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PROJECT	Cross River Rail CRR2017 - Additional Geotechnical Investigation
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LOCATION	Llewellyn Street
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COORDINATES 503462.7 E; 6960335.0 N

PROJECT No	FG6470
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SURFACE RL 14.02m

PLUNGE 90°

DATE STARTED 10/11/2017

GRID DATUM MGA94

JOB No

HEIGHT DATUM AHD

BEARING °

DATE COMPLETED 15/11/2017

DRILLER Schneider

Continued on next sheet

REMARKS: Rip - Aspley Formation. Rif - Brisbane Tuff.

LOGGED BY

REVIEWED BY

HA

S. Foley



**Queensland
Government**

GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **CRR709**

Sheet 2 of 5

REFERENCE No **H12935**

PROJECT **Cross River Rail CRR2017 - Additional Geotechnical Investigation**

LOCATION **Llewellyn Street**

COORDINATES **503462.7 E; 6960335.0 N**

PROJECT No **FG6470**

SURFACE RL **14.02m**

PLUNGE **90°**

DATE STARTED **10/11/2017**

GRID DATUM **MGA94**

JOB No

HEIGHT DATUM **AHD**

BEARING °

DATE COMPLETED **15/11/2017**

DRILLER **Schneider**

DEPTH (m)	R.L. (m)	AUGER CASING WASHBORING CORE DRILLING	RQD (%) % CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
					TUFF (Rif) FR: Cont'd.			EH _VH _H _M _L _VL _EL	EC _VC _C _M _W _VW _EW		
11								H-VH		10.90m-11.30m: Healed sub vertical joints with silicious infill.	Is(50)=1.80 MPa Is(50)=4.70 MPa D (10.42m) A (10.43m)
12			100 (80)							12.48m-12.65m: -J: 45°, Pl/Ro, VII, OP, FeSt-Ct	Is(50)=3.10 MPa Is(50)=7.20 MPa D (12.74m) A (12.75m)
13								VH			
14									M		
15			100 (88)				FR			Is(50)=2.10 MPa Is(50)=4.10 MPa D (14.90m) A (14.92m)	
16											
17								H-VH		Is(50)=2.30 MPa Is(50)=2.90 MPa D (17.16m) A (17.17m)	
18			100 (99)		From 17.3m: ~Js: 15°-45° (3/m), Pl/ Ro, OP, Cn					Is(50)=2.40 MPa Is(50)=3.10 MPa D (18.40m) A (18.42m)	
19										Is(50)=1.10 MPa Is(50)=2.10 MPa D (19.37m) A (19.38m)	
	-5.98		100								

Continued on next sheet

REMARKS: Rip - Aspley Formation. Rif - Brisbane Tuff.

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GEOTECHNICAL
BOREHOLE LOG

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

BOREHOLE No **CRR709**

Sheet 3 of 5

REFERENCE No **H12935**

PROJECT	Cross River Rail CRR2017 - Additional Geotechnical Investigation				
LOCATION	Llewellyn Street			COORDINATES 503462.7 E; 6960335.0 N	
PROJECT No	FG6470	SURFACE RL	14.02m	PLUNGE	90°
				DATE STARTED	10/11/2017
JOB No		HEIGHT DATUM	AHD	BEARING	°
				DATE COMPLETED	15/11/2017
				DRILLER	Schneider

DEPTH (m)	R.L. (m)	AUGER CASING WASHBORING CORE DRILLING	RQD () % CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH					DEFECT SPACING					ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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21			(99)		TUFF (Rif) FR: Cont'd.		FR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				

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REMARKS: Rip - Aspley Formation. Rif - Brisbane Tuff.	LOGGED BY	REVIEWED BY
	HA	S. Foley

PROJECT Cross River Rail CRR2017 - Additional Geotechnical Investigation

LOCATION	Llewellyn Street
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COORDINATES 503462.7 E; 6960335.0 N

PROJECT No	FG6470
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SURFACE RL 14.02m

PLUNGE 90°

DATE STARTED 10/11/2017

GRID DATUM MGA94

JOB No

HEIGHT DATUM AHD

BEARING °

DATE COMPLETED 15/11/2017

DRILLER Schneider

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Continued on next sheet

REMARKS: Rip - Aspley Formation. Rif - Brisbane Tuff.

