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Queensland Government

GEOTECHNICAL BOREHOLE LOG

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

FINAL 02/11/2017

BH12 BOREHOLE No

Sheet 1 of 3

H12908

REFERENCE No PROJECT Boyne River Bridge Repalcement COORDINATES 323425.4 E; 7159863.7 N Pier 5, RHS LOCATION GRID DATUM MGA Z56 FG6482 SURFACE RL 116.02m PLUNGE 90° DATE STARTED 07/07/2017 PROJECT No DRILLER NorthCoast Drilling 249/435/375550 HEIGHT DATUM AHD BEARING ° DATE COMPLETED 09/07/2017 JOB No USCS WEATHERING ADDITIONAL DATA INTACT STRENGTH DEFECT SPACING SAMPLES TESTS Ξ LITHOLOGY AND TEST RESULTS SAMPLE DEPTH (RΙ MATERIAL DESCRIPTION CORE REC % ᇳᆃᆂᄝᅿᆿᇜᇬᇬᄝᇂᇂᇕ Silty SAND (Alluvium) Brown, moist, loose. Fine to medium grained sand. Trace gravel. Zones of Sandy CLAY <50mm (SM) SPT 114.02 1, 2, 2 Gravelly SAND (Alluvium) 2.20m: Cobbles ~60mm SPT Grey brown, moist, very loose to loose Medium to coarse grained sand. Fine to medium grained gravel, sub ounded. Trace Silt. (SP) N=16 SPT 3.00m: Becoming medium dense. 112.02 10, 11, 5 Sandy GRAVEL (Alluvium) N=16 D 4.20m: Cobbles ~80mm SPT Grey brown, wet, medium dense. Medium to coarse grained sand. Fine to medium grained gravel, sub rounded <20mm. Trace Cobbles 8, 9, 6 N=15 5.20m: Cobbles ~80mm SPT N=12 SPT (GP) 6, 11, 9 SPT 7, 16, 13 SPT 7, 10, 14 N=24 9.00m: Becoming Sandy GRAVEL with Clay SPT Continued on next sheet REMARKS: Je1 - Evergreen Formation. **LOGGED BY REVIEWED BY** J. Armstrong S. Foley TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

Queensland Government

GEOTECHNICAL BOREHOLE LOG

FINAL 02/11/2017

BH12

Sheet 2 of 3

BOREHOLE No

FOR GEOTECHNICAL TERMS AND H12908 REFERENCE No SYMBOLS REFER FORM F:GEOT 017/8-2014 PROJECT Boyne River Bridge Repalcement COORDINATES 323425.4 E; 7159863.7 N Pier 5, RHS LOCATION GRID DATUM MGA Z56 FG6482 SURFACE RL 116.02m PLUNGE 90° DATE STARTED 07/07/2017 PROJECT No DRILLER NorthCoast Drilling 249/435/375550 DATE COMPLETED 09/07/2017 JOB No HEIGHT DATUM AHD BEARING S USCS WEATHERING ADDITIONAL DATA INTACT STRENGTH DEFECT SPACING SAMPLES TESTS Ξ LITHOLOGY AND TEST RESULTS DEPTH (RΙ SAMP MATERIAL DESCRIPTION CORE REC % ᇳᆂᆂᄝᅴᅿᆿᆙᇬᇬᄝᇂᇂᇕ Sandy GRAVEL (Alluvium) 18, 30/110mn (SM) 105.82 SPT Çont'd. Clayey SAND (Alluvium) (SC) Pale grey, moist, very dense. Fine to medium grained sand. 105.02 9, 10, 12 Silty CLAY with Sand (Alluvium) N=22 SPT Pale brown, wet, very stiff. Medium plasticity. Fine grained 8, 30/120mm 12.0m: Becoming hard. SPT 12, 17, 26 13.00m: Sandy CLAY, hard. N=43 SPT (CI) 10, 23, 30/110mm 14.00m: Silty CLAY with Sand. SPT 15 12, 30/140mm 0 SPT 100.52 SANDSTONE (Je1) XW: Recovered as Clayey SAND. Pale grey to brown, moist, very 16 Р 30/130mm dense Fine to medium grained sand. 30/80mm XW 18.00m: Recovered as Clayey SAND with Gravel. Fine to medium 30/50mr hb grained gravel, angular. 97.02 30/50mm SANDSTONE (Je1) (27) HW 19.19m-19.21m: XW, Clayey SAND MW: Pale grey and brown, fine grained, medium bedded, low to MW medium strength. ¬ 19.67m-19.73m: HW, BZ Continued on next sheet REMARKS: Je1 - Evergreen Formation. **LOGGED BY REVIEWED BY** S. Foley J. Armstrong TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

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GEOTECHNICAL BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014 FINAL 02/11/2017

