

## **COPYRIGHT NOTICE**

This geotechnical log and its associated data (the Document) is licensed by the Cross River Rail Delivery Authority under the [Creative Commons Attribution 4.0 Licence](#) (CC BY 4.0). When reusing the Document, in whole or in part, please attribute as follows: "*(c) Cross River Rail Delivery Authority 2023, licensed under the CC BY 4.0 Licence, prepared by the State of Queensland (Department of Transport and Main Roads)*". This licence does not apply to logos or trademarks.

## **LIMITATION OF LIABILITY**

The CC BY 4.0 Licence contains a comprehensive Disclaimer of Warranties and Limitation of Liability. In addition, please note that this Document was prepared for the Cross River Rail Delivery Authority use only. Reuse of the Document by anyone for any other purpose could result in error and/or loss. You should obtain professional advice before making decisions based on the contents of the Document.

When reproducing any part of this Document, you must also reproduce this limitation of liability notice in addition to the italicised attribution statement above.

Retrieved from the Queensland Geotechnical Database <http://qgd.org.au/>



**Queensland  
Government**

**GEOTECHNICAL  
BOREHOLE LOG**

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

BOREHOLE No **CRR712**

Sheet 1 of 4

REFERENCE No **H12938**

PROJECT	Cross River Rail CRR2017 - Additional Geotechnical Investigation		
LOCATION	Albert Street/Station cavern	COORDINATES 502671.7 E; 6961336.0 N	
PROJECT No	FG6470	SURFACE RL 3.79m	PLUNGE 90°
			DATE STARTED 18/10/2017
			GRID DATUM MGA94
JOB No		HEIGHT DATUM AHD	BEARING °
			DATE COMPLETED 25/10/2017
			DRILLER Schneider

DEPTH (m)	R.L. (m)	FAUGER 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
3.74					ASPHALT (Fill)					0.00m-3.50m: Non destructive drilling			
3.39					50mm thick pavement.								
1					CONCRETE (Fill)								
					Concrete road base with steel reinforcement.								
2	1.79				Gravelly CLAY (Fill)	(CH)							
					Brown, moist, firm. High plasticity. Fine to coarse grained angular gravel.								
3	1.29				Clayey GRAVEL (Alluvium)	(GC)				18/10/2017			
					Grey, moist to wet, loose. Fine to medium grained sub rounded gravel. High plasticity clay.								
4				A	Silty CLAY (Alluvium)					hw, hw, hw N<1 LL=85% PI= 60% MC=44.6% LS= 17% <75µm= 80%	SPT		
					Grey mottled brown, wet, very soft. High plasticity. Trace fine grained angular gravel. With sand.					Su(PP)=25 kPa			
5						CH							
6				B						hw, hw, hw N<1 LL=84% PI= 52% MC=61.5% LS= 20% <75µm= 95%	SPT		
7				C						hw, hw, hw N<1 LL=102% PI= 81% MC=28.9% LS= 22% <75µm= 99%	SPT		
8										Su(PP)=50 kPa			
9	-4.51			D	Silty CLAY (Residual)	(CH)				3, 5, 7 N=12	SPT		
					Grey brown, wet, stiff to very stiff. High plasticity. Trace fine grained angular gravel.					Su(PP)=175 kPa			
					9.5m: Becomes hard.								
	-6.21												

Continued on next sheet

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

LOGGED BY	REVIEWED BY
ZC	S. Foley



**Queensland  
Government**

**GEOTECHNICAL  
BOREHOLE LOG**

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

BOREHOLE No **CRR712**

Sheet 2 of 4

REFERENCE No **H12938**

PROJECT	Cross River Rail CRR2017 - Additional Geotechnical Investigation				
LOCATION	Albert Street/Station cavern		COORDINATES 502671.7 E; 6961336.0 N		
PROJECT No	FG6470	SURFACE RL	3.79m	PLUNGE	90°
				DATE STARTED	18/10/2017
				GRID DATUM	MGA94
JOB No		HEIGHT DATUM	AHD	BEARING	°
				DATE COMPLETED	25/10/2017
				DRILLER	Schneider