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S. Foley



GEOTECHNICAL
BOREHOLE LOG

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

BOREHOLE No **CRR709**

Sheet 5 of 5

REFERENCE No **H12935**

PROJECT Cross River Rail CRR2017 - Additional Geotechnical Investigation

LOCATION Llewellyn Street COORDINATES 503462.7 E; 6960335.0 N

PROJECT No FG6470 SURFACE RL 14.02m PLUNGE 90° DATE STARTED 10/11/2017 GRID DATUM MGA94

JOB No HEIGHT DATUM AHD BEARING ° DATE COMPLETED 15/11/2017 DRILLER Schneider

DEPTH (m)	R.L. (m)	AUGER CASING WASHBORING CORE DRILLING	RQD (%) CORE REC %	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	C		
41					TUFF (Rif) FR: Cont'd.		FR	H-VH		M					40.13m-40.39m: HFZ	Is(50)=0.22 MPa Is(50)=1.50 MPa	D (41.10m) A (41.11m)		
42			100 (64)																
43																			
44	-29.98		100		Borehole completed at 44.00m										43.36m-44.00m: SZ	Is(50)=3.40 MPa Is(50)=4.20 MPa	D (43.23m) A (43.24m)		
45																			
46																			
47																			
48																			
49																			

REMARKS: <u>Rip - Aspley Formation. Rif - Brisbane Tuff.</u>	LOGGED BY	REVIEWED BY
	HA	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	15/11/2017
Borehole No.	CRR709	Reference No.	H12935
Location	Llewellyn Street	Start Depth (m)	1.70
Submitted By	M. de Gee	Finish Depth (m)	44.00



CORE PHOTO LOG
DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

Project Name	Cross River Rail CRR2017 – Geotechnical Investigation		
Project No.	FG6470	Date	15/11/2017
Borehole No.	CRR709	Reference No.	H12935
Location	Llewellyn Street	Start Depth (m)	1.70
Submitted By	M. de Gee	Finish Depth (m)	44.00



CORE PHOTO LOG
DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

Project Name	Cross River Rail CRR2017 – Geotechnical Investigation		
Project No.	FG6470	Date	15/11/2017
Borehole No.	CRR709	Reference No.	H12935
Location	Llewellyn Street	Start Depth (m)	1.70
Submitted By	M. de Gee	Finish Depth (m)	44.00



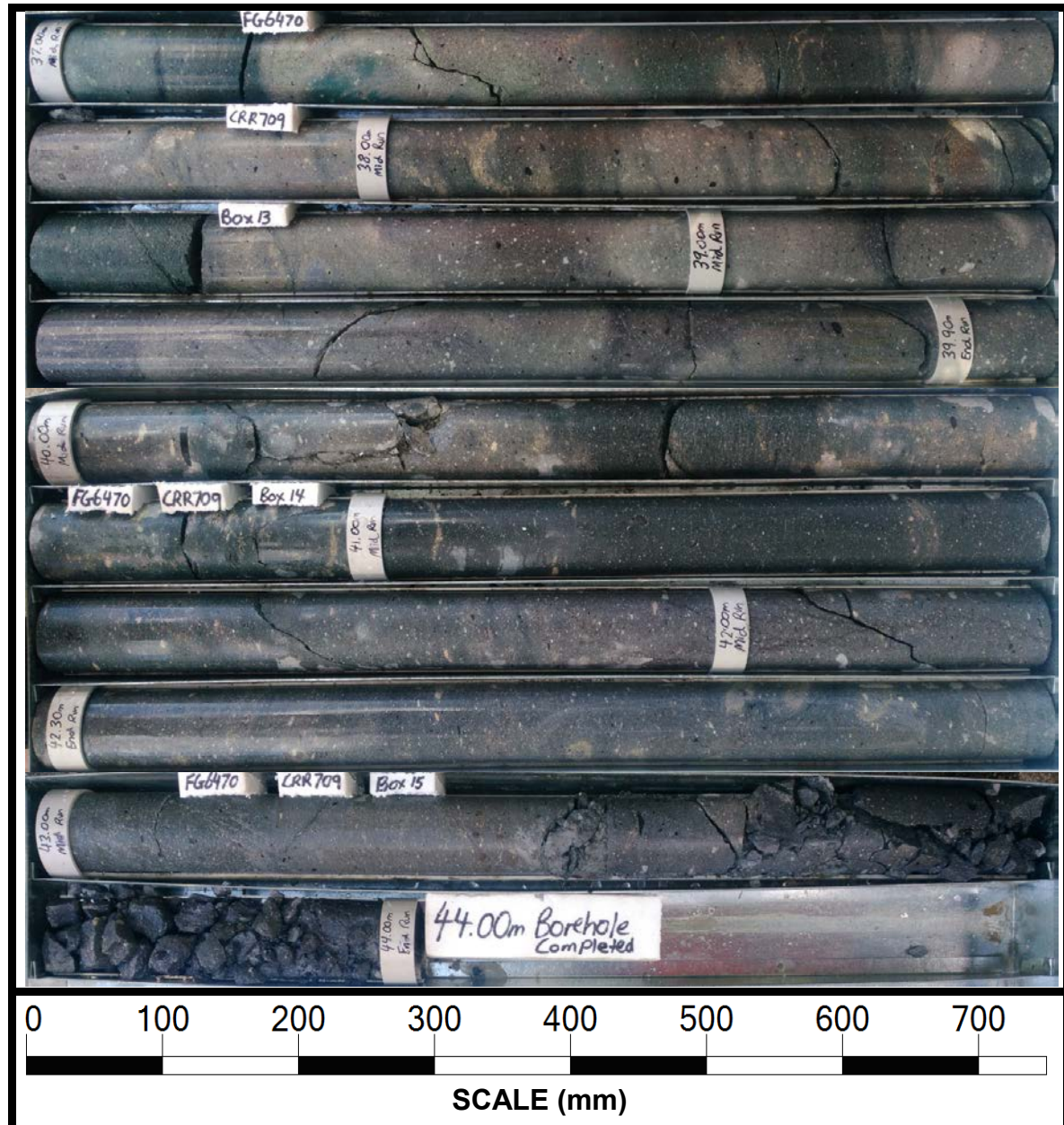
CORE PHOTO LOG
DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

