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GEOTECHNICAL BOREHOLE LOG

FINAL 02/11/2017

BOREHOLE No BH18

Sheet 1 of 4

		%]	G0	V	ernment		SYI		GEOTECHNICAL TER REFER FORM F:GEO			REFERENCE No	H1	12912
PROJE	ECT .	Во	yne River	Bri	dge Repalcement									
LOCAT	ΓΙΟΝ	Abutment B, RHS									COORDINATES 323388.7 E; 7159815.2 N			
PROJECT No		FG	FG6482 SURFACE RL 126.98m				plunge 90° d		DATE STAF	ARTED 05/07/2017 GRID DATUM MGA Z56				
JOB No		24	9/435/37	555	0 HEIGHT DATUM AHD		BEARING °		DATE COMPLETED 06/07/2017		7 DRILLER NorthCoast Drillin		t Drilling	
DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING	RQD ()% CORE PRICE WEC %	SAMPLE	MATERIAL DESCR	IPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	F	ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
1 2 3 5 5 5 5 7 8	121.98		REC %	A B C F G	Silty CLAY trace Sand (A Dark brown, moist, stif Low to medium plastic Fine grained sand. 2.00m: Becoming very medium plasticity. 4.00m: Becoming hard Silty SAND (Alluvium) Dark brown, moist, me grained sand. Sandy SILT (Alluvium) Dark brown, moist, ver Medium plasticity. Fine grained sand. Silty SAND (Alluvium) Brown, moist, medium plasticity. Fine grained sand.	f. ity. stiff and dium dense. y stiff. dense.		(SM)	### No. 1 1 1 1 1 1 1 1 1 1				6, 5, 6 N=11 6, 8, 8 N=16 8, 11, 11 N=22 11, 15, 16 N=31 10, 12, 13 N=25	SPT SPT SPT SPT SPT SPT
 	116.98			1			X	(SM)					10, 14, 17 N=31	SPT
Continued on next sheet														
R	REMARKS: Je1 - Evergreen Formation.										LOGGED BY	REVIEWED B		
								S. Louei	S. Foley					
													1	

GEOTECHNICAL BOREHOLE LOG

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

BH18 BOREHOLE No

Sheet 2 of 4

H12912

REFERENCE No PROJECT Boyne River Bridge Repalcement COORDINATES 323388.7 E; 7159815.2 N Abutment B, RHS LOCATION SURFACE RL 126.98m GRID DATUM MGA Z56 FG6482 PLUNGE 90° DATE STARTED 05/07/2017 PROJECT No DRILLER NorthCoast Drilling 249/435/375550 DATE COMPLETED 06/07/2017 JOB No HEIGHT DATUM AHD BEARING S USCS WEATHERING RQD ADDITIONAL DATA INTACT DEFECT SPACING SAMPLES TESTS Ξ ()% LITHOLOGY AND TEST RESULTS STRENGTH DEPTH (RΙ SAMP MATERIAL DESCRIPTION CORE REC % ᇳᆂᆂᄝᅿᅿᆿᆙᇬᇬᄝᇂᇂᇕ Silty SAND (Alluvium) SPT (SM) Cont'd. 116.48 Silty CLAY (Alluvium) Brown to pale brown, moist, hard. (CL) Low plasticity. 10, 15, 30 115.78 N=45 SPT Silty SAND (Alluvium) Brown, moist, dense. Fine to medium grained sand. 14, 25, 30/145mm 12.00m: Becoming Silty SAND With Gravel. Medium to coarse SPT grained sand, fine grained gravel, very dense. 30/135mm 13.00m: Becoming Silty SAND (SM) trace Gravel. 15, 19, 28 N=47 SPT 111.98 30/130mm O Silty CLAY trace Sand (Residual) (CL) Pale brown, moist, hard. 111.58 Low plasticity. (97) Fine grained sand. A (15.72m) SANDSTONE (Je1) Is(50)=0.09 MPa D (15.75m)-XW: Brown pale grey mottled 16 orange red, fine grained, indistinctly bedded, mainly very low to low strength. Is(50)=0.19 MPa Is(50)=0.14 MPa D (16.60m) Recovered as Sandy CLAY in parts. A (16.63m)-UCS=4.45 MPa (17.16m) -Is(50)=0.21 MPa D (17.50m) XW Is(50)=0.20 MPa A (17.56m) 100 Is(50)=0.26 MPa Is(50)=0.15 MPa D (18.34m)_ A (18.40m) Is(50)=0.20 MPa D (18.84m) Is(50)=0.20 MPa 19 A (18.85m) 107.18 Is(50)=0.79 MPa Is(50)=1.70 MPa D (19.84m) (16) SILTSTONE (Je1) MW A (19.92m) Continued on next sheet REMARKS: Je1 - Evergreen Formation. **LOGGED BY REVIEWED BY** S. Louei S. Foley TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No BH18

