FINAL 02/03/2018

Queensland Government

GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **CRR719**

Sheet 1 of 5

REFERENCE No **H12945**

PROJECT Cross River Rail CRR2017 - Additional Geotechnical Investigation

LOCATION Hardgrave Park

COORDINATES 501449.3 E; 6962391.8 N

PROJECT No FG6470 | SURFACE RL 34.86m | PLUNGE 90° | DATE STARTED 20/10/2017 | GRID DATUM MGA94

JOB No | HEIGHT DATUM AHD | BEARING ° | DATE COMPLETED 25/10/2017 | DRILLER Hinterland

DEPTH (m)	R.L. (m)	RQD ( ) % / CORE REC %	SAMPLE	MATERIAL DESCRIPTION	USCS WEATHERING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
0				Gravelly SAND (Fill) Grey, moist to wet. Medium to coarse grained sand. Fine to medium grained sub angular gravel. Trace silt.	(SP)	0.00m-1.20m: Non destructive drilling.	
1	33.66			ARGILLITE (DCf) HW: Grey brown and orange brown, fine grained, foliated, very low strength. Recovered as Silty Sandy Gravel.	HW		
2			A			4, 30/140mm MC=8.9% <75µm= 14%	SPT
	32.36	(26)		ARGILLITE (DCf) SW: Pale grey with orange brown staining, fine grained, foliated, high to very high strength. With some Metagreywacke beds <50mm thick, silicified. -FP: 45°-60° (4-8/m), Un-Pl/Sm, CD-OP, FeSt -Js: 20°-30° (1-3/m), Pl/Sm, CD-OP, FeSt - Js: 70°-80° (<1/m) Pl/Ro, TI-OP, Fe St	SW		
3		100 (44)					
4						Is(50)=0.19 MPa Is(50)=1.70 MPa	D (4.17m) A (4.21m)
5		100 (72)					
		100 (59)			XW		
6						Is(50)=0.82 MPa Is(50)=4.10 MPa	D (6.13m) A (6.15m)
7		100 (0)			SW		
		100 (89)	CORE LOSS				
8							
9						Is(50)=1.20 MPa Is(50)=0.81 MPa	D (9.40m) A (9.42m)
	24.86						

Continued on next sheet

REMARKS: DCf - Neranleigh Fernvale Beds

LOGGED BY	REVIEWED BY
MH	S. Foley

Queensland Government

GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **CRR719**

Sheet 2 of 5

REFERENCE No **H12945**

PROJECT Cross River Rail CRR2017 - Additional Geotechnical Investigation

LOCATION Hardgrave Park

COORDINATES 501449.3 E; 6962391.8 N

PROJECT No FG6470 | SURFACE RL 34.86m | PLUNGE 90° | DATE STARTED 20/10/2017 | GRID DATUM MGA94

JOB No | HEIGHT DATUM AHD | BEARING ° | DATE COMPLETED 25/10/2017 | DRILLER Hinterland

DEPTH (m)	R.L. (m)	RQD ( ) % / CORE REC %	SAMPLE	MATERIAL DESCRIPTION	USCS WEATHERING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
11		91 (91)		ARGILLITE (DCf) SW: Cont'd.		Is(50)=2.30 MPa Is(50)=0.71 MPa	D (10.14m) A (10.19m)
						Is(50)=0.58 MPa Is(50)=0.33 MPa	D (10.46m) A (10.47m)
12						Is(50)=0.81 MPa Is(50)=2.00 MPa	D (12.26m) A (12.32m)
13						Is(50)=1.50 MPa Is(50)=1.40 MPa	D (13.18m) A (13.20m)
14		100 (84)			SW		
15		100 (87)				Is(50)=0.58 MPa Is(50)=5.20 MPa	D (15.15m) A (15.19m)
16							
17	17.46	100 (100)		ARGILLITE (DCf) FR: Pale grey, fine grained, foliated, high to very high strength. With some Metagreywacke beds <50mm thick. -Js: 20°-30° (0-2/m), Stp-Un/Sm, CD, FeSt -FP: 45°-60° (0-1/m), Un-Pl/Sm, CD, Cn	FR	Is(50)=0.82 MPa Is(50)=0.74 MPa	D (16.62m) A (16.64m)
18						Is(50)=2.40 MPa Is(50)=8.50 MPa	D (18.20m) A (18.26m)
19		100 (98)					
	14.86					Is(50)=3.40 MPa Is(50)=4.30 MPa	D (19.85m) A (19.86m)

