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PROJECT Cross River Rail CRR2017 - Additional Geotechnical Investigation

LOCATION	QR Land
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COORDINATES 501750.7 E; 6962865.9 N

PROJECT No FG6470

SURFACE RL 27.03m

PLUNGE 90°

DATE STARTED 12/09/2017

GRID DATUM MGA94

JOB No

HEIGHT DATUM AHD

BEARING °

DATE COMPLETED 14/09/2017

DRILLER Geodrill

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
								EH _VH _H _M _L _VL EL	EC _VC _M _W _VW _EW		
1	25.63			A	COBBLES with Gravel and Sandy Clay (Fill)					0.00m-1.10m: Non destructive drilling	3, 4, 2 N=6
2	24.53				Sandy Gravelly CLAY (Residual) Orange brown, dry, firm. Low plasticity. Medium grained sand, fine grained gravel, angular grains.		(CL)				
3				B	Silty CLAY (Residual) Orange brown and brown, moist, stiff. Trace medium grained sand and fine to medium grained gravel, angular. High plasticity.		CH				4, 7, 6 N=13 LL=73% Pl= 41% MC=22.6% LS= 13% <75µm= 79%
4	23.03			C	ARGILLITE (DCf) XW: Recovered as Gravelly Silty CLAY (CL). Orange brown and grey, moist, hard. Low plasticity. Friable. Fine to coarse, angular gravel.						15, 30/100mm hb
5											
6				D			XW				5, 22 hb
7	19.93										
8	18.43			(91)	ARGILLITE (DCf) HW: Orange brown and grey, fine grained, foliated, mainly medium strength. With frequent crenulated quartz veins, 40°-60°. Iron stained throughout. With some minor clay bands.		HW				2/0mm hb
9				100 (75)	-FP: 10°-30° (3/m), Un-Pl/Ro, TI-CD, FeSt-Vr						Is(50)=0.78 MPa Is(50)=0.50 MPa
					ARGILLITE (DCf) MW: Orange brown and grey, fine grained, foliated, medium to high strength. Frequent crenulated quartz veins, parallel to foliation <40mm thick, 40°-60°.		MW				Is(50)=0.75 MPa Is(50)=0.29 MPa
	17.03			100 (96)							

Continued on next sheet

REMARKS: CAI = Average Cerchar abrasivity index (HRC=55). DCf - Neranleigh Fernvale Beds

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GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No. **CRR724**

Sheet 2 of 3

REFERENCE No **H12950**

PROJECT	Cross River Rail CRR2017 - Additional Geotechnical Investigation
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LOCATION	QR Land
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COORDINATES 501750.7 E; 6962865.9 N

PROJECT No. FG6470

SURFACE RI 27.03m

PLUNGE 90°

DATE STARTED 12/09/2017

GRID DATUM MGA94

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DRILLER Geodrill

[illegible]

Continued on next sheet

REMARKS: CAI = Average Cerchar abrasivity index (HRC=55). DCf - Neranleigh Fernvale Beds

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Queensland
Government

GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **CRR724**

Sheet 3 of 3

REFERENCE No **H12950**

PROJECT	Cross River Rail CRR2017 - Additional Geotechnical Investigation
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LOCATION	QR Land
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COORDINATES 501750.7 E; 6962865.9 N

PROJECT No	FG6470
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SURFACE RL 27.03m

PLUNGE 90°

DATE STARTED 12/09/2017

GRID DATUM MGA94

JOB No

HEIGHT DATUM AHD

BEARING °

DATE COMPLETED 14/09/2017

DRILLER Geodrill

[illegible]

REMARKS: CAI = Average Cerchar abrasivity index (HRC=55). DCf - Neranleigh Fernvale Beds

