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GEOTECHNICAL BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS
REFER TO TMR FORM F:GEOT 017/10 - 2019

BOREHOLE No **BH03**

Sheet 1 of 3

REFERENCE No **H13323**

PROJECT	Centenary Bridge Upgrade				
LOCATION	Brisbane River, Jindalee, M5 Centenary Motorway, Jindalee to Kenmore			COORDINATES 494745.94 E; 6955195.66 N	
PROJECT No	FG18012	SURFACE RL	-5.55m	PLUNGE	90°
				DATE STARTED	25/02/2019
				GRID DATUM	MGA94 56J
JOB No	498/05038	HEIGHT DATUM	m AHD	BEARING	
				DATE COMPLETED	28/02/2019
				DRILLER	Schneider Drilling

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	GROUP SYMBOL / WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS													
												EH	L	VH	H	M	I	VL	EC	L	C	M	W	VW
1	-6.65			A	Silty CLAY trace sand (Alluvium) Dark brown to grey, wet, very soft. 55% clay, low to medium plasticity. 40% silt, low plasticity. 5% fine grained sand.	(CI)				0.20m-0.25m: Environmental sample 'A1'	hw, hw, hw N<1	SPT												
	-7.05			B	SAND with silt (Alluvium) Grey and brown, wet, very loose to loose. 90% fine to coarse grained sand. 10% silt, low plasticity.	(SP)				1.20m-1.25m: Environmental sample 'B1'	hw, 13, 30/110mm	SPT												
2				C	Clayey GRAVEL (Residual) Blue grey and brown, moist, very dense. 70% fine to coarse grained gravel, angular grains (argillite). 30% clay, low to medium plasticity.	(GC)				1.60m: Becoming yellow to brown and blue to grey. 80% gravel, 15% clay, 5% silt.	30/140mm	SPT												
3	-8.90			D	METAGREYWACKE (DCf) MW: Pale brown and blue grey, fine grained, weakly foliated, medium to high strength. Some minor argillite intervals throughout.	MW				3.75m: J: 80°, TI, Cn.	30/80mm Is(50)=1.30 MPa Is(50)=0.70 MPa	SPT												
4				100 (34)	J: 30°-50° (4-7/m), Ro, TI-OP, Cn. J: 0°-30° (6-8/m), Ro, TI-OP-FL, Qtz Vr, Fe Stn From 4.55m: Becoming brown and blue grey.	HW				4.55m: Js: 10-20° (7-8/m), Ro, TI-OP, Cn. Js: 30-50° (5/m), Ro, TI-OP, Cn. Js: 0-30° (6-8/m), HD-FL, Qtz Vr, Fe Stn. Js: 80-90° (1/m), Ro, TI, Cn. 4.63m: J: 20° Ro, OP-FL, Cly 4.78m: J: 20° Ro, OP-FL, Cly 5.08m: Js: 0-20° (7-8/m), Ro, TI-OP, Cn. Js: 30-50° (5/m), Ro, TI-OP, Cn.	Is(50)=1.50 MPa Is(50)=0.95 MPa UCS=15.00 MPa	D (5.60m) A (5.63m) (5.80m)												
5				100 (31)		MW				Js: 0-30° (6-8/m), HD-FL, Qtz Vr, Fe Stn, Cn. Js: 80-90° (3/m), Ro, TI, Cn. 5.68m-5.71m: Broken zone. 6.50m: Broken zone. Clay infill. 6.60m: Js: 0-20° (6-7m), Ro, TI-OP, Cn. Js: 30-50° (2/m), Ro, TI-OP, Cn.	Is(50)=0.77 MPa Is(50)=0.98 MPa	D (6.25m) A (6.36m)												
6				100 (68)		MW				Js: 0-30° (6-8/m), HD-FL, Qtz Vr, Fe Stn, Cn. Js: 80-90° (2/m), Ro, TI, Cn.	Is(50)=1.50 MPa Is(50)=0.92 MPa	A (7.38m) D (7.45m)												
7				100 (47)																				
8	-13.65			100 (16)	7.95-10.2m: Highly fractured clayey shear zone.	XW					Is(50)=1.10 MPa	A (7.96m)												
				100 (0)	METAGREYWACKE (DCf) SA: Blue grey, fine grained, high strength.	SA				8.45m-8.56m: Broken zone. 8.64m-8.70m: Broken zone with clay infill. 8.92m-8.96m: Broken zone. 9.06m-9.17m: Crushed zone. 9.17m-9.24m: Crushed zone.	Is(50)=0.49 MPa	D (8.40m)												
9				100 (49)		HA					Is(50)=0.90 MPa Is(50)=0.71 MPa	A (9.48m) D (9.70m)												
	-15.55					SA				9.85m-10.16m: Broken zone, with clay infill.														