INTACT STRENGTH: EH VH H M I VL EL — H-VH

DEFECT SPACING: EC VC C M W VW EW — M, VC, C, M, W, VC, M, W, C, W, M, W

Continued on next sheet

REMARKS: DCf - Neranleigh Fernvale Beds

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Queensland Government

GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **CRR719**

Sheet 3 of 5

REFERENCE No **H12945**

PROJECT Cross River Rail CRR2017 - Additional Geotechnical Investigation

LOCATION Hardgrave Park

COORDINATES 501449.3 E; 6962391.8 N

PROJECT No FG6470 | SURFACE RL 34.86m | PLUNGE 90° | DATE STARTED 20/10/2017 | GRID DATUM MGA94

JOB No | HEIGHT DATUM AHD | BEARING ° | DATE COMPLETED 25/10/2017 | DRILLER Hinterland

DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( ) % / CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (EC VC C M W VW EW)	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
21					ARGILLITE (DCf) FR: Cont'd.		FR		W	Is(50)=4.20 MPa Is(50)=5.30 MPa	D (20.90m) A (20.91m)
							SW	H-VH			
22									W	Is(50)=3.20 MPa Is(50)=4.90 MPa	D (22.15m) A (22.17m)
			100 (100)								
23									VW	Is(50)=3.90 MPa Is(50)=6.10 MPa	D (23.62m) A (23.70m)
24							FR	VH			
25			100 (83)						M	Is(50)=2.10 MPa Is(50)=2.80 MPa	D (24.80m) A (24.82m)
									C		
26									W	Is(50)=5.20 MPa Is(50)=5.70 MPa	D (26.10m) A (26.11m)
27				CORE LOSS	27.05m - 27.39m: Dark grey-brown and orange-brown, HW zone.				M	27.05m-27.08m: SW 27.08m-27.12m: XW 27.36m-27.39m: XW	
							HW				
							HW		C M		
28			96 (100)					H-VH	M	Is(50)=3.80 MPa Is(50)=6.40 MPa	D (27.70m) A (27.71m)
									W		
29							FR			Is(50)=2.30 MPa Is(50)=2.50 MPa	D (29.10m) A (29.11m)
	4.86								M		
									W		

Continued on next sheet

REMARKS: DCf - Neranleigh Fernvale Beds

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GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **CRR719**

Sheet 4 of 5

REFERENCE No **H12945**

PROJECT Cross River Rail CRR2017 - Additional Geotechnical Investigation

LOCATION Hardgrave Park

COORDINATES 501449.3 E; 6962391.8 N

PROJECT No FG6470 | SURFACE RL 34.86m | PLUNGE 90° | DATE STARTED 20/10/2017 | GRID DATUM MGA94

JOB No | HEIGHT DATUM AHD | BEARING ° | DATE COMPLETED 25/10/2017 | DRILLER Hinterland

DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( ) % CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (EC VC C M W VW EW)	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
31			100 (100)		ARGILLITE (DCf) FR: Cont'd.				M	Is(50)=4.60 MPa Is(50)=3.90 MPa	D (31.15m) A (31.16m)
32									W	32.04m-32.16m: CAI=1.76	
								VH		Is(50)=4.50 MPa Is(50)=4.20 MPa	D (32.32m) A (32.33m)
33											
34			100 (100)							Is(50)=4.00 MPa Is(50)=4.00 MPa UCS=28.00 MPa E=47.8 GPa v= 0.07	D (33.56m) A (33.57m) (33.77m)
35			100 (100)		35.05m: Becoming Grey and dark grey, high strength, frequent Qz Veins <60mm thick. - Js: 20°-60° (2-3/m) Un-Stp/Sm-Ro, CD-OP, Cn		FR			35.60m-35.72m: CAI=1.86 Is(50)=1.20 MPa Is(50)=0.94 MPa	D (35.52m) A (35.53m)
36			100 (100)						EW	Is(50)=0.95 MPa Is(50)=1.50 MPa 36.48m-36.60m: Slake Durability Index Test	D (36.21m) A (36.22m)
								H		UCS=14.30 MPa E=12.1 GPa v= 0.01	(36.72m)
37										Is(50)=1.50 MPa Is(50)=0.61 MPa	D (37.05m) A (37.09m)
38			100 (100)							Is(50)=2.10 MPa Is(50)=1.60 MPa 37.71m-37.85m: CAI=1.62	D (37.45m) A (37.46m)
39	-5.14									Is(50)=1.40 MPa Is(50)=2.10 MPa	D (39.08m) A (39.10m)