Project Name	Cross River Rail CRR2017 – Geotechnical Investigation		
Project No.	FG6470	Date	15/11/2017
Borehole No.	CRR709	Reference No.	H12935
Location	Llewellyn Street	Start Depth (m)	1.70
Submitted By	M. de Gee	Finish Depth (m)	44.00



CORE PHOTO LOG
DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

Project Name	Cross River Rail CRR2017 – Geotechnical Investigation		
Project No.	FG6470	Date	15/11/2017
Borehole No.	CRR709	Reference No.	H12935
Location	Llewellyn Street	Start Depth (m)	1.70
Submitted By	M. de Gee	Finish Depth (m)	44.00



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.		CRR709				Surface RL		13.85	
Geologist		H.A.				Date		10/11/2017	
						Page		1	of 3
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
1.70	J	10	Pl	Ro	VII	OP	St	HFZ	Fe
1.80	J	50	Pl	Ro	VII	OP	St	HFZ	Fe
1.89	J	10	Pl	Ro	VII	OP	St		Fe
2.00	J	10	Pl	Ro	VII	OP	St		Fe
2.49	J	30	Pl	Ro	VII	TI	Cn		
2.76	J	60	Pl	Sm	VIII	FL	Ct	HFZ	Qz Vn 7mm
2.90	J	55	Pl	Ro	VII	FL	Cn		
3.13	J	20	Pl	Ro	VII	OP	Cn		
3.35	J	25	Pl	Sm	VIII	OP	Ct		Cly
3.54	J	35	Pl	Sm	VIII	OP	Ct		Cly
3.80	J	45	Pl	Ro	VII	OP	St		Fe, Cly, 5mm
3.84	J	10	Pl	Ro	VII	OP	St		Fe
3.91	J	5	Pl	Ro	VII	OP	St	Int	Fe
4.18	J	15	Pl	Ro	VII	OP	Cn	CZ	Clay
4.28	J	5	Pl	Ro	VII	OP	Cn	CZ	
4.33	J	10	Pl	Ro	VII	OP	Cn	CZ	
4.60	J	60	Pl	Ro	VII	OP	Cn		
4.93	J	15	Pl	Ro	VII	OP	St		Fe
5.94	J	20	Pl	Ro	VII	OP	St		Fe
6.49	J	5	Pl	Ro	VII	OP	St	CZ	Cly, Fe
6.57	J	2	Pl	Ro	VII	OP	St		Fe
6.63	J	5	Pl	Ro	VII	TI	St		Fe
6.81	J	10	Pl	Ro	VII	OP	Cn		
7.45	J	10	Pl	Ro	VII	OP	St		Fe
8.15	J	5	Pl	Ro	VII	OP	St		Fe
8.68	J	20	Pl	Ro	VII	OP	St		Fe
9.01	J	5	Pl	Ro	VII	OP	Cn		
9.37	J	45	Pl	Ro	VII	OP	Cn		
10.18	J	25	Stp	Ro	I	OP	St		Fe
11.31	J	50	Pl	Ro	VII	OP	St		Fe
11.48	J	40	Pl	Ro	VII	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