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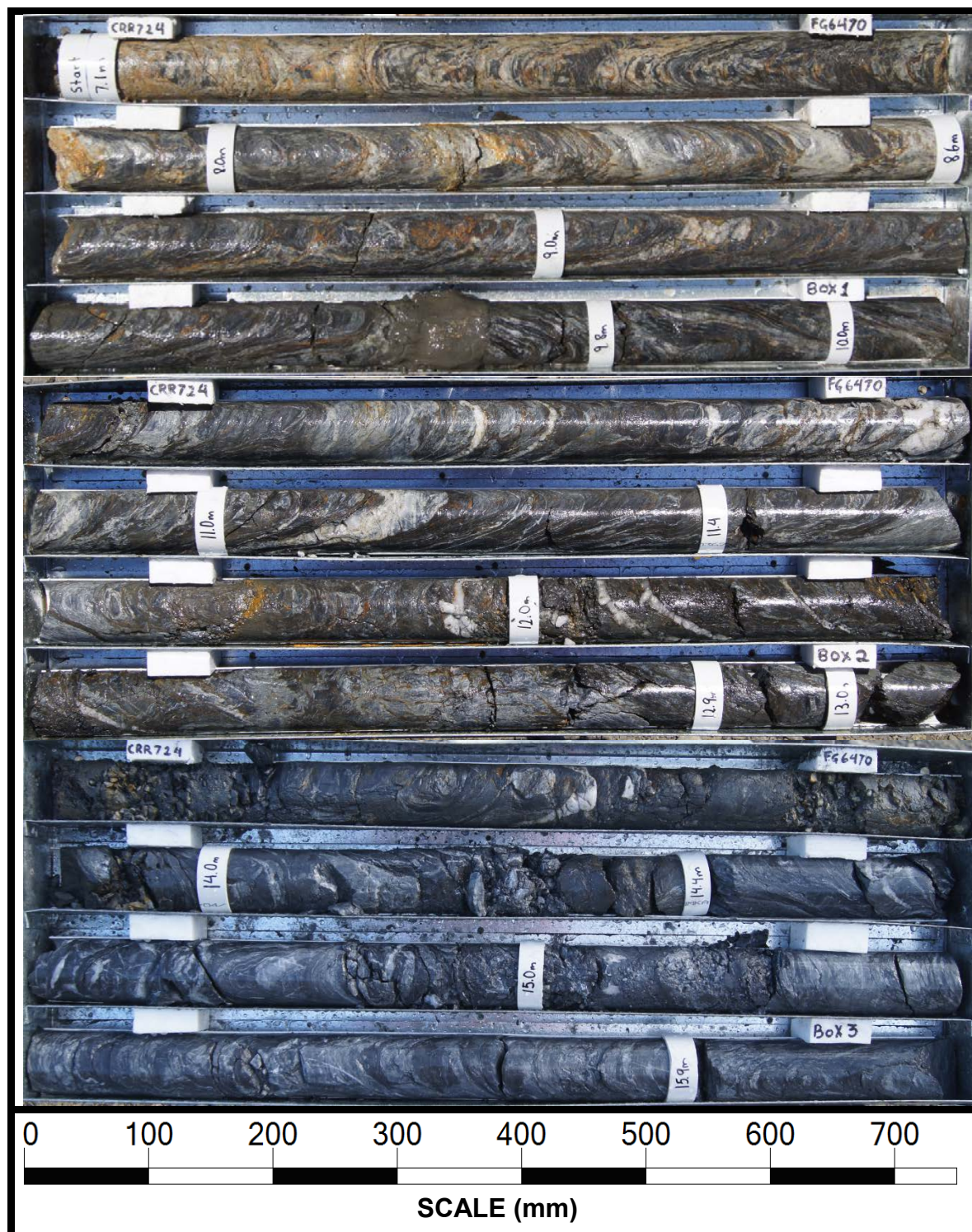
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GP