Continued on next sheet

REMARKS: DCf - Neranleigh Fernvale Beds

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MH	S. Foley

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Queensland Government

GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **CRR719**

Sheet 5 of 5

REFERENCE No **H12945**

PROJECT Cross River Rail CRR2017 - Additional Geotechnical Investigation

LOCATION Hardgrave Park

COORDINATES 501449.3 E; 6962391.8 N

PROJECT No FG6470

SURFACE RL 34.86m

PLUNGE 90°

DATE STARTED 20/10/2017

GRID DATUM MGA94

JOB No

HEIGHT DATUM AHD

BEARING °

DATE COMPLETED 25/10/2017

DRILLER Hinterland

DEPTH (m)	R.L. (m)	RQD ( ) % / CORE REC %	SAMPLE	MATERIAL DESCRIPTION	USCS WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (EC VC C M W VW EW)	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
41		100 (100)		ARGILLITE (DCf) FR: Cont'd.	FR		W	Is(50)=1.10 MPa Is(50)=0.93 MPa	D (40.43m) A (40.48m)
								Is(50)=0.81 MPa Is(50)=0.74 MPa	D (41.20m) A (41.28m)
42								Is(50)=2.40 MPa Is(50)=0.66 MPa	D (42.12m) A (42.13m)
43					SW				
								Is(50)=0.69 MPa Is(50)=1.10 MPa	D (43.45m) A (43.46m)
44		100 (100)				LM	M	43.81m-44.25m: Brecciated zone: Dark grey and grey, with fine to coarse gravel size quartz clasts and quartz veins, low to medium strength.	
		100 (100)						44.62m-44.75m: Quartz vein 44.84m-44.98m: Quartz vein	
45					FR	H	C	Is(50)=1.30 MPa Is(50)=2.50 MPa	D (45.10m) A (45.11m)
46	-11.29	100		Borehole completed at 46.15m				46.00m-46.10m: Quartz vein	
47									
48									
49									

REMARKS: DCf - Neranleigh Fernvale Beds

LOGGED BY	REVIEWED BY
MH	S. Foley

TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

CORE PHOTO LOG
DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

Queensland Government

Project Name	**Cross River Rail CRR2017 – Geotechnical Investigation**		
Project No.	FG6470	Date	25/10/2017
Borehole No.	CRR719	Reference No.	H12945
Location	Hardgrave Park	Start Depth (m)	2.50
Submitted By	M. de Gee	Finish Depth (m)	46.15

CORE PHOTO LOG
DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

Queensland Government

Project Name	**Cross River Rail CRR2017 – Geotechnical Investigation**		
Project No.	FG6470	Date	25/10/2017
Borehole No.	CRR719	Reference No.	H12945
Location	Hardgrave Park	Start Depth (m)	2.50
Submitted By	M. de Gee	Finish Depth (m)	46.15