DEPTH (m)	R.L. (m)	FAUGER 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
11	-7.71				E	Silty CLAY (Residual) Cont'd.	(CH)				9, 20, 30/120mm hb	SPT	
12			(55)			ARGILLITE (DCf) MW: Dark grey with orange, fine grained, foliated, medium strength. Frequent quartz veins parallel to foliation <12mm, some crenulated. -FP: 20°-25° (4/m), Pl/Sm, TI, FeSt	MW	M	M		12.10m-12.35m: HFZ, XW		
13	-9.21		100 (31)				XW	VL-L	EM				
13						ARGILLITE (DCf) SW: Dark grey, fine grained, foliated, medium to high strength. -FP: 30°-50° (3/m), Pl/Sm, TI, Cn Frequent quartz bands parallel to foliation <12mm, some crenulated. Some crosscutting quartz veinlets <4mm, 50°-60°.	MW	MH	VC		Is(50)=1.10 MPa	D (12.70m)	
13							HW	VL-L	VC		Is(50)=1.20 MPa	A (13.03m)	
14			100 (65)				SW	H					
15											Is(50)=0.44 MPa	D (14.25m)	
15											Is(50)=0.32 MPa	A (14.49m)	
15											Is(50)=1.10 MPa	A (14.88m)	
15											Is(50)=0.49 MPa	D (14.95m)	
16								MH	M		Is(50)=0.54 MPa	D (15.73m)	
16											Is(50)=0.80 MPa	A (15.78m)	
17			100 (93)										
17											Is(50)=0.75 MPa	A (17.15m)	
17											Is(50)=1.80 MPa	D (17.20m)	
18	-14.06					ARGILLITE (DCf) FR: Dark grey, fine grained, foliated, generally high strength. Frequent quartz veins parallel to foliation <12mm, some crenulated. Some crosscutting quartz veinlets <4mm, 50°-60°. -FP: 30°-50° (6/m), Pl/Sm, TI, OP, Cn	FR	H	M		Is(50)=2.30 MPa	A (18.55m)	
19			100 (85)								Is(50)=2.70 MPa	D (18.60m)	
19													
19			100 (83)								19.38m-19.43m: HFZ		
19	-16.21												

Continued on next sheet

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

LOGGED BY

REVIEWED BY

ZC

S. Foley



**Queensland  
Government**

**GEOTECHNICAL  
BOREHOLE LOG**

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

BOREHOLE No **CRR712**

Sheet 3 of 4

REFERENCE No **H12938**

PROJECT	Cross River Rail CRR2017 - Additional Geotechnical Investigation		
LOCATION	Albert Street/Station cavern	COORDINATES 502671.7 E; 6961336.0 N	
PROJECT No	FG6470	SURFACE RL 3.79m	PLUNGE 90°
			DATE STARTED 18/10/2017
			GRID DATUM MGA94
JOB No		HEIGHT DATUM AHD	BEARING °
			DATE COMPLETED 25/10/2017
			DRILLER Schneider

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
21						ARGILLITE (Dcf) FR: Cont'd.				M	Is(50)=1.90 MPa Is(50)=2.20 MPa	D (20.27m) A (20.34m)	
22										C			
22										M	UCS=10.90 MPa E=6.83 GPa v= 0.024 Is(50)=3.80 MPa Is(50)=2.70 MPa	(21.51m) D (21.75m) A (21.79m)	
23			100 (73)							C	Is(50)=4.10 MPa Is(50)=5.90 MPa	A (22.20m) D (22.32m)	
23										M	UCS=2.69 MPa E=2.44 GPa v= 0.05 Is(50)=1.20 MPa Is(50)=1.10 MPa	(22.82m) D (23.15m) A (23.22m)	
24									H	C	Is(50)=1.50 MPa	A (24.15m)	
25							FR			M	UCS=8.20 MPa E=7.29 GPa v= 0.025 Is(50)=2.10 MPa Is(50)=1.00 MPa	(24.90m) A (25.29m) D (25.30m)	
26			100 (46)							M	25.87m-25.99m: CAI=2.29 Is(50)=0.88 MPa Is(50)=0.63 MPa	A (26.04m) D (26.10m)	
27										C	Is(50)=0.66 MPa Is(50)=1.10 MPa	A (26.65m) D (26.78m)	
28			100 (76)							H	27.44m-27.52m: HW Zone 27.74m-27.78m: HW Zone		
29			100 (79)							M	28.19m-28.33m: HFZ		
29										C	28.72m: Colour change to grey pale grey with some white 28.75m-28.87m: CAI=2.27 28.90m-28.97m: HFZ	Is(50)=2.60 MPa Is(50)=2.20 MPa Is(50)=1.30 MPa Is(50)=1.50 MPa	D (29.05m) A (29.09m) A (29.34m) D (29.40m)
29										M	29.59m-29.75m: Brazilian Tensile Strength = 5.99 MPa		
29										C	UCS=34.20 MPa E=18.7 GPa v= 0.01	(29.89m)	

