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**Queensland
Government**

GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **CRR901**

Sheet 1 of 3

REFERENCE No **H13105**

PROJECT **Cross River Rail (CRR) Project - Additional Geotechnical Investigation**

LOCATION **Salisbury Station**

COORDINATES **502212.0 E; 6952243.9 N**

PROJECT No **FG6470**

SURFACE RL **10.69m**

PLUNGE **90°**

DATE STARTED **02/07/2018**

GRID DATUM **MGA94**

JOB No

HEIGHT DATUM **AHD**

BEARING °

DATE COMPLETED **04/07/2018**

DRILLER **Geodrill**

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	J	VL	EL	EC	VC	C	M	W	VW	EW																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
	10.29			A	Silty Gravelly SAND (Fill)		(SM)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

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REMARKS: Rjbw - Woogaroo Subgroup. Standpipe piezometer installed.

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GEOTECHNICAL
BOREHOLE LOG

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

BOREHOLE No **CRR901**

Sheet 2 of 3

REFERENCE No **H13105**

PROJECT	Cross River Rail (CRR) Project - Additional Geotechnical Investigation				
LOCATION	Salisbury Station			COORDINATES 502212.0 E; 6952243.9 N	
PROJECT No	FG6470	SURFACE RL	10.69m	PLUNGE	90°
				DATE STARTED	02/07/2018
				GRID DATUM	MGA94
JOB No		HEIGHT DATUM	AHD	BEARING	°
				DATE COMPLETED	04/07/2018
				DRILLER	Geodrill

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
				L	Silty SAND (Alluvium) Cont'd Orange-brown and grey, wet, dense to very dense. Fine to medium grained. Trace clay. from 11.0m: fine to coarse grained					30/125mm	SPT
11				M			(SM)			10, 19, 23 N=42 MC=16.3% <75µm= 24%	SPT
12					from 12.50m: Trace fine to medium gravel						
13	-2.61			N	Silty CLAY (Alluvium) Grey, moist, very stiff to hard, high plasticity.		(CH)			22, 30, 30/90mm	SPT
14	-3.31				Clayey SAND (Alluvium) Grey mottled red-brown, moist, very dense. Medium grained.		(SC)			30/55mm	SPT
15	-4.81				Silty CLAY (Residual) Grey and brown-grey, moist, hard. High plasticity. Trace fine grained sand.		(CH)			30/105mm	SPT
16				P							
17											
18	-7.01			Q						30/65mm	SPT
19	-9.31		(56)		SANDSTONE (Rjbw) HW: Grey and pale grey, fine grained, very thinly to medium bedded, very low to low strength. Some fine to coarse grained layers up to 150mm thick. Some interlaminated siltstone. 19.0m - 19.5m: Conglomerate layer 500mm		HW XW HW XW HW XW HW			17.92m-17.93m: XW Band, Clay 18.38m-18.46m: XW Band, Sandy Clay 19.01m-19.19m: XW Band, Clayey Sand	D (17.96m) A (17.97m) D (18.70m) A (18.71m) D (19.70m) A (19.71m)

Continued on next sheet

REMARKS: Rjbw - Woogaroo Subgroup. Standpipe piezometer installed.	LOGGED BY	REVIEWED BY
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GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **CRR901**

Sheet 3 of 3

REFERENCE No **H13105**

PROJECT **Cross River Rail (CRR) Project - Additional Geotechnical Investigation**