CORE PHOTO LOG
DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

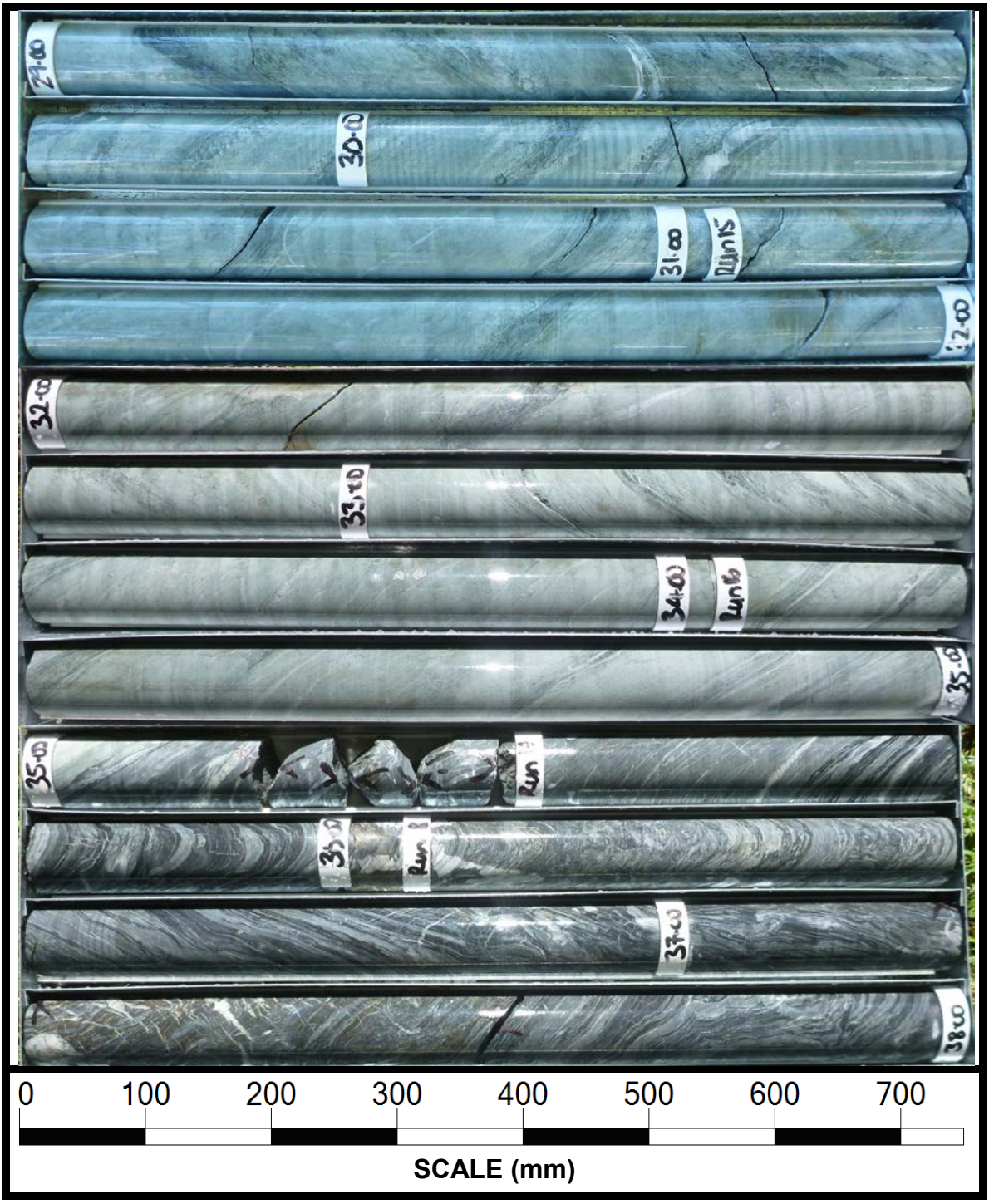
Queensland Government

Project Name	**Cross River Rail CRR2017 – Geotechnical Investigation**		
Project No.	FG6470	Date	25/10/2017
Borehole No.	CRR719	Reference No.	H12945
Location	Hardgrave Park	Start Depth (m)	2.50
Submitted By	M. de Gee	Finish Depth (m)	46.15