REMARKS: Barge deck at 3.08 m AHD, depth to river bed from barge deck is estimated at 8.63 m based on depth of water at barge legs (measurement of barge deck to river bed at casing location not recorded during drilling)

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E. Maxwell

REVIEWED BY

S. Foley



**Queensland
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GEOTECHNICAL BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS
REFER TO TMR FORM F:GEOT 017/10 - 2019

BOREHOLE No **BH03**

Sheet 2 of 3

REFERENCE No **H13323**

PROJECT Centenary Bridge Upgrade

LOCATION Brisbane River, Jindalee, M5 Centenary Motorway, Jindalee to Kenmore

COORDINATES 494745.94 E; 6955195.66 N

PROJECT No FG18012

SURFACE RL -5.55m

PLUNGE 90°

DATE STARTED 25/02/2019

GRID DATUM MGA94 56J

JOB No 498/05038

HEIGHT DATUM m AHD

BEARING

DATE COMPLETED 28/02/2019

DRILLER Schneider Drilling

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%) CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	GROUP SYMBOL / WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS	
							EH VH H M L VL	EC VC C W VW				
11			100 (56)		METAGREYWACKE (DCf) SA: Continued. Js: 0-20° (8-9/m), Ro, TI-OP-FL, Cn, Cly. Js: 30-50° (4/m), Sm, TI-OP-FL, Cn, Cly. Js: 0-30° (2-3/m), HD, trace Fe Stn.		HA					
							SA			UCS=22.40 MPa E=19.9 GPa v= 0.079 Is(50)=1.30 MPa Is(50)=2.20 MPa	(10.80m) D (10.95m) A (10.97m)	
12	-17.91		100 (30)		From 11.5m: Js: 0-20° (2/m), Ro, TI-FL, Cly Vr, Fe Stn.					11.54m-11.58m: Broken zone. 11.64m-11.70m: Broken zone. 11.91m-11.92m: Clay band.		
13			100 (45)		METAGREYWACKE (DCf) MA: Pale-dark blue grey, fine grained, medium to high strength. Broken zones with clay infill.		MA			12.36m-12.57m: Broken zone. 12.36m-13.82m: Js: 0-20° (4/m), Ro, TI-OP-FL, Cn, Cly. Js: 30-50° (12-14/m), Ro, TI-OP-FL, Cn, Cly. Js: 0-30° (1-2/m), HD, FL, Cn, Qtz. Js: 80-90° (5-6/m), Ro, TI-OP-FL, Cn, Cly.	Is(50)=1.40 MPa Is(50)=0.92 MPa	A (12.25m) D (12.30m)
14			100 (61)		13.82-14.17m: Firm clay seam, grey and red-brown. Js: 0-20° (1-2/m), Ro, OP-FL, Cly Vr. 14.3-15m: Quartz veining.		XA			12.70m-12.77m: Broken zone with clay infill. 12.77m-13.28m: Broken zone.	Is(50)=0.49 MPa Is(50)=0.44 MPa	D (13.60m) A (13.68m)
15	-20.67						MA			12.91m-12.96m: Broken zone with clay infill. 13.28m-13.31m: Broken zone with clay infill. 13.31m: Js: 0-20° (2-3/m), Ro, TI-OP-FL, Cn, Cly. Js: 30-50° (8/m), Ro, TI-OP, Cn. Js: 0-30° (6/m), HD, FL, Cn, Qtz. Js: 80-90° (1-2/m), Ro, HD-TI, Cn. 13.78m-13.83m: Broken zone with clay infill. 14.17m-15.12m: Js: 0-20° (8/m), Ro, TI-OP-FL, Cn, Cly. Js: 30-50° (1-2/m), Ro, TI, Cn. 15.10m-15.12m: Clay infill.	Is(50)=2.60 MPa Is(50)=1.90 MPa	A (14.30m) D (14.35m)
16			100 (83)		METAGREYWACKE (DCf) SA: Pale-dark blue grey, fine grained, high strength to very high strength. Quartz veining throughout. Js: 0-20° (5/m), Ro-Sm, TI, Cn. Js: 30-50° (6-8/m), Ro-Sm, TI, Cn, Fe Stn. Js: 30-60° (6/m), HD, Cn, Fe Stn. Js: 80-90° (1-2/m), Sm, TI, Fe Stn.		SA				Is(50)=3.10 MPa Is(50)=5.60 MPa	D (16.55m) A (16.60m)
17			100 (73)		From 16.5m: FP: 40°-60° (1-3/m), Sm, TI, Cn.							
18			100 (82)		From 17.55m: Becoming blue-grey, red-brown and pale yellow/white, with very high strength quartz veining throughout. 17.90m-19.00m: Becoming pale-dark grey, fine grained.		HA			17.48m-17.51m: Clay infill. 17.55m: Js: 0-20° (6/m), Ro, RI-FL, Cn, Cly. Js: 30-50° (2-3/m), Ro, TI-FL, Cly. 17.90m-19.00m: Js: 0-20° (2-3/m), Sm, TI, Cn. Js: 30-50° (2-3/m), Ro-Sm, TI, Cn. 18.06m-18.16m: Broken zone. 18.16m-18.20m: Clay band. 19.00m: Js: 0-20° (7-8/m), Sm, TI, Cn. Js: 30-50° (2/m), Sm, TI, Cn. Js: 80-90° (1/m), Sm, TI, Cn.	Is(50)=1.30 MPa Is(50)=1.50 MPa UCS=7.20 MPa Is(50)=0.70 MPa Is(50)=1.50 MPa Is(50)=1.90 MPa Is(50)=1.90 MPa	D (17.65m) A (17.68m) (17.80m) A (18.35m) D (18.37m) D (19.38m) A (19.40m)
19	-25.55		100 (82)									