BH12

Sheet 3 of 3

BOREHOLE No

H12908 REFERENCE No PROJECT Boyne River Bridge Repalcement Pier 5, RHS COORDINATES 323425.4 E; 7159863.7 N LOCATION SURFACE RL 116.02m FG6482 DATE STARTED 07/07/2017 PLUNGE 90° $\mathsf{GRID}\,\mathsf{DATUM}\,\,\mathsf{MGA}\,\mathsf{Z56}$ PROJECT No 249/435/375550 DATE COMPLETED 09/07/2017 DRILLER NorthCoast Drilling JOB No HEIGHT DATUM AHD BEARING USCS WEATHERING ADDITIONAL DATA INTACT DEFECT SPACING Ê ()% LITHOLOGY AND TEST RESULTS SAMPLES TESTS STRENGTH RΙ DEPTH SAMP MATERIAL DESCRIPTION CORE REC % ᇳᆂᆂᄝᅴᅿᆿᆙᇬᇬᄝᇂᇂᇕ SANDSTONE (Je1) D (20.10m)-MW MW: Cont'd. 20.38m-20.44m: HW, BZ BP: 20° to 40° (2-3/m); PI-Un/Ro; HW Is(50)=2.30 MPa A (20.50m) 20.58m-20.60m: HW, BZ TI; Fe St; Cly Vr MW - Js: 0° to 30° (1-2/m); Pl-Un/Ro; Tl-HW 100 OP; Fe St; Cly Vr MW D (21.10m) ⊐ 21.14m-21.18m: HW, BZ - Js: 30° to 60° (2-3/m); PI-Un/Ro; TI-Is(50)=0.95 MPa A (21.30m) CD; Fe St; Cly Vr; Ct <50mm HW L = 22.00m-22.02m: XW, Clay 22.14m-22.16m: HW, Cly LM □ 22.77m-22.82m: BZ 22.78m-22.82m: BZ 100 (25) 23 LM MW Is(50)=0.32 MPa D (23.64m)_ Is(50)=0.50 MPa A (23.78m) ¬ 24.16m-24.23m: XW, Cly HW MW HW ¬ 24.52m-24.62m: HW, BZ SW D (24.88m)-25 Is(50)=1.10 MPa A (24.90m)_ MW ⇒ 25.18m-25.20m; HW. BZ HW MW 90.52 = 25.48m-25.50m: HW, BZ SANDSTONE (Je1) HW: Brown to grey, fine grained, HW 25.80m-26.10m: HW, brecciated medium bedded, very low to low 26 26.10m-26.70m: Core loss strength. Bedding is indistinct. Brecciated zones throughout. BP: 40° to 50° (<1/m); PI/Ro; TI; Cly 26.70m-27.00m: Brecciated HW - Js: 0° to 20° (8-10/m); PI-Un/Ro; TI-27 Is(50)=1.30 MPa A (27.00m) OP; Cly Vr MW - Js: 70° to 90° (2-3/m); Un/Ro; TI-D (27.24m)_ 27.28m-27.40m: HW, BZ HW CD; Cly Vr 27.40m-27.60m: Core loss 78 27.60m-27.90m: Brecciated zone: (61) Is(50)=1.00 MPa A (27.74m)_ MW Is(50)=1.70 MPa D (27.84m) 28.15m-28.26m: Dark grey to grey HW 87.67 MW Is(50)=0.49 MPa Is(50)=0.40 MPa D (28.38m)-SANDSTONE (Je1) A (28.40m)_ SW SW: Pale grey, medium to coarse UCS=17.80 MPa (28.44m) grained, medium bedded, medium MW to high strength. 29 BP: 5° to 15° (3-4/m); Pl-Un/Ro; TI; some Fe St SW 29.42m-29.67m: Coarse grained From 27.0m: MW zone, medium to D (29.60m) high strength. 86.22 100 MW Is(50)=0.97 MPa A (29.62m)-Borehole completed at 29.80m REMARKS: Je1 - Evergreen Formation. **LOGGED BY REVIEWED BY** J. Armstrong S. Foley TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

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	Boyne River Bridge Replacement						
Project No.	FG6482	Date	09/07/2017				
	BH12	Reference No.	H12908				
	Pier 5, RHS	Start Depth (m)	19.05				
	S. Louei	Finish Depth (m)	29.80				
Remarks		1 2 ()	1				
CORE LOSS	CORE LOSS 322	LOSS	250m 250m 250m 250m 250m 250m 250m				
0 100		500 600	700				
SCALE (mm)							

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Project Name Boyne River Bridge Replacement							
Project No.	FG6482	10.90 1106100		Date		09/07/2017	
Borehole No.	BH12			Reference No.		H12908	
Location	Pier 5, RHS			Start Depth (19.05	
Submitted By	S. Louei			Finish Depth		29.80	
Remarks					,		
	THE PARTY OF THE P						
0 100	200	300	400	500 6	600	700	
SCALE (mm)							

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