Continued on next sheet

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

LOGGED BY	REVIEWED BY
ZC	S. Foley





**Queensland  
Government**

# STANDPIPE INSTALLATION LOG

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

BOREHOLE No **CRR712**

Sheet 1 of 4

PIEZOMETER No **CRR712**

PROJECT	Cross River Rail CRR2017 - Additional Geotechnical Investigation		
LOCATION	Albert Street/Station cavern	COORDINATES 502671.7 E; 6961336.0 N	
PROJECT No	FG6470	SURFACE RL 3.79m	PLUNGE 90°
			DATE STARTED 18/10/2017
			GRID DATUM MGA94
JOB No		HEIGHT DATUM AHD	BEARING °
			DATE COMPLETED 25/10/2017
			DRILLER Schneider

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
3.74			ASPHALT(Fill) 50mm thick pavement.			
3.39			CONCRETE(Fill) Concrete road base with steel reinforcement.			
1			Gravelly CLAY(Fill) Brown, moist, firm. High plasticity. Fine to coarse grained angular gravel.			
1.79			Clayey GRAVEL(Alluvium) Grey, moist to wet, loose. Fine to medium grained sub rounded gravel. High plasticity clay.	18/10/2017		
1.29			Silty CLAY(Alluvium) Grey mottled brown, wet, very soft. High plasticity. Trace fine grained angular gravel. With sand.			
3						
4						
5						
6						
7						
8						
4.51			Silty CLAY(Residual) Grey brown, wet, stiff to very stiff. High plasticity. Trace fine grained angular gravel.			
9						
			9.5m: Becomes hard.			
-6.21						

Continued on next sheet

REMARKS: DCF - Neranleigh Fernvale Beds. Standpipe piezometer installed.	<b>LOGGED BY</b>	<b>REVIEWED BY</b>
	ZC	S. Foley





**Queensland  
Government**

## STANDPIPE INSTALLATION LOG

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

BOREHOLE No CRR712

Sheet 2 of 4

PIEZOMETER No CRR712

PROJECT	Cross River Rail CRR2017 - Additional Geotechnical Investigation		
LOCATION	Albert Street/Station cavern	COORDINATES 502671.7 E; 6961336.0 N	
PROJECT No	FG6470	SURFACE RL <u>3.79m</u>	PLUNGE <u>90°</u>
		DATE STARTED <u>18/10/2017</u>	GRID DATUM <u>MGA94</u>
JOB No		HEIGHT DATUM <u>AHD</u>	BEARING <u>°</u>
		DATE COMPLETED <u>25/10/2017</u>	DRILLER <u>Schneider</u>

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	-7.71	X	Silty CLAY(Residual) Cont'd.			
12		Z	ARGILLITE Dark grey with orange, fine grained, foliated, medium strength. Frequent quartz veins parallel to foliation <12mm, some crenulated. -FP: 20°-25° (4/m), Pl/Sm, TI, FeSt			
13	-9.21	Z	ARGILLITE Dark grey, fine grained, foliated, medium to high strength. -FP: 30°-50° (3/m), Pl/Sm, TI, Cn Frequent quartz bands parallel to foliation <12mm, some crenulated. Some crosscutting quartz veinlets <4mm, 50°-60°.			
14		Z				
15		Z				Grout: Cement / Bentonite mix
16		Z				
17		Z				
18	-14.06	Z	ARGILLITE Dark grey, fine grained, foliated, generally high strength. Frequent quartz veins parallel to foliation <12mm, some crenulated. Some crosscutting quartz veinlets <4mm, 50°-60°. -FP: 30°-50° (6/m), Pl/Sm, TI, OP, Cn			
19		Z				
-16.21		Z				

