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FINAL 19/07/2019

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GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **BH04**
Sheet 1 of 4
REFERENCE No **H13324**

PROJECT Centenary Bridge Upgrade
LOCATION Brisbane River, Jindalee, M5 Centenary Motorway, Jindalee to Kenmore
COORDINATES 494755.26 E; 6955151.45 N
PROJECT No FG18012
SURFACE RL -10.88m
PLUNGE 90°
DATE STARTED 04/03/2019
GRID DATUM MGA94 56J
JOB No 498/05038
HEIGHT DATUM m AHD
BEARING
DATE COMPLETED 07/03/2019
DRILLER Schneider Drilling

DEPTH (m)	R.L. (m)	RQD ( ) % / CORE REC %	SAMPLE	MATERIAL DESCRIPTION	GROUP SYMBOL / WEATHERING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
0				GRAVEL with sand, trace silt (Alluvium) Grey and brown, wet, loose. 70% fine to coarse gravel, sub-angular grains. 25% fine to coarse grained sand. 5% silt, low plasticity.	(GW)		
1			A			5, 5, 4 N=9	SPT
	-12.68						
2			B	Gravelly SAND trace silt (Alluvium) Grey and brown, wet, medium dense. 60% fine to coarse grained sand. 35% fine to coarse grained gravel, sub-angular grains. 5% silt, low plasticity.	(SW)	1.80m-1.85m: Environmental sample 'B2' 2.00m-2.05m: ASS sample 'B1'	5, 7, 7 N=14 SPT
3			C				7, 8, 6 N=14 SPT
	-14.68						
4			D	GRAVEL with sand, trace silt (Alluvium) Grey and brown, wet, medium dense. 70% fine to coarse grained gravel, sub-angular to angular grains 25% fine to coarse grained sand 5% silt, low plasticity.	(GW)	3.80m-3.85m: Environmental sample 'D1'	11, 10, 10 N=20 SPT
5			E			4.80m-4.85m: ASS sample 'E1'	10, 11, 8 N=19 SPT
6			F				14, 12, 8 N=20 SPT
7			G			6.80m-6.85m: ASS sample 'G1' 7.20m-7.25m: Environmental sample 'G2'	10, 11, 11 N=22 SPT
8			H			7.80m-7.85m: ASS sample 'H1'	15, 30/110mm SPT
	-19.08			METAGREYWACKE (DCf) MA: Grey, fine grained, medium to high strength.			
9		(40) 100 (51)			MA HA	hb Is(50)=0.66 MPa Is(50)=0.13 MPa 9.60m-9.65m: Broken zone (driller handling) 9.65m-9.73m: Clay infill	D (9.09m) A (9.10m)
	-20.78						

INTACT STRENGTH: EH VH H M L VL
DEFECT SPACING: EC VC C M W VW
AUGER / CASING / WASH BORING / CORE DRILLING

REMARKS: Barge deck at 2.92 m AHD, 13.8 m measured from barge deck to river bed

LOGGED BY	REVIEWED BY
E. Maxwell	S. Foley

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GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **BH04**

Sheet 2 of 4

REFERENCE No **H13324**

PROJECT Centenary Bridge Upgrade

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

COORDINATES 494755.26 E; 6955151.45 N

PROJECT No FG18012 | SURFACE RL -10.88m | PLUNGE 90° | DATE STARTED 04/03/2019 | GRID DATUM MGA94 56J

JOB No 498/05038 | HEIGHT DATUM m AHD | BEARING | DATE COMPLETED 07/03/2019 | DRILLER Schneider Drilling