CORE PHOTO LOG
DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

Queensland Government

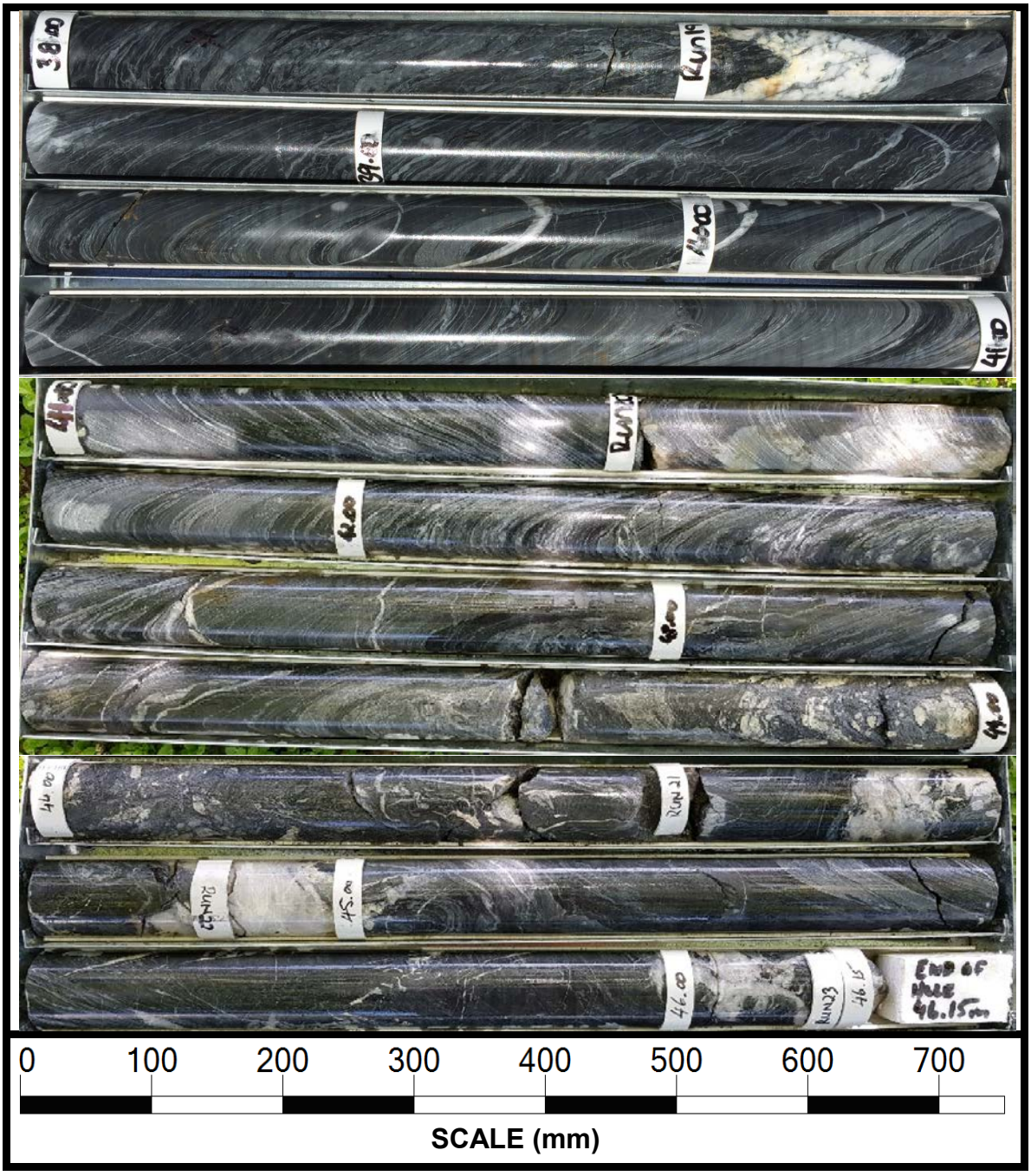
Project Name	**Cross River Rail CRR2017 – Geotechnical Investigation**		
Project No.	FG6470	Date	25/10/2017
Borehole No.	CRR719	Reference No.	H12945
Location	Hardgrave Park	Start Depth (m)	2.50
Submitted By	M. de Gee	Finish Depth (m)	46.15



CORE PHOTO LOG
DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

Queensland Government

Project Name	**Cross River Rail CRR2017 – Geotechnical Investigation**		
Project No.	FG6470	Date	25/10/2017
Borehole No.	CRR719	Reference No.	H12945
Location	Hardgrave Park	Start Depth (m)	2.50
Submitted By	M. de Gee	Finish Depth (m)	46.15



Detailed Discontinuity Description Log

Queensland Government

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Project Name	**Cross River Rail**	**Project No.**	**FG6470**
Site ID / Borehole No.	**CRR719**	**Surface RL**	**35.09**
Geologist	**M.H.**	**Date**	**20/10/2017**
		Page	**1 of 5**