Continued on next sheet

REMARKS: DCF - Neranleigh Fernvale Beds. Standpipe piezometer installed.	<b>LOGGED BY</b>	<b>REVIEWED BY</b>
	ZC	S. Foley



**Queensland  
Government**

**STANDPIPE  
INSTALLATION LOG**

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

BOREHOLE No **CRR712**

Sheet 3 of 4

PIEZOMETER No **CRR712**

PROJECT	Cross River Rail CRR2017 - Additional Geotechnical Investigation								
LOCATION	Albert Street/Station cavern			COORDINATES 502671.7 E; 6961336.0 N					
PROJECT No	FG6470	SURFACE RL	3.79m	PLUNGE	90°	DATE STARTED	18/10/2017	GRID DATUM	MGA94
JOB No		HEIGHT DATUM	AHD	BEARING	°	DATE COMPLETED	25/10/2017	DRILLER	Schneider

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
21			ARGILLITE Cont'd.			
22						
23						
24						
25						
26						
27				27.00m / -23.21 AHD		
28				28.00m / -24.21 AHD		Bentonite Seal
29						
	-26.21			30.00m / -26.21 AHD		Top of Slotted Pipe

Continued on next sheet

REMARKS: DCF - Neranleigh Fernvale Beds. Standpipe piezometer installed.	<b>LOGGED BY</b>	<b>REVIEWED BY</b>
	ZC	S. Foley





**Queensland  
Government**

# STANDPIPE INSTALLATION LOG

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

BOREHOLE No **CRR712**

Sheet 4 of 4

PIEZOMETER No **CRR712**

PROJECT	Cross River Rail CRR2017 - Additional Geotechnical Investigation								
LOCATION	Albert Street/Station cavern			COORDINATES 502671.7 E; 6961336.0 N					
PROJECT No	FG6470	SURFACE RL	3.79m	PLUNGE	90°	DATE STARTED	18/10/2017	GRID DATUM	MGA94
JOB No		HEIGHT DATUM	AHD	BEARING	°	DATE COMPLETED	25/10/2017	DRILLER	Schneider

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
31			ARGILLITE Cont'd.			
32			From 31.5m: Becomes high to very high strength.			
33						
34						
35						Filter: Washed / Graded Sand
36						
37						
38						
39	-35.35		Borehole completed at 39.14m	39.00m / -35.21 AHD		

REMARKS: DCF - Neranleigh Fernvale Beds. Standpipe piezometer installed.	<b>LOGGED BY</b>	<b>REVIEWED BY</b>
	ZC	S. Foley

<b>Project Name</b>	<b>Cross River Rail CRR2017 – Geotechnical Investigation</b>		
<b>Project No.</b>	FG6470	<b>Date</b>	25/10/2017
<b>Borehole No.</b>	CRR712	<b>Reference No.</b>	H12938
<b>Location</b>	Albert Street / Station Cavern	<b>Start Depth (m)</b>	11.5
<b>Submitted By</b>	M. de Gee	<b>Finish Depth (m)</b>	39.14





<b>Project Name</b>	<b>Cross River Rail CRR2017 – Geotechnical Investigation</b>		
Project No.	FG6470	Date	25/10/2017
Borehole No.	CRR712	Reference No.	H12938
Location	Albert Street / Station Cavern	Start Depth (m)	11.5
Submitted By	M. de Gee	Finish Depth (m)	39.14