S. Foley

CORE PHOTO LOG
DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

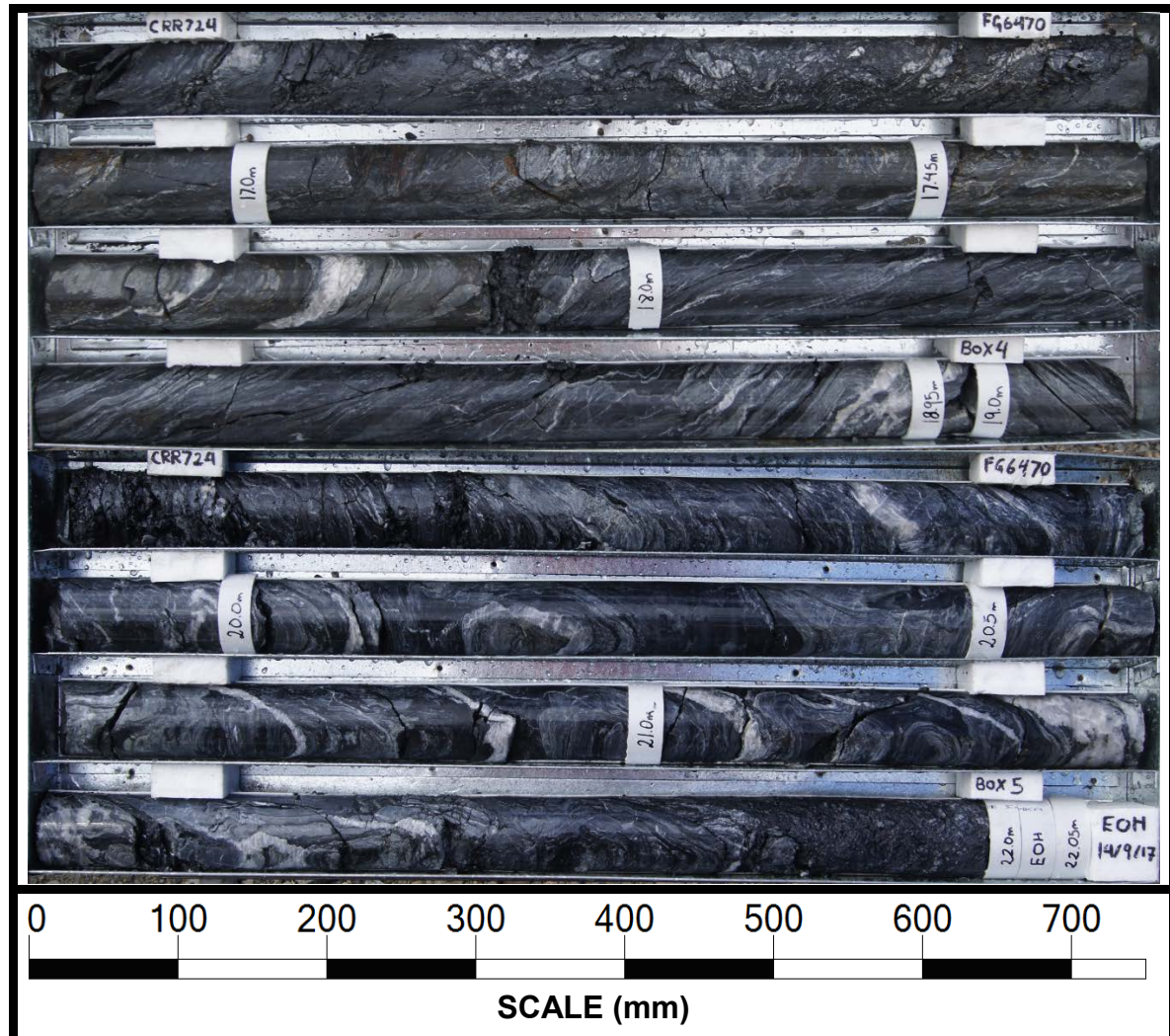
Project Name	Cross River Rail CRR2017 – Geotechnical Investigation		
Project No.	FG6470	Date	14/09/2017
Borehole No.	CRR724	Reference No.	H12950
Location	QR land	Start Depth (m)	7.10
Submitted By	M. de Gee	Finish Depth (m)	22.05