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 / Tl	Infilling Cn / St / Vr / Ct [1]	Zones [1] SZ / CZ / HFZ / AZ	Other
2.50									HFZ
2.65	J	30	Un	Sm	V	OP	Cn		Fe
2.67	J	60	Un	Sm	V	OP	St		
2.69	J	30	Un	Sm	V	OP	Cn		Fe
2.70	J	30	Pl	Sm	VIII	CD	St		Clay
2.73	FP	60	Un	Sm	V	CD	Vr		Fe
2.75	J	20	Un	Sm	V	CD	St		Fe
2.80	J	~90	Un	Sm	V	CD	St		
2.81	J	40	Stp	Ro	I	CD	Cn		Fe
2.84	J	45	Pl	Sm	VIII	CD	St		Fe
2.86	J	30	Un	Sm	V	CD	St		Fe
3.00	FP	60	Un	Sm	V	CD	St		Fe
3.03	FP	50	Un	Sm	V	CD	St		Fe
3.08	J	40	Pl	Sm	VIII	CD	St		Fe
3.17	FP	60	Stp	Sm	II	OP	St		Fe
3.05	FP	60	Pl	Sm	VIII	OP	St		Fe
3.32	FP	60	Stp	Sm	II	CD	St		Fe
3.43	FP	45	Pl	Sm	VIII	OP	St		Fe
3.50	J	30	Pl	Sm	VIII	OP	St		Fe
3.51	J	45	Un	Sm	V	OP	St		Fe
3.58	FP	50	Pl	Ro	VI	CD	FL		Qz
3.66	FP	55	Pl	Sm	VIII	CD	Vr		Clay
3.68	J	sv	Un	Sm	V	CD/Tl	St		Fe, to 3.88
3.82	J	35	Pl	Sm	V	CD	St		Fe
4.02	FP	45	Pl	Sm	V	CD	St		Fe
4.07	J	35	Stp	Sm	V	CD	St		Fe
4.13	J	30	Un	Sm	V	CD	Cn		
4.34	J	30	Pl	Sm	VIII	CD	St		Fe
4.37	J	10	Un	Sm	V	CD	St		Fe
4.53	J	45	Pl	Sm	VIII	OP	Vr		Clay
4.62	J	10	Un	Sm	VIII	OP	Vr		Clay

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

Detailed Discontinuity Description Log

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Project Name	**Cross River Rail**	**Project No.**	**FG6470**
Site ID / Borehole No.	**CRR719**	**Surface RL**	**35.09**
Geologist	**M.H.**	**Date**	**20/10/2017**
		Page	**2 of 5**

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 / Tl	Infilling Cn / St / Vr / Ct [1]	Zones [1] SZ / CZ / HFZ / AZ	Other
4.66	J	50	Pl	Sm	VIII	CD	St		Fe
4.67	J	40	Un	Sm	V	CD	Cn		
4.68	J	45	Pl	Sm	VIII	OP	Vr		Clay
4.81	FP	60	Un	Sm	V	OP	Vr		Cal
4.92	FP	50	Un	Sm	V	OP	Vr		Cal
5.04	J	40	Pl	Ro	VII	CD	St		Fe
5.06	FP	40	Pl	Sm	VIII	CD	Cn		
5.08								BZ	30mm
5.11	J	20	Pl	Sm	VIII	OP	St		Fe
5.22	J	20	Pl	Sm	VIII	FL	Ct		Clay 5mm
5.24	FP	45	Un	Sm	VII	OP	St		Fe
5.34	FP	60	Pl	Sm	VIII	CD	Vr		Cal
5.44	J	30	Stp	Sm	I	OP	St		Fe
5.57	J	30	Un	Sm	V	FL	Ct	HFZ	Clay
5.82	J	45	Pl	Sm	VIII	CD	Cn		
5.88	J	45	Pl	Sm	VIII	CD	St		Fe
6.06	J	25	Un	Sm	V	CD	St		Fe
6.25	J	45	Pl	Ro	IV	OP	St		Fe
6.28	J	30	Pl	Sm	V	CD	St		Fe
6.31	J	45	Pl	Sm	VIII	Tl	St		Fe
6.32	J	5	Un	Sm	V	CD	St		Fe
6.34	J	30	Pl	Sm	VIII	CD	St		Fe
6.45	J	15	Pl	Sm	VIII	CD	St		Fe
6.46	J	15	Pl	Sm	VIII	CD	St		Fe
6.50	J	20	Un	Sm	V	CD	St		Fe
6.59	J	20	Pl	Sm	VIII	CD	Vr		Clay
6.72	FP	30	Un	Sm	V	CD	St		Fe
6.79	FP	45	Un	Sm	V	CD	St		Fe
6.92	J	20	Stp	Ro	I	CD	Cn		
7.10	FP	60	Pl	Sm	VIII	CD	St		Fe
7.13	FP	60	Pl	Sm	VIII	CD	St		Fe