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Project Name		Cross River Rail				Project No.		FG6470	
Site ID / Borehole No.		CRR709				Surface RL		13.85	
Geologist		H.A.				Date		10/11/2017	
						Page		2 of 3	
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
11.56	J	45	Pl	Ro	VII	TI	St		Fe
11.87	J	45	Pl	Ro	VII	OP	St		Fe
12.02	J	45	Pl	Ro	VII	OP	St		Fe
12.42	J	40	Pl	Ro	VII	OP	St		Fe
12.51	J	40	Pl	Ro	VII	OP	St		Fe
12.57	J	45	Pl	Ro	VII	OP	St		Fe
12.86	J	40	Pl	Ro	VII	OP	St		Fe
13.63	J	35	Pl	Ro	VII	OP	St		Fe
13.95	J	40	Pl	Ro	VII	OP	St		Fe
14.18	J	20	Pl	Ro	VII	OP	St		Fe
14.85	J	40	Pl	Ro	VII	OP	St		Fe
15.50	J	45	Pl	Ro	VII	TI	Cn		
15.78	J	45	Pl	Ro	VII	OP	Cn		
17.04	J	40	Pl	Ro	VII	OP	Cn		
17.27	J	45	Pl	Ro	VII	OP	Cn		
17.75	J	20	Pl	Ro	VII	OP	Cn		
17.88	J	20	Pl	Ro	VII	OP	Cn		
19.61	J	40	Pl	Ro	VII	OP	Cn		
19.78	J	15	Un	Ro	IV	OP	Cn		
20.87	J	45	Pl	Ro	VII	OP	Cn		
21.75	J	5	Pl	Ro	VII	OP	Cn		
22.10	J	20	Pl	Ro	VII	OP	Cn		
22.52	J	5	Pl	Ro	VII	OP	Cn		
25.02	J	15	Pl	Ro	VII	OP	Cn		
25.30	J	20	Pl	Ro	VII	OP	Cn		
30.87	J	15	Pl	Ro	VII	OP	Cn		
31.61	J	2	Pl	Ro	VII	OP	Cn		
31.84	J	20	Pl	Ro	VII	OP	Cn		
33.82	DI								
35.35	J	90	Pl	Ro	VII	OP	Cn		
35.77	J	5	Pl	Ro	VII	OP	Cn		

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

F:GEOT 533/9 – 2014

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Project Name		Cross River Rail				Project No.	FG6470		
Site ID / Borehole No.		CRR709				Surface RL	13.85		
Geologist		H.A.				Date	10/11/2017		
						Page	3	of	3
Traverse Chainage; or Down hole depth (rock core)	Type	Dip ° / Dip Direction °;	Planarity	Roughness	Roughness Class	Aperture	Infilling	Zones ¹	Other
	LP /	or				CD /	Cn /	SZ /	
	BP /	Angle ° from	Stp /	Ro /	I to IX	OP /	St /	CZ /	
	FP /	horizontal	Un /	Sm /		FL /	Vr /	HFZ /	
(rock core)	J etc.	(rock core)	Pl	SI		TI	Ct ¹	AZ	
35.81	J	2	Pl	Ro	VII	OP	Cn		
35.92	J	2	Pl		VII	OP	Cn		
36.59	J	25	Pl	Ro	VII	OP	Cn		
37.16	J	5	Pl	Ro	VII	OP	Cn		
37.32	J	70	St	Ro	I	OP	Cn		
37.56	J	2	Pl	Ro	VII	OP	Cn		
38.34	J	25	Pl	Ro	VII	OP	Cn		
38.46	J	10	Pl	Ro	VII	OP	Cn		
38.62	J	1	Pl	Ro	VII	OP	Cn		
39.13	J	10	Pl	Ro	VII	OP	Cn		
39.51	J	40	Pl	Ro	VII	OP	Cn		
39.78	J	90	Pl	Ro	VII	OP	Cn		
40.16	J	35	Pl	Ro	VII	OP	Cn		
40.23	J	90	Pl	Ro	VII	OP	Cn		
40.47	J	20	Pl	Ro	VII	OP	Cn		
40.86	J	5	Pl	Ro	VII	OP	Cn		
40.93	J	80	Pl	Ro	VII	TI	Cn		
41.68	J	50	Pl	Ro	VII	OP	Cn		
42.11	J	70	St	Ro	I	OP	Cn		
43.10	J	10	Pl	Ro	VII	OP	Cn		
43.37	J	35	Pl	Ro	VII	FL	Ct		Cly 30mm
43.38	J	45	Pl	Ro	VII	OP	Cn		
43.43	J	85	Pl	Ro	VIII	FL	Ct	HFZ	Cly 20mm
43.52	J	10	Pl	Ro	VII	OP	Cn	HFZ	
43.65	J	45	Un	Ro	IV	OP	Cn	HFZ	
43.73	J	25	Pl	Ro	VII	OP	Cn	HFZ	
43.88	J	80	Pl	Ro	VII	OP	Cn	HFZ	
43.36 - 44.00								HFZ	Possible SZ

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

F:GEOT 533/9 – 2014