CORE PHOTO LOG

DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

Project Name	Cross River Rail CRR2017 – Geotechnical Investigation		
Project No.	FG6470	Date	14/09/2017
Borehole No.	CRR724	Reference No.	H12950
Location	QR land	Start Depth (m)	7.10
Submitted By	M. de Gee	Finish Depth (m)	22.05



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.		CRR724				Surface RL		27.03	
Geologist		G.P.				Date		13/09/2017	
						Page		1	of
									4
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 / SI	Roughness Class I to IX	Aperture CD / OP / FL / TI	Infilling Cn / St / Vr / Ct ¹	Zones ¹ SZ / CZ / HFZ / AZ	Other
7.23	FP	65	Un	Ro	IV	CD	St		
7.36	FP	80	Un	Ro	IV	CD	St		
7.56	FP	80	Un	Ro	IV	CD	St		
8.20	FP	25	Stp	Ro	I	OP	St		
8.85	J	10	Un	Ro	IV	OP	Cn		
9.40	J	40	Pl	Ro	VII	OP	Cn		
9.40-9.47	Js	35	Pl	Ro	VII	OP	St		
9.58	J	85	Stp	Ro	I	OP	Cn		
9.63-9.72	J	0	Stp	Ro	I	FL	Ct		VN 90mm Cly
9.77	J	0	Stp	Ro	I	OP	Cn		
10.16	FP	50	Stp	Ro	I	OP	Cn		
10.76	FP	10	Un	Ro	IV	CD	St		
11.00	FP	40	Pl	Ro	VII	OP	Cn		
11.10	FP	45	Pl	Ro	VII	OP	Cn		
11.27	OP	80	Un	Ro	IV	OP	Cn		
11.71	J	0	Stp	Ro	I	OP	St		
11.78	FP	30	Un	Ro	IV	OP	St		
12.07	FP	35	Un	Ro	IV	FL	Ct		VN10mm Qz
12.11	FP	35	Un	Ro	IV	FL	Ct		VN 8mm Qz
12.16	J	70	Un	Ro	IV	OP	Cn		
12.21	FP	35	Un	Ro	IV	FL	Ct		VN 5mm Qz
12.38	J	0	Un	Ro	IV	CD	Cn		
12.40	FP	35	Un	Ro	IV	FL	Ct		VN 5mm Qz
12.69	J	30	Un	Ro	IV	CD	Cn		
12.72	J	85	Pl	Ro	VII	OP	Cn		
12.78-12.90	FP	75	Stp	Ro	I	OP	St / Cn	HFZ	
12.90	J	0	Stp	Ro	I	OP	Cn		
12.95	J	65	Stp	Ro	I	OP	Cn		
13.05	FP	25	Un	Ro	IV	OP	Cn		
13.10-13.27	FP	-	Stp	Ro	I	OP	Cn / St	CZ	
13.34	J	0	Un	Ro	IV	CD	Cn		

