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GEOTECHNICAL BOREHOLE LOG

FINAL 02/11/2017

BOREHOLE No BH08

Sheet 1 of 3

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014 H12906 REFERENCE No PROJECT Boyne River Bridge Repalcement COORDINATES 323449.5 E; 7159896.3 N Pier 3, RHS LOCATION DATE STARTED 09/07/2017 FG6482 SURFACE RL 115.54m PLUNGE 90° grid datum MGA Z56 PROJECT No DRILLER NorthCoast Drilling 249/435/375550 HEIGHT DATUM AHD BEARING ° DATE COMPLETED 10/07/2017 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 Gravelly SAND (Alluvium) Dark grey to grey, moist, loose. Fine to medium grained sand. Fine grained gravel, sub angular to angular. SPT 2.00m: Becoming medium dense. N=12 В SPT (SM) 3.00m: Becoming medium to N=14 coarse grained Sand and fine to С SPT medium grained gravel, sub angular. 6, 7, 8 N=15 D SPT 110.54 7, 7, 6 N=13 Silty Sandy GRAVEL (Alluvium) SPT Dark grey, moist, medium dense. Medium to coarse grained sand. Medium to coarse grained gravel, rounded to sub angular. (GM) SPT 108.54 Silty Gravelly SAND (Alluvium) SPT Dark grey, moist, medium dense. Medium to coarse grained sand. Fine to medium grained gravel, rounded to angular. 14, 11, 14 SPT (SM) 9.00m: Becoming dense. Fine to coarse grained gravel, rounded to 6, 14, 17 SPT angular. Continued on next sheet REMARKS: Je1 - Evergreen Formation. **LOGGED BY REVIEWED BY** S. Louei S. Foley TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

Queensland Government

GEOTECHNICAL BOREHOLE LOG

FINAL 02/11/2017

BOREHOLE No BH08

Sheet 2 of 3

FOR GEOTECHNICAL TERMS AND H12906 REFERENCE No SYMBOLS REFER FORM F:GEOT 017/8-2014 PROJECT Boyne River Bridge Repalcement COORDINATES 323449.5 E; 7159896.3 N Pier 3, RHS LOCATION SURFACE RL 115.54m FG6482 PLUNGE 90° DATE STARTED 09/07/2017 $\mathsf{GRID}\,\mathsf{DATUM}\,\,\mathsf{MGA}\,\mathsf{Z56}$ PROJECT No DRILLER NorthCoast Drilling 249/435/375550 DATE COMPLETED 10/07/2017 JOB No HEIGHT DATUM AHD BEARING S RQD USCS WEATHERING ADDITIONAL DATA INTACT DEFECT SPACING SAMPLES TESTS Ξ ()% LITHOLOGY AND TEST RESULTS STRENGTH RΙ DEPTH SAMP MATERIAL DESCRIPTION CORE REC % ᇳᆃᆂᄝᅿᆿᇜᇬᇬᄝᇂᇂᇕ Silty Gravelly SAND (Alluvium) SPT Cont'd. K 11.00m: Becoming very dense. SPT (SM) 22, 24, 13 12.00m: Becoming dense. N=35 SPT 102.54 24, 29, 30/145mn Clayey SAND with Gravel (Residual) SPT Pale grey mottled pale brown, moist, very dense. (SC) Fine to medium grained sand. Fine to medium grained gravel, angular. 101.54 30/135mm SANDSTONE (Je1) XW: Recovered as Clayey SAND with Gravel. Pale grey, moist, very dense. Fine to medium grained sand. Fine 15 grained gravel, angular. 30/80mm XW 16 99.44 12/20mn 16.10m-16.38m: HFZ ht (0) SANDSTONE (Je1) HW: Pale grey, fine grained, thinly bedded, mainly very low to low HW 16.62m-16.77m: HFZ strength. ☐ 16.97m-17.05m: HFZ 17 98.46 SILTSTONE (Je1) Is(50)=0.12 MPa A (17.15m) 17.23m-17.50m: HFZ Is(50)=0.08 MPa D (17.20m) HW: Pale grey mottled brown in HW parts, fine grained, laminated, mainly low strength. - Js: 50° (<1/m); Un/Sm, TI-CD, Cly 97.56 Is(50)=0.06 MPa A (18.15m) SANDSTONE (Je1) Is(50)=0.30 MPa D (18.26m) MW: Pale grey mottled orange 18.41m-18.89m: HFZ brown in parts, fine grained, thinly HW 100 bedded, low to medium strength. 18.80m-18.85m: BZ, DI (26) BP: 10° to 25° (2-3/m); PI/Ro, TI, Fe 18.95m-19.00m: BZ ¬ 19.10m-19.15m; BZ, HW St, Cly Vr Is(50)=0.08 MPa A (19.30m) MW D (19.71m) Is(50)=0.09 MPa 19.77m-19.86m: BZ HW 19.85m-20.05m; HFZ, HW Continued on next sheet REMARKS: Je1 - Evergreen Formation. **LOGGED BY REVIEWED BY** S. Louei S. Foley 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

