construction Details		
				Depth (m) /RL (AHD)	50mm PVC Class No. 18 Stick Up = 0.00m	Backfill Details
1			COBBLES with Gravel and Sandy Clay(Fill)			
2						
	21.21					Grout: Cement / Bentonite mix
3			Gravelly CLAY(Alluvium) Dark brown with trace red brown, moist, firm. Medium plasticity. Fine, angular to sub-angular gravel.			
4	19.71			4.15m / 19.56 AHD		
5			Silty CLAY(Residual) Grey, brown, yellow, moist, very stiff. Medium plasticity. With silt and fine, angular to sub-angular gravel.			Bentonite Seal
				5.15m / 18.56 AHD		Top of Slotted Pipe
6			From 5.6m: Becoming pale grey and grey.			
7	16.71					
8			ARGILLITE Recovered as Clayey Sandy GRAVEL: Grey to pale grey, moist, very dense. Fine to coarse, angular. gravel. With some quartz gravel.			Filter: Washed / Graded Sand
9	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-Tl, Ct-FeSt			
	13.71					

Continued on next sheet

REMARKS: DCF - Neranleigh Fernvale Beds. Standpipe piezometer installed.	LOGGED BY	REVIEWED BY
	GP	S. Foley



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**STANDPIPE
INSTALLATION LOG**

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

BOREHOLE No **CRR728**

Sheet 2 of 2

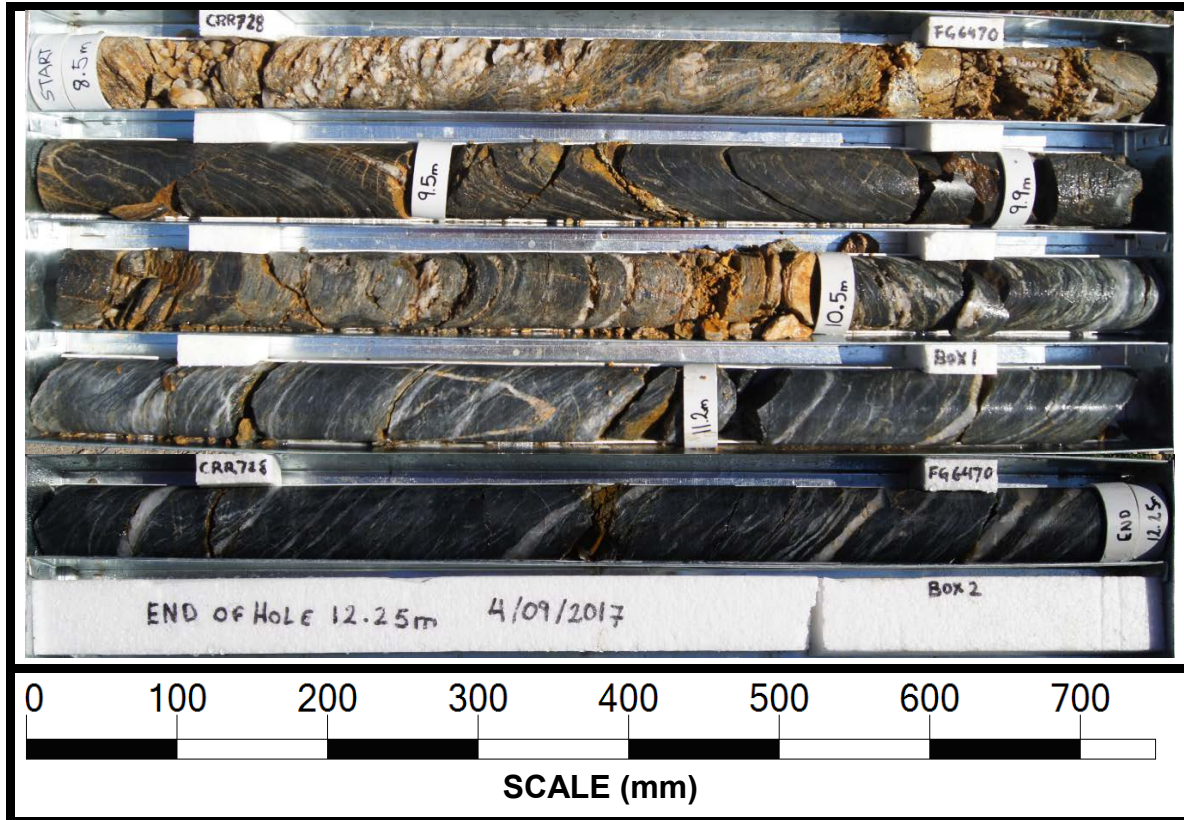
PIEZOMETER No **CRR728**

PROJECT	Cross River Rail CRR2017 - Additional Geotechnical Investigation		
LOCATION	QR Land	COORDINATES 502145.2 E; 6962930.9 N	
PROJECT No	FG6470	SURFACE RL 23.71m	PLUNGE 90°
			DATE STARTED 04/09/2017
			GRID DATUM MGA94
JOB No		HEIGHT DATUM AHD	BEARING °
			DATE COMPLETED 04/09/2017
			DRILLER Geodrill

DEPTH (m)	R.L. (m)	LITHOLOGY	MATERIAL DESCRIPTION	Standpipe Construction Details		
				Depth (m) / RL (AHD)	50mm PVC Class No. 18 Stick Up = 0.00m	Backfill Details
11	12.82	ARGILLITE	Cont'd. -Js: 45°-75° (1-2/m), Pl/Ro, OP-Tl, Ct			
12	11.46	ARGILLITE	Grey, dark grey, fine grained, foliated, mainly high strength. Frequent quartz bands <15mm thick, parallel to foliation. -FP: 35°-40° (8/m), Pl/Ro, OP-Tl, FeSt	11.15m / 12.56 AHD		Drill Cuttings
Borehole completed at 12.25m				12.25m / 11.46 AHD		
13						
14						
15						
16						
17						
18						
19						

REMARKS: Dcf - Neranleigh Fernvale Beds. Standpipe piezometer installed.	LOGGED BY	REVIEWED BY
	GP	S. Foley

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 Name		Cross River Rail				Project No.		FG6470		
Site ID / Borehole No.		CRR728				Surface RL		23.71		
Geologist		G.P.				Date		4/09/2017		
						Page		1	of	1
Traverse Chainage; or Down hole depth (rock core)	Type LP / BP / FP / J etc.	Dip ° / Dip Direction °; or Angle ° from horizontal (rock core)	Planarity Stp / Un / Pl	Roughness Ro / Sm / Sl	Roughness Class I to IX	Aperture CD / OP / FL / TI	Infilling Cn / St / Vr / Ct ¹	Zones ¹ SZ / CZ / HFZ / AZ	Other	
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	Pl	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, (~50mm spacings)		

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

F:GEOT 533/9 – 2014