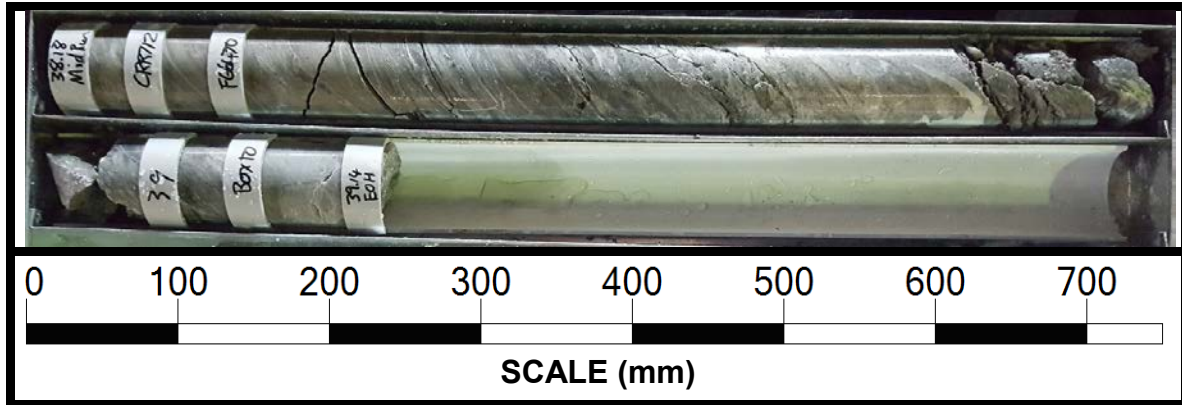
<b>Project Name</b>	<b>Cross River Rail CRR2017 – Geotechnical Investigation</b>		
<b>Project No.</b>	FG6470	<b>Date</b>	25/10/2017
<b>Borehole No.</b>	CRR712	<b>Reference No.</b>	H12938
<b>Location</b>	Albert Street / Station Cavern	<b>Start Depth (m)</b>	11.5
<b>Submitted By</b>	M. de Gee	<b>Finish Depth (m)</b>	39.14



**CORE PHOTO LOG**  
 DEPARTMENT OF TRANSPORT AND MAIN ROADS  
 GEOTECHNICAL SECTION



<b>Project Name</b>	<b>Cross River Rail CRR2017 – Geotechnical Investigation</b>		
<b>Project No.</b>	FG6470	<b>Date</b>	25/10/2017
<b>Borehole No.</b>	CRR712	<b>Reference No.</b>	H12938
<b>Location</b>	Albert Street / Station Cavern	<b>Start Depth (m)</b>	11.5
<b>Submitted By</b>	M. de Gee	<b>Finish Depth (m)</b>	39.14



# 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.		CRR712				Surface RL 3.89				
Geologist		Z.C.				Date		18/10/2017		
						Page		1	of	6
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 / PI	Roughness Ro / Sm / SI	Roughness Class I to IX	Aperture CD / OP / FL / TI	Infilling Cn / St / Vr / Ct <sup>1</sup>	Zones <sup>1</sup>	Other	
								SZ / CZ / HFZ / AZ		
11.77	FP	20	PI	Sm	VIII	TI	St		Fe	
11.92	FP	25	PI	Sm	VIII	TI	St		Fe	
11.97	FP	25	PI	Sm	VIII	TI	St		Fe	
12.05	FP	20	PI	Sm	VIII	TI	St		Fe	
12.10								HFZ		
12.35	FP	30	PI	Sm	VIII	TI	St		Fe	
12.42	J	30	PI / Un	Sm	V / VIII	OP	St		Fe	
12.51	J	10	Un	Ro	IV	FL	Ct/St		Fe / gravel	
12.54	J	10	Un	Ro	IV	OP	St		Fe	
12.61	FP	15	PI	Sm	VIII	OP	St		Fe	
12.62	J	10	Un	Ro	IV	OP	St		Fe	
12.76	FP	15	PI	Sm	VIII	TI	St		Fe	
13.01	FP	20	PI	Sm	VIII	TI	St		Fe	
13.12	J	15	Un	Sm	V	TI	Cn			
13.35	J	70	PI	Sm	VIII	TI	Cn			
13.56								CZ	40mm	
13.61	FP	30	PI	Sm	VIII	TI	Cn			
13.76	FP	30	PI	Sm	VIII	TI	Cn			
13.88	J	40	Un	Sm	V	TI	Cn			
13.91	FP	40	PI	Sm	VIII	TI	Cn			
14.03	FP	30	PI	Sm	VIII	TI	Cn			
14.08	FP	50	PI	Sm	VIII	TI	Cn			
14.13	FP	30	PI	Sm	VIII	TI	Cn			
14.15	J	10	Un	Ro	IV	OP	Cn			
14.32	J	40	Un	Ro	IV	OP	Cn			
14.41	FP	45	PI	Sm	VIII	OP	Cn			
14.63	FP	10	PI	Sm	VIII	OP	St		Fe	
14.68	FP	20	PI	Sm	VIII	TI	St		Fe	
14.81	FP	15	PI	Sm	VIII	TI	St		Fe	
15.06	FP	15	PI	Sm	VIII	TI	St		Fe	
15.11	FP	30	PI	Sm	VIII	TI	St		Fe	