DEPTH (m)	R.L. (m)	RQD ( ) % / CORE REC %	SAMPLE	MATERIAL DESCRIPTION	GROUP SYMBOL / WEATHERING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
11		100 (39)		METAGREYWACKE (DCf) SA: Grey and dark grey, fine grained, medium to high strength. Js: 30-50° (7-8/m), Sm-Ro, TI-FL, Cn, Cly. Js: 0-30° (5/m), Ro, TI, Cn. Js: 80-90° (2-3/m), Sm-Ro, HD-TI-FL, Cly. Js: 0-30° (10-12/m), HD-FL, Qtz Vr.		10.10m: Iron staining. Is(50)=0.79 MPa Is(50)=0.63 MPa 10.74m: Clay infill 11.20m: Js: 30-50° (2-3/m), Sm, TI - partially HD.	D (10.50m) A (10.51m)
12		100 (29)			SA	Is(50)=0.17 MPa Is(50)=0.43 MPa UCS=11.90 MPa E=16.7 GPa Is(50)=2.30 MPa Is(50)=0.96 MPa 12.54m-12.65m: Broken zone. 12.72m-12.76m: Broken zone, clay infill.	D (11.37m) A (11.40m) (11.70m) D (11.85m) A (11.86m)
13						13.30m-13.70m: J: 80-90° Ro, TI, Cn. Is(50)=0.46 MPa Is(50)=1.00 MPa	D (13.40m) A (13.41m)
14	-25.28	100 (42)			HA	14.17m-14.30m: Broken zone.	
		100 (0)		METAGREYWACKE (DCf) MA: Grey and dark grey, fine grained, medium to high strength with low strength banding. With sheared zones and quartz veins. Js: 30-50° (10/m), Ro, TI-OP-FL, Cn, Cly. Js: 0-30° (12/m), Ro, TI-OP-FL, Cn, Cly. Js: 80-90° (3-4/m), Ro, OP-FL, Cly. Js: 0-30° (3/m), HD, Cn.	MA HA MA HA	14.30m-14.35m: Broken zone, clay infill. 14.50m-14.75m: Broken zone, clay infill. Is(50)=0.16 MPa Is(50)=0.33 MPa	D (14.48m) A (14.50m)
15						14.95m-15.00m: Clay infill. 15.14m-15.28m: Broken zone, clay infill. 15.32m-15.64m: Broken zone, clay infill. 15.64m-15.70m: Broken zone.	
16		100 (38)			MA HA MA	15.94m-15.97m: Clay band (weathered).	
17	-28.03	100 (52)		METAGREYWACKE (DCf) MA: Grey and dark grey, fine grained, high strength. With quartz veins and brecciated zones up to 0.5m thick. Js: 30-50° (9-10/m), Ro, TI-OP, Cn. Js: 0-30° (6-8/m),Ro-Sm, TI, Cn. Js: 80-90° (2/m), Ro, OP-TI-FL, Cn, Cly. Js: 0-30° (3/m), HD, Cn.	HA	Is(50)=0.10 MPa Is(50)=0.43 MPa 16.82m-16.86m: Clay band (weathered). 17.04m-17.20m: Clay bands.	D (16.55m) A (16.56m)
18						UCS=14.70 MPa E=18.3 GPa v= 0.095 Is(50)=1.30 MPa Is(50)=1.40 MPa Is(50)=0.67 MPa Is(50)=0.38 MPa	(17.40m) D (17.69m) A (17.70m) D (17.80m) A (17.81m)
19	-30.88	100 (50)			MA	Is(50)=0.39 MPa Is(50)=0.24 MPa	D (19.25m) A (19.26m)

REMARKS: Barge deck at 2.92 m AHD, 13.8 m measured from barge deck to river bed

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GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **BH04**
Sheet 3 of 4
REFERENCE No **H13324**

PROJECT Centenary Bridge Upgrade
LOCATION Brisbane River, Jindalee, M5 Centenary Motorway, Jindalee to Kenmore
COORDINATES 494755.26 E; 6955151.45 N
PROJECT No FG18012
SURFACE RL -10.88m
PLUNGE 90°
DATE STARTED 04/03/2019
GRID DATUM MGA94 56J
JOB No 498/05038
HEIGHT DATUM m AHD
BEARING
DATE COMPLETED 07/03/2019
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 (EH VH H M L VL)	DEFECT SPACING (EC VC C M W VW)	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
21			100 (59)		METAGREYWACKE (DCf) MA: Continued.		MA				
			100 (68)							21.04m-21.10m: Broken zone, clay infill.	
	-32.58										D (21.65m)
22					METAGREYWACKE (DCf) HA: Grey and dark grey, fine grained, medium to high strength. Interbedded low strength, highly altered, silicified and brecciated throughout. Js: 30-50° (10-11/m), Ro, OP-FL, Cly. Js: 0-30° (5-6/m), Ro, TI-OP-FL, Cn, Cly. Js: 80-90° (2-3/m), Ro, OP-FL, Cly.		HA			Is(50)=1.30 MPa Is(50)=0.84 MPa	A (21.66m)
										21.77m-21.82m: Broken zone, clay infill. 21.90m-21.95m: Broken zone, clay infill. 22.20m-22.27m: Broken zone, clay infill. 22.45m-22.50m: Broken zone. 22.60m-22.72m: Broken zone.	
			100 (54)								D (22.50m) Is(50)=1.10 MPa Is(50)=0.07 MPa A (22.51m)
23										23.10m-23.23m: Broken zone, clay infill. 23.28m-23.33m: Broken zone, clay infill.	
	-34.38		100 (43)		METAGREYWACKE (DCf) MA: Dark and light grey, fine grained, high strength. Js: 30-50° (3-4/m), Ro, TI, Cn. Js: 0-30° (6-8/m), Ro, TI, Cn. Js: 80-90° (1-2/m), TI-HD-FL, Cly. Js: 30-50° (7-8/m), HD-FL, Qtz.		MA				D (23.40m) Is(50)=0.45 MPa Is(50)=0.15 MPa A (23.41m)
24							HA				
			100 (60)				MA				D (24.85m) Is(50)=0.64 MPa Is(50)=0.57 MPa A (24.86m)
25	-36.41										
			100 (38)		METAGREYWACKE (DCf) HA: Dark grey and grey, fine grained, medium strength. With low strength, highly altered clayey bands, some Iron staining, quartz veining and brecciated zones up to 0.5m thick throughout. Js: 30-50° (8-10/m), Ro, TI-OP-FL, Cn, Cly Js: 0-30° (4-5/m), Ro, TI-FL, Cn, Cly. Js: 0-30° (5-6/m), HD-FL, Cn, Cly.		HA			Is(50)=0.44 MPa Is(50)=0.20 MPa	D (25.66m) A (25.67m)
26							XA			26.20m: Clay infill, iron stained.	
											D (26.55m) Is(50)=0.10 MPa Is(50)=0.15 MPa A (26.66m)
27											
			100 (60)		From 27.75m: Becoming dark and light grey, high strength. Js: 30-50°, Ro, TI-FL, Cn, Cly. Js: 0-30° (3-4/m), Ro, TI-FL, Cn, Cly. Js: 0-30° (3-4/m), HD-FL, Cn, Qtz.		HA				
28											D (28.01m) Is(50)=0.75 MPa Is(50)=1.40 MPa A (28.02m)
	-39.68									28.25m-28.35m: Clay infill.	
29			100 (89)		METAGREYWACKE (DCf) MA: Pale green grey, fine grained, mainly high strength.		MA				D (29.38m) Is(50)=0.94 MPa Is(50)=0.70 MPa A (29.40m)
	-40.88										