REMARKS: Barge deck at 3.08 m AHD, depth to river bed from barge deck is estimated at 8.63 m based on depth of water at barge legs (measurement of barge deck to river bed at casing location not recorded during drilling)

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E. Maxwell

REVIEWED BY

S. Foley



**Queensland
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GEOTECHNICAL BOREHOLE LOG

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REFER TO TMR FORM F:GEOT 017/10 - 2019

BOREHOLE No **BH03**

Sheet 3 of 3

REFERENCE No **H13323**

PROJECT	Centenary Bridge Upgrade				
LOCATION	Brisbane River, Jindalee, M5 Centenary Motorway, Jindalee to Kenmore			COORDINATES 494745.94 E; 6955195.66 N	
PROJECT No	FG18012	SURFACE RL	-5.55m	PLUNGE	90°
				DATE STARTED	25/02/2019
				GRID DATUM	MGA94 56J
JOB No	498/05038	HEIGHT DATUM	m AHD	BEARING	
				DATE COMPLETED	28/02/2019
				DRILLER	Schneider Drilling

DEPTH (m)	R.L. (m)	AUGER Casing	WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	GROUP SYMBOL / WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
21				100 (86)			METAGREYWACKE (DCf) SA: Continued. Becoming dark blue grey and white. Js: 0°-20° (7-8/m), Sm, TI, Cn. Js: 30°-50° (2/m), Sm, TI, Cn. Js: 80°-90° (1/m), Sm, TI, Cn.					Is(50)=1.00 MPa Is(50)=0.45 MPa	A (20.42m) D (20.45m)
22								SA				21.40m: Js: 0-20° (5/m), Sm, TI, Cn. Js: 30-50° (4/m), Sm-Ro, TI, Cn.	A (21.71m) D (21.75m)
23				100 (63)								Is(50)=1.60 MPa Is(50)=0.73 MPa	A (22.85m) D (22.87m)
24				100 (75)				HA				Is(50)=1.10 MPa Is(50)=0.49 MPa	A (23.79m) D (23.90m)
25								SA					
26				100 (47)				MA				25.31m-25.40m: Broken zone, HA.	(25.60m) D (25.75m)
27								SA				26.10m: Js: 0-20° (8-9/m), Sm, TI, Cn. Js: 30-50° (3-4/m), Sm, TI, Cn. Js: 80-90° (1/m), Sm, TI-FL, Fe Strn, Cly.	A (26.35m)
	-33.00			100			Borehole completed at 27.45 m					Is(50)=1.40 MPa Is(50)=0.45 MPa	A (27.17m) D (27.30m)
28													
29													

REMARKS: Barge deck at 3.08 m AHD, depth to river bed from barge deck is estimated at 8.63 m based on depth of water at barge legs (measurement of barge deck to river bed at casing location not recorded during drilling)

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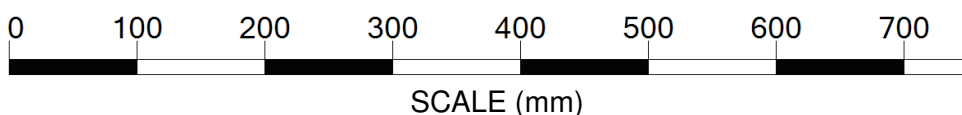
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S. Foley

CORE PHOTO LOG

DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

Project Name	Centenary Bridge Upgrade - Geotechnical Investigation		
Project No.	FG18012	Date	25-28/02/2019
Borehole No.	BH03	Reference No.	H13323
Location	Brisbane River, Jindalee	Start Depth (m)	3.35
Submitted By	M. Hayes	Finish Depth (m)	27.45



CORE PHOTO LOG

DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

Project Name	Centenary Bridge Upgrade - Geotechnical Investigation		
Project No.	FG18012	Date	25-28/02/2019
Borehole No.	BH03	Reference No.	H13323
Location	Brisbane River, Jindalee	Start Depth (m)	3.35
Submitted By	M. Hayes	Finish Depth (m)	27.45