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

F:GEOT 533/9 – 2014



# 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.		CRR712				Surface RL 3.89			
Geologist		Z.C.				Date		18/10/2017	
						Page	2	of	6
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 / PI	Roughness Ro / Sm / SI	Roughness Class I to IX	Aperture CD / OP / FL / TI	Infilling Cn / St / Vr / Ct <sup>1</sup>	Zones <sup>1</sup> SZ / CZ / HFZ / AZ	Other
15.14	FP	20	PI	Sm	VIII	TI	St		Fe
15.19	J	5	Un	Ro	IV	OP	Cn		
15.27	FP	20	PI	Sm	VIII	OP	Cn		
15.35	FP	10	PI	Sm	VIII	TI	Cn		
15.42	FP	15	PI	Sm	VIII	TI	St		Fe
15.48	FP	25	PI	Sm	VIII	OP	Cn		
15.83	FP	25	PI	Sm	VIII	TI			Fe
15.91	FP	15	PI	Sm	VIII	TI			Fe
15.96	FP	5	PI	Sm	VIII	TI			
16.89	FP	30	PI	Sm	VIII	TI			
16.27	FP	30	PI	Sm	VIII	TI			Fe
16.39	J	35	Un	Ro	IV	OP			Fe
16.61	FP	20	Un	Ro	IV	OP			Fe
16.73	FP	20	PI	Sm	VIII	TI			Fe
16.78	FP	20	PI	Sm	VIII	TI			
16.82	FP	25	PI	Sm	VIII	TI			
16.87	FP	30	PI	Sm	VIII	OP			
17.11	FP	20	PI	Sm	VIII	TI			
17.26	FP	50	PI	Sm	VIII	TI			
17.61								CZ	20mm
17.63	J	30	Un	Ro	IV	OP			
17.81	J	5	Un	Ro	IV	OP			
18.04	FP	25	PI	Sm	VIII	TI			
18.15	FP	25	PI	Sm	VIII	OP			
18.43	J	5	Un	Ro	IV	OP			
18.72	J	5	Un	Sm	IV	OP			
19.08	FP	10	PI	Sm	VIII	TI			
19.24	J	30	PI	Sm	VIII	OP			
19.39								HFZ	50mm
19.44	FP	10	PI	Ro	VII	TI	Cn		
19.46	J	20	Un	Sm	V	OP	Cn		

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

F:GEOT 533/9 – 2014

# 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.		CRR712				Surface RL		3.89	
Geologist		Z.C.				Date		18/10/2017	
						Page		3 of 6	
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 <sup>1</sup>	Zones <sup>1</sup> SZ / CZ / HFZ / AZ	Other
19.53	FP	5	Pl	Sm	VIII	OP	Cn		
19.56	FP	10	Pl	Sm	VIII	OP	Cn		
19.72	FP	15	Pl	Sm	VIII	OP	Cn		
19.73	FP	20	Pl	Sm	VIII	OP	Cn		
20.16	FP	30	Pl	Sm	VIII	CD	Cn		
20.59	FP	20	Pl	Sm	VIII	TI	Cn		
20.63	FP	40	Pl	Sm	VIII	TI	Cn		
20.72	FP	30	Pl	Sm	VIII	TI	Cn		
20.83	FP	30	Pl	Sm	VIII	TI	Cn		
20.96	FP	30	Pl	Sm	VIII	TI	Cn		
21.06	FP	25	Pl	Sm	VIII	TI	Cn		
21.16	FP	40	Pl	Sm	VIII	TI	Cn		
21.65	FP	30	Pl	Sm	VIII	TI	Cn		
22.24	FP	25	Pl	Sm	VIII	TI	Cn		
22.27	FP	30	Pl	Sm	VIII	TI	Cn		
22.40	FP	40	Pl	Ro	VII	FL	Cn		
22.45	J	5	Pl	Sm	VIII	TI	Cn		
22.51	FP	50	Pl	Sm	VIII	TI	Cn		
22.55	FP	45	Pl	Sm	VIII	TI	Cn		
22.58	FP	40	Pl	Sm	VIII	TI	Cn		
22.95	FP	45	Pl	Sm	VIII	TI	Cn		
23.35	FP	45	Pl	Sm	VIII	TI	Cn		
23.39	FP	40	Pl	Sm	VIII	TI	Cn		
23.53	FP	35	Pl	Sm	VIII	TI	Cn		
23.64	FP	30	Pl	Sm	VIII	TI	Cn		
23.76	J	40	Pl	Sm	VIII	TI	Cn		
23.85	J	50	Pl	Sm	VIII	TI	Cn		
23.87	J	10	Pl	Ro	VII	TI	Cn		
24.00	J	10	Pl	Ro	VII	OP	Cn		
24.07	FP	30	Pl	Sm	VIII	OP	Cn		
24.29	J	20	Un	Sm	V	CD	Cn		

