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GEOTECHNICAL BOREHOLE LOG

FINAL 02/11/2017

BOREHOLE No BH02

Sheet 1 of 4

FOR GEOTECHNICAL TERMS AND H12903 REFERENCE No SYMBOLS REFER FORM F:GEOT 017/8-2014 PROJECT Boyne River Bridge Repalcement COORDINATES 323486.4 E; 7159943.2 N Abutment B, RHS LOCATION SURFACE RL 124.82m FG6482 PLUNGE 90° DATE STARTED 12/07/2017 grid datum MGA Z56 PROJECT No 249/435/375550 DRILLER NorthCoast Drilling DATE COMPLETED 14/07/2017 JOB No HEIGHT DATUM AHD BEARING ° USCS WEATHERING ADDITIONAL DATA AND TEST RESULTS RQD INTACT STRENGTH DEFECT SPACING SAMPLES TESTS Ξ LITHOLOGY SAMPLE DEPTH (RΙ MATERIAL DESCRIPTION CORE REC % ᇳᆃᆂᄝᅿᆿᇜᇬᇬᄝᇂᇂᇕ Sandy SILT (Alluvium) Dark brown, moist, firm to stiff. Low plasticity. Fine grained sand. N=8 (ML) SPT SPT 122.42 Silty SAND (Alluvium) Orange brown, moist, medium dense to dense. Fine grained sand. 7, 13, 9 N=22 SPT (SM) 12, 20, 18 5.50m: Layers of Sandy CLAY D <50mm thick. SPT 6, 13, 17 7.00m: Becoming Clayey SAND N=30 with layers of Sandy CLAY SPT 116.82 Gravelly SAND with Clay (Alluvium) Orange brown grey, moist, very Fine to coarse grained sand. Fine to SPT medium grained gravel, sub rounded. Sandy CLAY layers <50mm SC) thick. Medium plasticity. 14, 14, 14 N=28 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

GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No BH02

Sheet 2 of 4

EFERENCE No **H12903**

	AUDAS A	T FIDELIS	1				SY	MBOLS	REFER FORM F:GEO	OT 017/8-2014		HEI EKENCE NO		
PROJECT		Во	oyne	River	Brio	dge Repalcement								
LOCATION	Al	Abutment B, RHS								COORDINATES 323486.4 E; 7159943.2 N				
PROJECT No		F	FG6482 SURFACE RL			SURFACE RL 124.82m	PLUNGE 90°			DATE STAR	TED 12/07/201	7 GRID DATUM	grid datum MGA Z56	
JOB No		24	19/43	5/37	555	0 height datum AHD	BEA	RING °		DATE COMPLE	TED 14/07/201	7 DRILLER	NorthCoas	st Drilling
	R.L. (m)	AUGER CASING	DRILLING	RQD ()% CORE	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
-						Gravelly SAND with Clay (Alluviun Cont'd.	n)	(SP-	-	-				-
— 11 — — — — — — — — — — — — — — — — —	2.32				Н	Sandy GRAVEL (Alluvium) Orange brown, moist, very dense Medium to coarse grained sand. Fine to medium grained gravel, so rounded to sub angular. Trace Cla	ub .	(GM)					30/100mm hb	SPT
- 13					-	Silty CLAY (Alluvium) Pale grey mottled orange brown, moist, very stiff to hard. Medium to high plasticity. Trace fine grained sand.	X_ X_ X_ X_ X_ X_ X_	(CH)		-			12, 13, 18 N=31	SPT
14	9.82					Sandy CLAY with Gravel (Alluvium			-	-			6, 12, 13 N=25	SPT
					IZ.	Orange brown to grey, moist, han Medium plasticity. Gravel is iron cemented <20mm.	u.	(CI)					30/140mm hb	SPT
17 10 10 10 10 10 10 10 10 10 10 10 10 10	<u>17.72</u>					Silty CLAY (Residual) Grey mottled orange brown, mois hard. Medium plasticity. Trace fine grained sand.	st, ×			- - - - - - - - - - - - - - - - - - -		2	20, 30/140mm hb	SPT
— 19 — 19 — 19	14.82				M			(CI)	-			13, 2	20, 30/140mm	SPT
						Continued on next sheet								
							LOGGED BY REVIEWED BY							
												J. Armstrong	S.	Foley
						Т	TMR GEOTEC	HNICAL B	OREHOLE LOG - CREATED W	ITH HOLEBASE SI				