REMARKS: Barge deck at 2.92 m AHD, 13.8 m measured from barge deck to river bed

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GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **BH04**
Sheet 4 of 4
REFERENCE No **H13324**

PROJECT Centenary Bridge Upgrade
LOCATION Brisbane River, Jindalee, M5 Centenary Motorway, Jindalee to Kenmore
COORDINATES 494755.26 E; 6955151.45 N
PROJECT No FG18012
SURFACE RL -10.88m
PLUNGE 90°
DATE STARTED 04/03/2019
GRID DATUM MGA94 56J
JOB No 498/05038
HEIGHT DATUM m AHD
BEARING
DATE COMPLETED 07/03/2019
DRILLER Schneider Drilling

DEPTH (m)	R.L. (m)	RQD ( ) % / CORE REC %	MATERIAL DESCRIPTION	GROUP SYMBOL / WEATHERING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
31		100 (93)	METAGREYWACKE (DCf) MA: Continued. Js: 50-80° (3-4/m), Sm, TI-FL, Cn, Cly Js: 0-30° (2-3/m), Sm, TI, Cn. Js: 30-50° (2-3/m), Sm, TI-FL, Cn, Cly.		30.58m-30.63m: Broken zone. Is(50)=1.30 MPa Is(50)=0.77 MPa	D (30.40m) A (30.41m)
32		100 (62)	From 32.25m: Js: 30-50° (4-6/m), Sm, TI-FL, Cn, Cly.	MA	Is(50)=1.40 MPa Is(50)=0.68 MPa Is(50)=0.15 MPa Is(50)=0.61 MPa	D (31.50m) A (31.51m) D (32.40m) A (32.41m)
33					Is(50)=0.77 MPa Is(50)=1.00 MPa	D (33.25m) A (33.26m)
34		100 (38)			Is(50)=1.10 MPa Is(50)=0.38 MPa	D (33.70m) A (33.71m)
35	-45.74	100 (51)	METAGREYWACKE (DCf) HA: Grey to green grey, fine grained, mainly high strength. Siliceous veining throughout, clayey in parts.	XA HA	34.86m-35.30m: Broken zone, possible shear zone. 35.30m-35.40m: Clay broken zone. Is(50)=0.19 MPa Is(50)=0.39 MPa	D (34.80m) A (34.81m)
36	-47.50	100	Borehole completed at 36.62 m		36.47m-36.55m: Broken zone. Is(50)=0.66 MPa Is(50)=1.20 MPa	D (36.35m) A (36.36m)
37						
38						
39						

REMARKS: Barge deck at 2.92 m AHD, 13.8 m measured from barge deck to river bed

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GEOT043/3

CORE PHOTO LOG
DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

Queensland Government

Project Name	**Centenary Bridge Upgrade - Geotechnical Investigation**		
Project No.	FG18012	Date	4-7/03/2019
Borehole No.	BH04	Reference No.	H13324
Location	Brisbane River, Jindalee	Start Depth (m)	8.80
Submitted By	M. Hayes	Finish Depth (m)	36.62

0 100 200 300 400 500 600 700

SCALE (mm)

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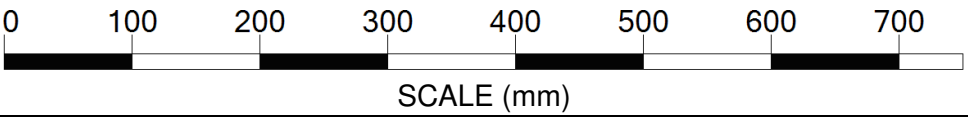
GEOT043/3

CORE PHOTO LOG
DEPARTMENT OF TRANSPORT AND MAIN ROADS
GEOTECHNICAL SECTION

Queensland Government

Project Name	**Centenary Bridge Upgrade - Geotechnical Investigation**		
Project No.	FG18012	Date	4-7/03/2019
Borehole No.	BH04	Reference No.	H13324
Location	Brisbane River, Jindalee	Start Depth (m)	8.80
Submitted By	M. Hayes	Finish Depth (m)	36.62



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