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

F:GEOT 533/9 – 2014

# 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.		CRR712				Surface RL 3.89			
Geologist		Z.C.				Date		18/10/2017	
						Page		4 of 6	
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 <sup>1</sup>	Zones <sup>1</sup> SZ / CZ / HFZ / AZ	Other
24.36	FP	40	Pl	Sm	VIII	TI	Cn		
24.42	FP	40	Pl	Sm	VIII	TI	Cn		
24.58	FP	35	Pl	Sm	VIII	TI	Cn		
25.16	FP	60	Pl	Sm	VIII	TI	Cn		
25.42	FP	60	Pl	Sm	VIII	TI	Cn		
25.60	J	5	Un	Ro	IV	TI	Cn		
25.66	J	15	Un	Ro	IV	OP	Cn		
25.76	J	5	Un	Sm	V	OP	Cn		
25.85	J	5	Pl	Sm	VIII	TI	Cn		
26.18	J	10	Pl	Sm	VIII	TI	Cn		
26.38	J	10	Un	Sm	V	TI	Cn		
26.56	J	40	Pl	Ro	VII	OP	Cn		
26.83	FP	20	Pl	Sm	VIII	TI	Cn		
26.94	FP	20	Un	Ro	IV	FL	Cn		
26.98	FP	65	Pl	Ro	VIII	OP	Cn		
27.03	J	0	Un	Ro	V	OP	Cn		
27.11	J	0	Pl	Ro	VII	TI	Cn		
27.18	FP	30	Pl	Sm	VIII	TI	Cn		
27.25	FP	30	Pl	Sm	VIII	TI	Cn		
27.32	FP	40	Un	Ro	IV	TI	Cn		
27.44	J	0	Pl	Sm	VIII	TI	Ct		Clay
27.62	J	40	Pl	Sm	VIII	TI	Cn		
27.78	J	10	Un	Ro	IV	OP	Cn		
27.86	FP	20	Un	Ro	IV	OP	Cn		
27.92	J	5	Un	Ro	IV	OP	Cn		
27.95	J							HFZ	30mm
27.98	J	10	Un	Ro	IV	OP	Cn		
28.19								HFZ	140mm
28.33	J	0	Pl	Sm	VIII	OP	Cn		
28.54	J	10	Pl	Ro	VII	FL	Cn		
28.57	J	0	Un	Ro	IV	OP	Cn		