Sheet 3 of 4

REFERENCE No H12912

PROJECT Boyne River Bridge Repalcement COORDINATES 323388.7 E; 7159815.2 N Abutment B. RHS LOCATION SURFACE RL 126.98m FG6482 PLUNGE 90° DATE STARTED 05/07/2017 GRID DATUM MGA Z56 PROJECT No DRILLER NorthCoast Drilling 249/435/375550 DATE COMPLETED 06/07/2017 JOB No HEIGHT DATUM AHD BEARING ' RQD USCS WEATHERING ADDITIONAL DATA INTACT DEFECT SPACING Ê LITHOLOGY AND TEST RESULTS SAMPLES TESTS STRENGTH RΙ DEPTH SAMP MATERIAL DESCRIPTION CORE REC % SILTSTONE (Je1) MW: Cont'd. MW Is(50)=1.20 MPa D (20.38m) Pale grey mottled orange brown and Is(50)=0.54 MPa A (20.40m) red, fine grained, laminated to HW LM thinly bedded, low to medium Is(50)=0.10 MPa D (20.82m) Is(50)=0.42 MPa MW strength. A (20.92m) - LP/BP: 30° to 40° (2-3/m); PI/Sm; HW TI; Fe St; Cly Vr Is(50)=0.21 MPa D (21.50m) - Js: 60° to 70° (1-2/m); PI/Sm; TI-CD; Cly Vr 21.73m-21.75m: BZ Is(50)=0.29 MPa A (21.76m) Fine grained SANDSTONE interbeds MW Is(50)=0.40 MPa A (22.00m) <200mm ⇒ 22.07m-22.11m: BZ Is(50)=0.19 MPa D (22.05m)-104.56 ⊐ 22.42m-22.45m: BZ SANDSTONE (Je1) 100 HW: Yellow brown and pale grey, (10) fine grained, thinly bedded, very 23 low to low strength. With SILTSTONE HW interbeds <100mm. LP/BP: 20° to 40° (3-4/m); PI/Sm; Is(50)=0.22 MPa Is(50)=0.20 MPa D (23.55m)_ TI; Fe St; Cly Vr or Ct <2mm A (23.59m) Js: 20° to 30° (1-2/m); PI/Sm; TI; Fe St: Clv Vr Is(50)=0.10 MPa A (23.95m) MW Is(50)=0.06 MPa Js: 70° to 90° (1-2/m); Un/Ro-Sm; D (24.05m) TI; Fe St; Cly Vr Is(50)=0.32 MPa D (24.79m) Is(50)=0.47 MPa A (24.87m) 25 HW 100 (49) Is(50)=0.11 MPa D (25.56m)-⊒ 25.68m-25.73m: BZ Is(50)=0.17 MPa A (25.60m) 25.80m-25.90m: BZ, XW 25.90m-26.35m: HFZ 100.63 SILTSTONE (Je1) MW: Pale grey, fine grained, thinly Is(50)=0.53 MPa D (26.67m)bedded, low to medium strength. MW LP/BP: 10° to 20° (2/m); PI/Sm; TI; Is(50)=0.82 MPa A (26.95m) 27 Clv Vr 27.30m-27.41m: HW 99.57 Js: 50° to 70° (3/m); Un/Sm; TI; Cly HW Is(50)=0.22 MPa D (27.64m) Js: 80° to 90° (1/m); PI/Ro-Sm; TI; UCS=2.14 MPa Is(50)=0.18 MPa (27.81m) Fe St HW A (27.92m) SANDSTONE (Je1) HW: Pale grey and pale brown, fine XW grained, thinly to medium bedded, vc very low to low strength. Is(50)=0.09 MPa Is(50)=0.07 MPa D (28.80m) BP: 5° to 20° (3-4/m); PI/Ro-Sm; TI-A (28.83m) OP; Cly Vr Is(50)=0.16 MPa A (29.15m) Is(50)=0.12 MPa HW Js: 40° to 60° (2-3/m); PI/Ro; TI; Cly D (29.19m) - Js: 60° to 80° (1/m); Un/Ro; TI; Cly ¬ 29.71m-29.80m: BZ Continued on next sheet REMARKS: Je1 - Evergreen Formation. **LOGGED BY REVIEWED BY** S. Foley S. Louei TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