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

Detailed Discontinuity Description Log

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Project Name	**Cross River Rail**				**Project No.**	**FG6470**			
Site ID / Borehole No.	**CRR719**				**Surface RL**	**35.09**			
Geologist	**M.H.**				**Date**	**20/10/2017**			
					Page	**3**	**of**	**5**	

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 / Tl	Infilling Cn / St / Vr / Ct [1]	Zones [1] SZ / CZ / HFZ / AZ	Other
7.24	FP	60	Pl	Sm	VIII	CD	St		Fe
7.25	FP	60	Pl	Sm	VIII	CD	St		Fe
7.34	FP	60	Stp	Sm	II	CD	St		Fe
7.40	J	45	Stp	Sm	II	CD	St	HFZ	Fe, 50mm
7.55	J	45	Pl	Sm	VIII	OP	Cn		
7.58	J	20	Un	Sm	V	OP	Cn		
7.65	J	60	Un	Sm	V	CD	Vr		Clay/Fe
7.70									70mm HFZ
7.84	J	45	Pl	Sm	VIII	OP	Vr		Clay
7.85	J	30	Un	Sm	V	OP	Cn		
7.90	J	60	Pl	Sm	VIII	CD	St		Fe
7.94	FP	60	Pl	Sm	VIII	CD	St		Fe
8.12	J	30	Un	Sm	V	OP		HFZ	BZ, 60mm
8.18	J	20	Un	Sm	V	CD	St		Fe
8.21	J	60	Pl	Sm	VIII	CD	St		Fe
8.24	J	35	Pl	3	IV	OP	St		Fe
8.55	J	60	Stp	Ro	I	OP		250mm core loss	
8.63	FP	60						Vuggy 2-5mm aperture	
9.05	J	40	Un	Ro	IV	CD	St		Fe
9.07	J	20	Pl	Ro	VII	OP	St		Fe
9.09	J	15	Pl	Ro	VII	CD	Cn		
10.05	J	30	Pl	Sm	VIII	OP	St		Fe
10.58	FP	55	Un	Sm	V	OP	St		Fe/Clay
10.64	FP	50	Pl	Sm	VIII	CD	St		Fe
10.69	FP	50	Un	Sm	V	OP	St	BZ, Fe, Clay, 30mm	
10.76	FP	60	Un	Sm	V	CD	St		Fe
11.00	J	~90	Un	Sm	V	CD	St	Fe, Clay, 10.7m-11.4m	
11.44	J	30	Un	Sm	V	CD	Cn		
11.75	J	30	Pl	Sm	VIII	CD	St		Fe
11.82	FP	50	Pl	Ro	VII	CD	St		Fe
11.85	FP	50	Pl	Ro	VII	CD	St		Fe