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

F:GEOT 533/9 – 2014

# 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.		CRR712				Surface RL		3.89		
Geologist		Z.C.				Date		18/10/2017		
						Page		5	of	6
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 / PI	Roughness Ro / Sm / SI	Roughness Class I to IX	Aperture CD / OP / FL / TI	Infilling Cn / St / Vr / Ct <sup>1</sup>	Zones <sup>1</sup>		
								SZ / CZ / HFZ / AZ	Other	
28.63	FP	20	Un	Sm	VII	TI	Cn			
28.66	FP	25	Un	Sm	VII	TI	Cn			
28.70	J	10	PI	Sm	VIII	TI	Cn			
28.84	J	10	Un	Sm	VII	TI	Cn			
28.86	J	25	Un	Sm	VII	TI	Cn			
28.90								HFZ	70mm	
28.97	FP	10	PI	Ro	VII	TI	Cn			
29.11	FP	10	PI	Sm	VIII	TI	Cn			
29.40	FP	20	PI	Sm	VIII	TI	Cn			
29.50	J	50	Un	Sm	V	CD	Cn			
29.58	J	60	Un	Sm	V	CD	Cn			
29.73	J	20	Un	Sm	V	CD	Cn			
29.97	J	30	Un	Sm		CD	Cn			
30.11	J	10	Un	Sm	V	TI	Cn			
30.32	J	20	PI	Sm	VIII	TI	Cn			
30.35	FP	30	PI	Sm	VIII	TI	Cn			
30.45	J	25	Un	Sm	V	TI	Cn			
30.57	J	0	PI	Sm	VIII	TI	Cn			
30.88	J	0	Un	Sm	V	CD	Cn			
30.95	J	30	Un	Sm	V	TI	Cn			
31.09	J	30	PI	Sm	VIII	TI	Cn			
31.36	FP	20	PI	Sm	VIII	TI	Cn			
31.51	J	15	Un	Ro	IV	OP	Cn			
31.53	J	90	PI	Sm	VIII	CD	Cn			
32.04	J	15	PI	Sm	VIII	TI	Cn			
32.68	FP	15	PI	Sm	VIII	TI	Cn			
32.81	FP	10	PI	Sm	VIII	TI	Cn			
32.89	J	85	Un	Ro	IV	TI	Cn			
32.98	FP	30	PI	Sm	VIII	TI	Cn			
33.22	J	60	PI	Sm	VIII	TI	Cn			
33.61	J	70	PI	Sm	VIII	TI	Cn			

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

F:GEOT 533/9 – 2014

# 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.		CRR712				Surface RL		3.89	
Geologist		Z.C.				Date		18/10/2017	
						Page		6 of 6	
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 / PI	Roughness Ro / Sm / SI	Roughness Class I to IX	Aperture CD / OP / FL / TI	Infilling Cn / St / Vr / Ct <sup>1</sup>	Zones <sup>1</sup>	
								SZ / CZ / HFZ / AZ	Other
34.51	J	35	PI	Sm	VIII	TI	Cn		
34.78	FP	25	PI	Sm	VIII	TI	Cn		
35.05	J	10	Un	Sm	V	OP	Cn		
35.43	J	65	Un	Ro	IV	OP	Cn		
35.87	J	30	Un	Sm	VIII	TI	Cn		
36.17	FP	50	PI	Sm	VIII	TI	Cn		
36.34	FP	50	PI	Sm	VIII	TI	Cn		
36.45	FP	50	PI	Sm	VIII	TI	Cn		
36.49	FP	40	PI	Sm	VIII	TI	Cn		
36.65	FP	30	PI	Sm	VIII	TI	Cn		
36.71	FP	30	PI	Sm	VIII	TI	Cn		
36.76	J	0	PI	Sm	VIII	TI	Cn		
36.89								HFZ	110mm
37.00	FP	40	PI	Sm	VIII	TI	Cn		
37.08	J	5	Un	Sm	V	TI	Cn		
37.18	FP	30	PI	Sm	VIII	TI	Cn		
37.30	J	60	PI	Sm	VIII	TI	Cn		
37.56								HFZ	80mm
37.64	J	30	Un	Ro	IV	TI	Cn		
37.69	J	20	Un	Ro	IV	OP	Cn		
37.93	J	60	Un	Ro	IV	CD	Cn		
38.01	J	50	PI	sm	VIII	TI	Cn		
38.04	FP	30	PI	sm	VIII	TI	Cn		
38.35	J	25	Un	sm	V	TI	Cn		
38.40	J	40	Un	sm	V	TI	Cn		
38.54	FP	20	Un	sm	V	TI	Cn		
38.62								HFZ	50mm
38.67	J	50	PI	Sm	VIII	TI	Cn		
38.80								HFZ	150mm
38.95	FP	50	Un	Sm	V	TI	Cn		
39.10	J	45	Un	Sm	V	CD	Cn		

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

F:GEOT 533/9 – 2014