LOCATION **Salisbury Station**

COORDINATES **502212.0 E; 6952243.9 N**

PROJECT No **FG6470**

SURFACE RL **10.69m**

PLUNGE **90°**

DATE STARTED **02/07/2018**

GRID DATUM **MGA94**

JOB No

HEIGHT DATUM **AHD**

BEARING °

DATE COMPLETED **04/07/2018**

DRILLER **Geodrill**

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 _LH _VH _H _M _L _VL _EL	EC _VC _C _M _W _VW _EW		
21	-11.21		100 (42)		SANDSTONE (Rjbw) HW: Cont'd from 21.0m: yellow and grey		HW	L L	M C	Is(50)=0.04 MPa Is(50)=0.15 MPa	D (20.50m) A (20.51m)
22			100 (72)		SILTSTONE (Rjbw) MW: Grey and grey-brown, very thinly to medium bedded, mainly low to medium strength, interbedded fine to coarse grained sandstone layers up to 350mm. from 22.35m: grey		XW HW	M VL	C W	Is(50)=0.14 MPa Is(50)=0.17 MPa	D (22.10m) A (22.11m)
23			100 (98)				HW	L		Is(50)=0.04 MPa Is(50)=0.07 MPa	D (23.12m) A (23.13m)
24								M	C		
25							MW	L	M	Is(50)=0.14 MPa Is(50)=0.42 MPa	D (24.92m) A (24.93m)
26	-15.31		100 (73)		SANDSTONE (Rjbw) SW: Grey, fine to medium grained, thinly bedded, mainly low strength, some interlaminated siltstone. from 26.75m: dark grey grey, interbedded Siltstone layers up to 400mm thick. from 26.95m: some interbedded and interlaminated carbonaceous layers.		MW	L	C	Is(50)=0.11 MPa Is(50)=0.18 MPa	D (26.35m) A (26.50m)
27							SW MW SW	M			
28	-17.26		100		Borehole completed at 27.95m		MW	L LM	C	Is(50)=0.04 MPa Is(50)=0.27 MPa	D (27.91m) A (27.92m)
29											

REMARKS: Rjbw - Woogaroo Subgroup. Standpipe piezometer installed.

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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 - Stage 2				Project No		FG6470	
Site ID / Borehole No.		CRR901				Surface RL		10.69	
Geologist		MARK HAYS				Date		3/07/2018	
						Page	1	of	2
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
17.90	B	5°	PI	SM	VIII	CD	CN		
17.92	B	5°	PI	SM	VIII	FL	Ct	CLAY 10MM	
18.00	B	5°	PI	SM	VIII	OP			
18.10	J	70°	PI	SM	VIII	OP	100MM DECOMPOSED ZONE		
18.15	J	45°	PI	SM	VIII	CD	CN		
18.20	J	60°	PI	SM	VIII	CD	CN		
18.25	B	5°	PI	SM	VIII	CD	CN		
18.33	B	5°	PI	SM	VIII	CD	CN		
18.38	B	5°	PI	SM	VIII	CD	CN	250MM	EWELS ZONE
18.63	J	45°	Un	SM	V	OP	CN		
19.15	B	5°	PI	SM	VIII	FL	Ct	CLAY 10mm	SILTSTONE
19.95	B	5°	PI	Ro	VII	CD	CN		
20.19	J	20°	Un	Sm	V	CD	CN		
20.20	B	5°	PI	Sm	VIII	CD	CN		
20.27	J	55°	PI	Sm	VIII	CD	CN		
20.32	B	5°	PI	Sm	VIII	OP	CN		
20.38	B	5°	PI	Sm	VIII	OP	CN		
20.44	B	5°	PI	Sm	VIII	CD	CN		
20.55	B	5°	PI	Sm	VIII	OP	CN		
20.67	B	10°	PI	Ro	VII	CD	CN		
20.80	B	5°	Un	Ro	IV	CD	CN		
20.83	J	30°	PI	Ro	VII	OP	CN		
20.92	B	5°	PI	Sm	VIII	CD	CN	60mm DECOMPOSED	
21.00	B	5°	PI	Sm	VIII	OP	90mm BROKEN ZONE		
21.17	J	30°	Un	Sm	V	OP	CN		
21.22	B	10°	PI	Sm	VIII	OP	CN		
21.30	B	15°	PI	Sm	VIII	OP	CN		
21.38	B	5°	PI	Sm	VIII	OP	CN		
21.48	B	5°	PI	Sm	VIII	CD	CN		
21.60	180mm	DECOMPOSED ZONE							
21.87	B	5°	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 - Stage 2				Project No		FG6470	
Site ID / Borehole No.		CRR901				Surface RL			
Geologist		MARK HAYS				Date		3/07/2018	
						Page	2	of	2
21.90	B	5°	PI	Sm	VIII	CD	CN		
22.23	B	5°	PI	Sm	VIII	CD	CN		
23.20	B	5°	PI	Sm	VIII	CD	CN		
23.28	J	60°	PI	Sm	VIII	FL	100mm BROKEN ZONE		
23.51	B	5°	PI	Sm	VIII	CD	CN		
23.69	B	0°	PI	Sm	VIII	CD	CN		
23.81	B	5°	PI	Sm	VIII	CD	CN		
23.97	B	5°	PI	Sm	VIII	CD	CN		
24.00	B	0°	PI	Sm	VIII	CD	CN		
24.47	B	5°	PI	Sm	VIII	CD	CN		
24.65	B	5°	PI	Sm	VIII	CD	CN		
24.84	B	5°	PI	Sm	VIII	CD	CN		
25.06	B	5°	PI	Sm	VIII	CD	CN		
25.37	B	5°	PI	Sm	VIII	CD	CN		
25.59	B	5°	PI	Sm	VIII	CD	CN		
25.83	B	5°	PI	Sm	VIII	CD	CN		
25.98	B	5°	PI	Sm	VIII	FL	CLAY 20mm		
26.06	B	5°	PI	Sm	VIII	CD	CN		
26.30	B	10°	PI	Sm	VIII	CD	CN		
26.43	B	5°	Un	Sm	V	CD	CN		
26.51	B	5°	PI	Sm	VIII	CD	CN		
26.75	B	5°	PI	Sl	IX	CD	CN		
26.85	B	5°	PI	Sm	VIII	CD	CN		
26.95	B	5°	PI	Sm	VIII	OP	20mm BZ		
27.21	B	5°	PI	Ro	VII	CD	CN		
27.28	B	5°	PI	Sm	VIII	CD	CN		
27.30	B	5°	PI	Sm	VIII	CD	CN		
27.34	B	5°	PI	Sm	VIII	CD	CN		
27.60	J	85°	PI	Sm	VIII	CD	CN	start 27.5, end 27.75m	
27.56	B	5°	PI	Sm	VIII	CD	CN		
27.62	B	5°	PI	Sm	VIII	CD	CN		
27.70	B	5°	PI	Sl	IX	CD	Vr	CLAY	
27.75	B	5°	PI	Sm	VIII	CD	CN	10mm	
27.97	B	5°	PI	Sm	VIII	CD	CN		
27.94	B	5°	PI	Sm	VIII	CD	CN		