GEOTECHNICAL BOREHOLE LOG

FINAL 02/11/2017

BH02

BOREHOLE No

Sheet 3 of 4 FOR GEOTECHNICAL TERMS AND H12903 REFERENCE No SYMBOLS REFER FORM F:GEOT 017/8-2014 PROJECT Boyne River Bridge Repalcement COORDINATES 323486.4 E; 7159943.2 N Abutment B, RHS LOCATION SURFACE RL 124.82m GRID DATUM MGA Z56 FG6482 PLUNGE 90° DATE STARTED 12/07/2017 PROJECT No 249/435/375550 DATE COMPLETED 14/07/2017 DRILLER NorthCoast Drilling JOB No HEIGHT DATUM AHD BEARING ' RQD USCS WEATHERING ADDITIONAL DATA INTACT DEFECT SPACING SAMPLES TESTS Ξ LITHOLOGY AND TEST RESULTS STRENGTH DEPTH (RΙ SAMP MATERIAL DESCRIPTION CORE REC % ᇳᆂᆂᄝᅿᅿᆿᆙᇬᇬᄝᇂᇂᇕ SILTSTONE (Je1) 22, 30/100mr XW: Recovered as Silty CLAY with Sand. Dark grey mottled orange brown, moist, hard. XW Medium plasticity. Fine grained Sand. 30/120mr 21.50m: Becoming dark brown mottled grey. (84) D (21.79m) 102.92 A (21.80m) Clayey SANDSTONE (Je1) 22 D (21.95m) HW: Grey mottled red brown, fine Is(50)=0.02 MPa grained, indistinctly bedded, Is(50)=0.02 MPa Is(50)=0.03 MPa extremely low to very low strength. BP: 5° to 10° (1-2/m); PI/Ro-Sm; TI-OP; Cly Vr 23 HW Is(50)=0.01 MPa A (23.65m) Is(50)=0.07 MPa 100 D (23.67m) (80)М UCS=2.65 MPa Is(50)=0.11 MPa Is(50)=0.15 MPa (24.44m). D (24.55m)-99.97 A (24.56m) Altered SANDSTONE (Je1) 25 Is(50)=0.05 MPa D (25.05m) HW: Green grey mottled orange Is(50)=0.06 MPa A (25.07m) brown, fine grained, bedding indistinct, very low to low strength. С With lithic clasts. Brecciated throughout. 26 - Js: 0° to 15° (2-3/m); Pl-Un/Ro; Tl-OP; Cly Vr - Js: 30° to 40° (<1/m); Un/Ro; TI; Is(50)=0.17 MPa D (26.59m)-Is(50)=0.12 MPa A (26.60m) (75) 27 HW Is(50)=0.06 MPa Is(50)=0.12 MPa UCS=2.12 MPa D (27.34m)_ A (27.36m) (27.50m) Is(50)=0.57 MPa Is(50)=0.46 MPa 28.10m: Petrographic Report D (28.12m)_ A (28.14m)-29 ¬ 29.10m-29.15m; XW. Clv 29.40m-29.53m: XW, Cly 95.29 XW SILTSTONE (Je1) ¬ 29.68m-29.75m: XW. Clv HW: Continued on next sheet REMARKS: Je1 - Evergreen Formation. **LOGGED BY REVIEWED BY** S. Foley J. Armstrong TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

GEOTECHNICAL BOREHOLE LOG

FINAL 02/11/2017

BH02

Sheet 4 of 4

BOREHOLE No

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014 H12903 REFERENCE No Boyne River Bridge Repalcement PROJECT COORDINATES 323486.4 E; 7159943.2 N Abutment B, RHS LOCATION SURFACE RL 124.82m GRID DATUM MGA Z56 FG6482 PLUNGE 90° DATE STARTED 12/07/2017 PROJECT No 249/435/375550 DRILLER NorthCoast Drilling HEIGHT DATUM AHD DATE COMPLETED 14/07/2017 JOB No BEARING ° USCS WEATHERING ADDITIONAL DATA AND TEST RESULTS RQD ()% INTACT STRENGTH DEFECT SPACING SAMPLES TESTS Ξ LITHOLOGY SAMPLE DEPTH (RΙ MATERIAL DESCRIPTION CORE REC % SILTSTONE (Je1) HW: Cont'd. Pale grey, fine grained, thinly to HW D (30.58m)medium bedded, very low strength. Is(50)=0.04 MPa A (30.59m) Bedding is highly disturbed. With Is(50)=0.02 MPa D (30.90m) fine grained sand. Is(50)=0.02 MPa A (30.92m) XW - Js: 20° to 40° (2/m); Un/Ro; TI; Cly HW XW - Js: 50° to 70° (1-2/m); Pl-Un/Ro; Tl-CD; Cly Vr Is(50)=0.02 MPa D (31.80m) = 31.86m-31.88m: BZ Is(50)=0.02 MPa A (31.83m) HW Is(50)=0.08 MPa Is(50)=0.04 MPa D (32.50m) 92.17 100 A (32.52m) Borehole completed at 32.65m 37 REMARKS: Je1 - Evergreen Formation. **LOGGED BY REVIEWED BY** S. Foley J. Armstrong TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

CORE PHOTO LOGDEPARTMENT OF TRANSPORT AND MAIN ROADS GEOTECHNICAL SECTION



Project Name	Boyne River Bridge Replacement								
Project No.	FG6482	Date	14/07/2017						
Borehole No.	BH02	Reference No.	H12903						
Location	Abutment A, RHS	Start Depth (m)	21.70						
Submitted By	S. Louei	Finish Depth (m)	32.65						
Remarks									
Remarks WEET ONE TO SHAPE O	250. Z50. Z50.	240°C	Tool Tool Tool Tool Tool Tool Tool Tool						
0 100	200 300 400	500 600	700						
	SCALE (mm)								

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CORE PHOTO LOGDEPARTMENT OF TRANSPORT AND MAIN ROADS GEOTECHNICAL SECTION



Project No. FG6482 Date 14/07/2017 Borehole No. BH02 Reference No. H12903 Location A butment A, RHS Start Depth (m) 21.70 Submitted By S. Louei Finish Depth (m) 32.65 Remarks BH02 E.O.H 32.65% BH02	Drojoet Name	Povno Bivos Bridge F	Ponlocement		
Borehole No. Location Abutment A, RHS Start Depth (m) 21.70	Project Name		<u>kepiacement</u>	Data	14/07/0047
Docation					
Submitted By S. Louei Remarks E.O. H 32.65m BHO2 0 100 200 300 400 500 600 700					
Remarks E.O. H 32.65s, BH02 0 100 200 300 400 500 600 700					
0 100 200 300 400 500 600 700		S. Louei		Finish Depth (m)	32.65
0 100 200 300 400 500 600 700	Remarks				NAMES OF THE PARTY
				E.O. H 32.65m	ВНО2
	0 100	200 30	0 400 SCALE (mm)	500 600	700

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