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

Detailed Discontinuity Description Log

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Project Name	**Cross River Rail**	**Project No.**	**FG6470**
Site ID / Borehole No.	**CRR719**	**Surface RL**	**35.09**
Geologist	**M.H.**	**Date**	**20/10/2017**
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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 / Tl	Infilling Cn / St / Vr / Ct [1]	Zones [1] SZ / CZ / HFZ / AZ	Other
12.50	J	30	Pl	Sl	IX	CD	Cn		13.35m-13.95m
13.70	J	~90	Un	Ro	IV	OP	St		Fe, Clay, 2-5mm
13.70	J	35	Pl	Sm	VIII	OP	St		Fe
13.75	J	45	Pl	Sm	VIII	OP	St	HFZ	Fe 200mm
13.95	J	55	Pl	Sm	VIII	OP	St		Fe
14.00	J	60	Pl	Sm	VIII	OP	St		Fe
14.35	J	60	Pl	Sm	VIII	CD	St		Fe
14.85	J	25	Stp	Sm	II	OP	St		Fe
14.95	J	60	Un	Ro	IV	CD	St		Fe
15.60	J	80	Un	Sm	V	OP	St		Fe 15.3-16m
15.75	J	60	Pl	Sm	VIII	CD	Cn		
16.52	J	65	Stp	Ro	I	OP	St		Fe
16.95	J	30	Un	Ro	IV	CD	Cn		
17.05	J	~90	Un	Ro	IV	OP	Vr		Clay
17.11	FP	45	Pl	Sm	VIII	CD	St		Fe
17.23	J	10	Un	Sm	V	CD	Cn		
17.27	FP	45	Pl	Sm	VIII	OP	St		Fe
17.31	J	10	Un	Sm	V	OP	Cn		
17.65	J	30	Pl	Sm	VIII	CD	St		Fe
18.05	J	50	Pl	Sm	VIII	CD	Cn		
18.50	FP	65	Un	Sm	V	CD	Cn		
18.83	J	10	Pl	Sm	VIII	OP	St		Fe
19.25	J	30	Pl	Sl	IX	CD	Cn		
19.33	J	20	Un	Sm	V	OP	Cn		
19.93	J	35	Pl	Sl	IX	OP	Cn		
21.06	FP	45	Un	Sm	V	OP	St		Fe
21.08	J	10	Stp	Ro	I	OP	St		Fe
21.10	J	10	Pl	Sm	VIII	CD	St		Fe
21.12	J	25	Un	Sm	V	OP	St		Fe 40mm BZ
22.50	J	10	Un	Sm	V	CD	Cn		
24.60	J	20	Un	Sm	V	CD	St		Fe

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

Detailed Discontinuity Description Log

Queensland Government

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.

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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 / Tl	Infilling Cn / St / Vr / Ct [1]	Zones [1] SZ / CZ / HFZ / AZ	Other
25.15	FP	55	Un	Sm	V	CD	Cn		
25.30	J	30	Stp	Sm	II	CD	St		Fe
26.75	J	20	Pl	Sm	VIII	CD	Cn		
27.05	J	30	Pl	Sm	VIII	FL		HFZ	500mm Clay
27.12	J	45	Stp	Sm	II	OP	St		Fe
27.38	FP	45	Pl	Sl	IX	FL			20mm Clay
27.40	FP	45	Pl	Sm	VIII	CD	St		Fe
27.42	FP	45	Pl	Sm	VIII	CD	St		Fe
27.44	J	45	Un	Sm	V	CD	St		HFZ
27.96	J	40	Un	Ro	IV	CD	Cn		
29.19	FP	45	Stp	Sm	II	CD	Cn		
29.58	J	30	Un	Sm	V	CD	Cn		
30.26	J	15	Un	Sm	V	CD	Cn		
30.68	FP	45	Pl	Sm	VIII	CD	Cn		
30.93	FP	45	Un	Sm	V	CD	Cn		
31.87	J	40	Pl	Sm	VIII	OP	Cn		
32.23	FP	50	Pl	Sm	VIII	CD	Cn		
33.20	FP	50	Pl	Sm	VIII	CD	Cn		
39.55	J	40	Un	Sm	V	CD	Cn		
42.23	J	5	Un	Ro	IV	OP	St		
42.87	J	40	Un	Ro	IV	CD	St		
43.32	J	30	Un	Ro	IV	CD	Un		
43.62	J	20	Stp	Ro	I	OP	Ct		Qz
43.80	J	20	Un	Ro	IV	OP	Ct		Qz
44.25	J	60	Pl	Sm	VIII	OP	St		
45.27	J	60	Un	Sm	V	OP	Cn		
45.42	J	40	Un	Sm	V	OP	Cn		
46.02	J	20	Stp	Sm	II	OP	Cn/St		

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