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

F:GEOT 533/9 – 2014



**Queensland
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STANDPIPE PIEZOMETER INSTALLATION LOG

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

BOREHOLE No **CRR901**

Sheet 1 of 3

PIEZOMETER No **CRR901**

PROJECT	Cross River Rail (CRR) Project - Additional Geotechnical Investigation				
LOCATION	Salisbury Station			COORDINATES 502212.0 E; 6952243.9 N	
PROJECT No	FG6470	SURFACE RL	10.69m	PLUNGE	90°
				DATE STARTED	02/07/2018
				GRID DATUM	MGA94
JOB No		HEIGHT DATUM	AHD	BEARING	°
				DATE COMPLETED	04/07/2018
				DRILLER	Geodrill

DEPTH (m)	R.L. (m)	LITHOLOGY	MATERIAL DESCRIPTION	Standpipe Piezometer Construction Details		
				Depth (m) /RL (AHD)	50mm PVC Class No. 18 Stick Up = 0.00m	Backfill Details
	10.29		Silty Gravelly SAND (Fill) Grey and brown, dry, loose, fine to medium grained. Fine to medium sub-angular to sub-rounded gravel. Some cobbles.			
	9.99		Sandy CLAY (Fill) Grey, brown, and red-brown, dry, firm. Medium plasticity. Fine to medium grained sand. Trace fine to medium gravel.			
1	9.09		Sandy SILT (Alluvium) Grey-brown, and brown, dry, stiff. Low plasticity. Trace medium, rounded gravel.			
2			Silty CLAY with Sand (Alluvium) Grey-brown and red-brown, moist, stiff. High plasticity.			
3			from 3.0m: Becoming Sandy CLAY, yellow, red, orange layers throughout			
4			from 4.5m: Becoming very stiff.			
5	5.49		Sandy CLAY (Alluvium) Grey, moist, hard. Medium plasticity. Trace wood fragments.			
6			from 7.3m: becoming brown and grey, high plasticity.			
7						
8	2.69		Clayey SAND (Alluvium) Grey with minor brown layers, moist, very dense.			
9	1.19					
	0.69		Silty SAND (Alluvium)			

Grout: Bentonite / Cement Mix

Continued on next sheet

REMARKS: Rjbw - Woogaroo Subgroup. Standpipe piezometer installed.