BH08 BOREHOLE No

Sheet 3 of 3

H12906 REFERENCE No

PROJECT Boyne River Bridge Repalcement COORDINATES 323449.5 E; 7159896.3 N Pier 3, RHS LOCATION SURFACE RL 115.54m GRID DATUM MGA Z56 FG6482 PLUNGE 90° DATE STARTED 09/07/2017 PROJECT No DRILLER NorthCoast Drilling 249/435/375550 DATE COMPLETED 10/07/2017 JOB No HEIGHT DATUM AHD BEARING USCS WEATHERING RQD ADDITIONAL DATA INTACT STRENGTH DEFECT SPACING SAMPLES TESTS Ξ LITHOLOGY AND TEST RESULTS ()% DEPTH (RΙ SAMP MATERIAL DESCRIPTION CORE REC % SANDSTONE (Je1) 20.12m-20.22m: BZ, HW 100 MW MW: Cont'd. (0) HW Js: 60° to 80° (<1/m); PI/Ro, TI, Fe MW - Js: 80° to 90° (~1/m); Un/Ro, TI, Cly 20.88m-21.00m: HFZ, HW HW 100 (10) MW Is(50)=0.08 MPa Is(50)=0.12 MPa A (21.15m) 21.26m-21.35m: BZ, HW HW D (21.20m) MW HW MW 100 HW (16) ¬ 22.25m-22.34m: BZ, HW MW HW ____ 22.79m-22.85m: BZ, HW (13)N/\\/ 23.00m-23.14m: BZ, HW 23 HW Is(50)=0.29 MPa Is(50)=0.49 MPa D (23.19m) MW A (23.22m) 100 23.50m-23.60m: BZ, HW HW (24) MW нw Is(50)=0.32 MPa D (24.94m) 25 Is(50)=0.45 MPa A (24.96m) 25.14m-25.18m: Cly seam, 50^o 100 26 Is(50)=0.38 MPa Is(50)=0.08 MPa D (26.14m)_ A (26.17m) MW 27 Is(50)=0.30 MPa A (27.00m) Is(50)=0.31 MPa D (27.07m)-UCS=4.13 MPa (27.44m) Is(50)=0.35 MPa A (28.52m) Is(50)=0.19 MPa 86.79 100 D (28.55m)-Borehole completed at 28.75m REMARKS: Je1 - Evergreen Formation. **LOGGED BY REVIEWED BY** S. Louei S. Foley TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

CORE PHOTO LOGDEPARTMENT OF TRANSPORT AND MAIN ROADS GEOTECHNICAL SECTION



Project No. FG6482 Date 10/07/2017 Borehole No. BH08 Reference No. H12906 Location Pier 3, RHS Start Depth (m) 16.10 Submitted By S. Louei Finish Depth (m) 28.75 Remarks 0 100 200 300 400 500 600 700 SCALE (mm)	Project Name Boyne River Bridge Replacement					
Borehole No. BH08 Reference No. H12906			Date	10/07/2017		
Decation Pier 3, RHS Start Depth (m) 16.10						
Submitted By Remarks S. Louei Finish Depth (m) 28.75 Permarks O 100 200 300 400 500 600 700						
Remarks 17.0 17.0 17.0 17.0 17.0 17.0 17.0 17.0						
0 100 200 300 400 500 600 700		0. 20001	Timori Bopar (III)	20.70		
0 100 200 300 400 500 600 700	Shut Cls 10	200 200 200 200 200 200 200 200 200 200	Rus	Run		
	0 100	200 300 400		m pio		
SCALE (mm)						

Page 1 of 2

CORE PHOTO LOGDEPARTMENT OF TRANSPORT AND MAIN ROADS GEOTECHNICAL SECTION



Project Name Boyne River Bridge Replacement					
Project No.	FG6482	Date	10/07/2017		
Borehole No.	BH08	Reference No.	H12906		
Location	Pier 3, RHS	Start Depth (m)	16.10		
Submitted By	S. Louei	Finish Depth (m)	28.75		
Remarks					
0 100	200 300	400 500 600	28.0 km 28.0 km 28.75 m 84.08		
0 100	200 300	400 500 600	700		
	SCALE	(mm)			