GEOTECHNICAL BOREHOLE LOG

FINAL 02/11/2017

BH18

BOREHOLE No

Sheet 4 of 4 FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014 H12912 REFERENCE No Boyne River Bridge Repalcement PROJECT COORDINATES 323388.7 E; 7159815.2 N Abutment B, RHS LOCATION SURFACE RL 126.98m DATE STARTED 05/07/2017 FG6482 PLUNGE 90° GRID DATUM MGA Z56 PROJECT No 249/435/375550 DRILLER NorthCoast Drilling HEIGHT DATUM AHD BEARING ° DATE COMPLETED 06/07/2017 JOB No USCS WEATHERING ADDITIONAL DATA AND TEST RESULTS RQD INTACT STRENGTH DEFECT SPACING LITHOLOGY SAMPLES TESTS Ξ SAMPLE DEPTH (RΙ MATERIAL DESCRIPTION CORE REC % SANDSTONE (Je1) Is(50)=0.05 MPa Is(50)=0.06 MPa A (30.05m) HW: Cont'd. HW D (30.14m)-Is(50)=0.99 MPa Is(50)=0.92 MPa A (30.53m)_ MW D (30.59m) 100 (39) 31.30m-31.40m: BZ, DI Is(50)=0.29 MPa Is(50)=0.08 MPa A (31.72m)_ D (31.85m)-HW 93.95 Is(50)=1.10 MPa A (33.05m)_ SILTSTONE (Je1) MW Is(50)=0.31 MPa D (33.23m)_ 100 MW: Pale grey, fine grained, 93.58 laminated, mainly medium strength. LP/BP: 20° (<4/m); Pl-Un/Sm; TI; Cly Vr or Cn Js: 70° (<1/m); Un/Ro; TI; Cn Borehole completed at 33.40m 37 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 Name	Boyne River Bridge Repla	cement	
Project No.	FG6482	Date	07/07/2017
Borehole No.	BH18	Reference No.	H12912
Location	Abutment B, RHS	Start Depth (m)	15.40
Submitted By	S. Louei	Finish Depth (m)	33.40
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CORE PHOTO LOGDEPARTMENT OF TRANSPORT AND MAIN ROADS GEOTECHNICAL SECTION



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Project Name Project No.	Boyne River Bridge Replacement FG6482	Date	07/07/2017
Borehole No.	BH18	Reference No.	H12912
			15.40
Location	Abutment B, RHS	Start Depth (m)	
Submitted By Remarks	S. Louei	Finish Depth (m)	33.40
Remarks			
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