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STANDPIPE PIEZOMETER INSTALLATION LOG

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

BOREHOLE No **CRR901**

Sheet 2 of 3

PIEZOMETER No **CRR901**

PROJECT	Cross River Rail (CRR) Project - Additional Geotechnical Investigation				
LOCATION	Salisbury Station	COORDINATES 502212.0 E; 6952243.9 N			
PROJECT No	FG6470	SURFACE RL	10.69m	PLUNGE	90°
		DATE STARTED	02/07/2018	GRID DATUM	MGA94
JOB No		HEIGHT DATUM	AHD	BEARING	°
		DATE COMPLETED	04/07/2018	DRILLER	Geodrill

DEPTH (m)	R.L. (m)	LITHOLOGY	MATERIAL DESCRIPTION	Standpipe Piezometer Construction Details		
				Depth (m) / RL (AHD)	50mm PVC Class No. 18 Stick Up = 0.00m	Backfill Details
11			Silty SAND (Alluvium) Cont'd Orange-brown and grey, wet, dense to very dense. Fine to medium grained. Trace clay. from 11.0m: fine to coarse grained			
12						
13						
-2.61						
14			Silty CLAY (Alluvium) Grey, moist, very stiff to hard, high plasticity.			
-3.31						
15			Clayey SAND (Alluvium) Grey mottled red-brown, moist, very dense. Medium grained.			
-4.81						
16			Silty CLAY (Residual) Grey and brown-grey, moist, hard. High plasticity. Trace fine grained sand.			
17						
-7.01						
18			SANDSTONE (Rjbw) HW: Grey and pale grey, fine grained, very thinly to medium bedded, very low to low strength. Some fine to coarse grained layers up to 150mm thick. Some interlaminated siltstone.	18.00m / -7.31 AHD		
19			19.0m - 19.5m: Conglomerate layer 500mm	19.00m / -8.31 AHD		Bentonite Seal
-9.31						

Continued on next sheet

REMARKS: Rjbw - Woogaroo Subgroup. Standpipe piezometer installed.

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STANDPIPE PIEZOMETER
INSTALLATION LOG

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

BOREHOLE No **CRR901**
Sheet 3 of 3
PIEZOMETER No **CRR901**

PROJECT	Cross River Rail (CRR) Project - Additional Geotechnical Investigation				
LOCATION	Salisbury Station			COORDINATES 502212.0 E; 6952243.9 N	
PROJECT No	FG6470	SURFACE RL	10.69m	PLUNGE	90°
				DATE STARTED	02/07/2018
JOB No		HEIGHT DATUM	AHD	BEARING	°
				DATE COMPLETED	04/07/2018
				DRILLER	Geodrill

DEPTH (m)	R.L. (m)	LITHOLOGY	MATERIAL DESCRIPTION	Standpipe Piezometer Construction Details		
				Depth (m) /RL (AHD)	50mm PVC Class No. 18 Stick Up = 0.00m	Backfill Details
21			SANDSTONE (Rjbw) HW: Cont'd from 21.0m: yellow and grey from 21.60: grey			
-11.21						
22			SILTSTONE (Rjbw) MW: Grey and grey-brown, very thinly to medium bedded, mainly low to medium strength, interbedded fine to coarse grained sandstone layers up to 350mm. from 22.35m: grey			
23						
24						Filter: Washed / Graded Sand
25				24.75m / -14.06 AHD		Top of Slotted Pipe
-15.31						
26			SANDSTONE (Rjbw) SW: Grey, fine to medium grained, thinly bedded, mainly low strength, some interlaminated siltstone. from 26.75m: dark grey grey, interbedded Siltstone layers up to 400mm thick. from 26.95m: some interbedded and interlaminated carbonaceous layers.			
27				27.75m / -17.06 AHD		
-17.26				27.95m / -17.26 AHD		
28			Borehole completed at 27.95m			
29						

REMARKS: Rjbw - Woogaroo Subgroup. Standpipe piezometer installed.	LOGGED BY	REVIEWED BY
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TMR STANDPIPE PIEZOMETER INSTALLATION LOG - CREATED WITH HOLEBASE SI

CORE PHOTO LOG
DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

Project Name	Cross River Rail CRR 2018 – Geotechnical Investigation		
Project No.	FG6470	Date	03.07.2018
Borehole No.	CRR901	Reference No.	H13105
Location	Salisbury Station	Start Depth (m)	17.70
Submitted By	J. Armstrong	Finish Depth (m)	27.95



CORE PHOTO LOG
DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

Project Name	Cross River Rail CRR 2018 – Geotechnical Investigation		
Project No.	FG6470	Date	03.07.2018
Borehole No.	CRR901	Reference No.	H13105
Location	Salisbury Station	Start Depth (m)	17.70
Submitted By	J. Armstrong	Finish Depth (m)	27.95