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

F:GEOT 533/9 – 2014

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Site ID / Borehole No.		CRR724				Surface RL		27.03	
Geologist		G.P.				Date		13/09/2017	
						Page		2 of 4	
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 / SI	Roughness Class I to IX	Aperture CD / OP / FL / TI	Infilling Cn / St / Vr / Ct ¹	Zones ¹ SZ / CZ / HFZ / AZ	Other
13.50	FP	45	Un	Ro	IV	FL	Ct	VN 14mm Qz	
13.57	FP	45	Un	Ro	IV	OP	Cn		
13.57-13.69	FP	-	Stp / Un	Ro	I / IV	OP	Cn / St	HFZ	
13.69-13.95	FP	-	Stp / Cn	Ro	IV	OP	Cn		
14.09	FP	50	Un	Ro	IV	OP	Cn		
14.10-14.40	Js	-	Stp / Cn	Ro	I / IV	OP	Cn	HFZ	
14.51	J	80	Un	Ro	IV	OP	Cn		
14.66	FP	25	Un	Ro	IV	OP	Cn		
14.74	FP	60	Un	Ro	IV	OP	Cn		
14.86	FP	70	Un	Ro	IV	OP	Cn		
14.86-15.20	FP	-	Un / Stp	Ro	I / IV	CD / OP	Cn	CZ	
15.30	J	80	Un	Ro	IV	OP	Cn		
15.42	J	75	Un	Ro	IV	OP	Cn		
15.50	FP	80	Un	Ro	IV	OP	Cn		
15.57	FP	65	Un	Ro	IV	OP	Cn		
15.63	FP	65	Un	Ro	IV	OP	Cn		
15.70	FP	30	Un	Ro	IV	OP	Cn		
15.74	FP	70	Un	Ro	IV	OP	Cn		
15.82	FP	30	Un	Ro	IV	OP	Cn		
16.10-16.20	FP	50	Pl	Ro	VII	OP	Cn	HFZ	
16.22	FP	30	Un	Ro	IV	OP	Cn		
16.27	FP	30	Un	Ro	IV	OP	Cn		
16.29	FP	30	Un	Ro	IV	OP	Cn		
16.38	FP	50	Un	Ro	IV	CD	Cn		
16.77	FP	65	Stp / Cn	Ro	I / IV	CD	Cn / St	CZ	
16.85	FP	40	Pl	Ro	VII	CD	St		
16.90-17.00	J	20	Un	Ro	IV	CD	Cn		
17.00-17.30	FP/J	-	Un / Stp	Ro	I / IV	OP	Cn		
17.20	FP	30	Pl	Ro	VII	OP	St		
17.27	J	10	Stp	Ro	I	OP	Cn		
17.30	J	65	Stp	Ro	I	OP	Cn		

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17.67	J	85	Stp	Ro	I	OP	Cn		
17.82	J	15	Un	Ro	IV	OP	Cn		
17.83	J	15	Stp	Ro	I	OP	Cn		
17.89	J	0	Stp	Ro	I	FL	Ct	CZ	30mm
17.95	FP	50	Un	Ro	IV	OP	Cn		
18.00	FP	55	Un	Ro	IV	OP	Cn		
18.14	FP	50	Un	Ro	IV	OP	Cn		
18.23	J	5	St	Ro	I	OP	Cn		
18.43	FP	75	Un	Ro	IV	OP	Cn		
18.49	J	20	Un	Ro	IV	OP	Cn		
18.61	FP	70	Un	Ro	IV	OP	Cn		
18.63	FP	50	Un	Ro	IV	OP	Cn		
18.85	FP	40	Un	Ro	IV	OP	Cn		
19.05	FP	20	Un	Ro	IV	OP	Cn		
19.10-19.40								HFZ	
19.62	FP	80	Un	Ro	IV	OP	Cn		
20.00	FP	10	Un	Ro	IV	OP	Cn		
20.08	FP	60	Un	Ro	Iv	OP	Cn		
20.34	FP	70	Un	Ro	Iv	OP	Cn		
20.58	FP	15	Un	Ro	Iv	OP	Cn		
20.64	J	10	Stp	Ro	I	OP	Cn		
20.83	J	80	Un	Ro	IV	OP	Cn		
20.89	FP	70	Un	Ro	IV	OP	Cn		
21.02	J	15	Un	Ro	IV	OP	Cn		
21.07	J	85	Un	Ro	IV	OP	Cn		
21.13	FP	60	Un	Ro	IV	OP	Cn		
21.25	FP	85	Un	Ro	IV	OP	Cn		
21.42	FP	55	Un	Ro	IV	OP	Cn		
21.55	FP	40	Un	Ro	IV	OP	Cn		
21.59-21.69								HFZ	
21.77	FP	40	Un	Ro	IV	OP	Cn		

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21.80-28.05								CZ		

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

F:GEOT 533/9 – 2014