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**GEOTECHNICAL
BOREHOLE LOG**

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

BOREHOLE No **BH13**

Sheet 1 of 3

REFERENCE No **H12909**

PROJECT Boyne River Bridge Repalcement
 LOCATION Pier 6, LHS COORDINATES 323421.0 E; 7159842.1 N
 PROJECT No FG6482 SURFACE RL 115.61m PLUNGE 90° DATE STARTED 05/07/2017 GRID DATUM MGA Z56
 JOB No 249/435/375550 HEIGHT DATUM AHD BEARING ° DATE COMPLETED 06/07/2017 DRILLER NorthCoast Drilling

DEPTH (m)	R.L. (m)	AUGER CASING WASHBORING CORE DRILLING	RQD (%) CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
1				A	Gravelly SAND (Alluvium) Brown, moist, loose to medium dense. Medium to mainly coarse grained gravel, sub rounded. Occasional Cobbles <60mm	(SP)					6, 4, 3 N=7 SPT
2				B							6, 8, 8 N=16 SPT
3	113.01			C	Sandy GRAVEL (Alluvium) Grey brown, wet, medium dense. Fine grained gravel, sub rounded. Medium to coarse grained Sand.						6, 10, 9 N=19 SPT
4				D		(GP)					7, 9, 7 N=16 SPT
5				E	5.00m: Becoming loose.						6, 4, 5 N=9 SPT
6	109.71			F	Gravelly SAND trace Clay (Alluvium) Brown grey, wet, very dense. Gravel <10mm, sub angular. Fine to coarse grained sand.	SP					20, 20, 30 N=50 SPT
7				G	7.0m: Becoming medium dense.						7, 7, 9 N=16 SPT
8	108.01			H	Clayey SAND (Alluvium) Pale grey, moist, very dense. Medium to coarse grained sand.						30/80mm SPT
9				I		(SC)					30/120mm SPT
	105.61										

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REMARKS: Je1 - Evergreen Formation.

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J. Armstrong	S. Foley



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BOREHOLE No **BH13**

Sheet 2 of 3

REFERENCE No **H12909**

PROJECT	Boyne River Bridge Repalcement				
LOCATION	Pier 6, LHS			COORDINATES 323421.0 E; 7159842.1 N	
PROJECT No	FG6482	SURFACE RL	115.61m	PLUNGE	90°
				DATE STARTED	05/07/2017
				GRID DATUM	MGA Z56
JOB No	249/435/375550	HEIGHT DATUM	AHD	BEARING	°
				DATE COMPLETED	06/07/2017
				DRILLER	NorthCoast Drilling

DEPTH (m)	R.L. (m)	AUGER CASING WASHBORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS	
													EH
11.00	104.11				J	Clayey SAND (Alluvium) Cont'd.	(SC)					30/80mm SPT	
11.00					K	11.00m: Becoming pale grey mottled red.						30/80mm SPT	
12.00						SANDSTONE (Je1) XW: Recovered as Silty SAND. Pale grey, moist, very dense. Fine to medium grained sand.	XW					30/50mm hb SPT	
13.10	102.51		(10)		M	SANDSTONE (Je1) MW: Pale grey minor brown, fine grained, medium bedded, low strength. Bedding dips at ~50°. - Js: 30° to 50° (7/m); PI/Sm; TI-CD; Cly Vr; some Fe St	MW				13.10m-13.12m: XW, Cly	30/80mm hb SPT	
13.38											13.38m-13.49m: XW, Cly	A (13.56m) D (13.70m)	
13.93			100 (31)								13.93m-14.00m: XW, Cly	Is(50)=0.11 MPa Is(50)=0.28 MPa	
14.00	101.33					SANDSTONE (Je1) MW: Pale grey mottled orange brown and red, coarse grained, medium bedded, mainly medium strength. - BP: 30° to 40° (2-3/m); PI/Ro-Sm; TI; Cly Vr - Js: 10° to 20° (1-2/m); Un/Ro; TI-OP; Cly Vr or Ct <2mm - Js: 30° to 50° (1-2/m); PI/Ro; TI; Cly Vr	MW				14.00m-14.10m: Brecciated zone		
14.60											14.60m-14.65m: BZ		
15.45			100 (85)								15.45m-15.50m: BZ, HW	Is(50)=0.39 MPa Is(50)=0.45 MPa Is(50)=0.43 MPa UCS=6.41 MPa Is(50)=0.62 MPa	A (15.26m) D (15.32m) A (15.55m) (15.70m) D (15.92m)
16.23											16.23m-16.34m: HW		
16.45											16.45m-16.47m: HW		
17.00			100 (22)									Is(50)=0.73 MPa Is(50)=0.68 MPa	D (16.90m) A (16.92m)
17.70											17.70m: HW SANDSTONE clast, 40mm		
17.85			100 (45)								17.85m-18.05m: HW, Cly		
18.45											18.45m-18.50m: HW	Is(50)=0.40 MPa Is(50)=0.61 MPa	A (18.27m) D (18.30m)
18.86											18.86m-18.97m: XW, Clayey SAND		
19.39	95.93		100 (88)								19.39m-19.55m: HW, BZ	Is(50)=0.62 MPa Is(50)=0.42 MPa	D (19.15m) A (19.25m)
19.51	95.61					SANDSTONE (Je1)	SW						

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REMARKS: Je1 - Evergreen Formation.

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Sheet 3 of 3

REFERENCE No **H12909**

PROJECT	Boyne River Bridge Repalcement				
LOCATION	Pier 6, LHS			COORDINATES 323421.0 E; 7159842.1 N	
PROJECT No	FG6482	SURFACE RL	115.61m	PLUNGE	90°
				DATE STARTED	05/07/2017
				GRID DATUM	MGA Z56
JOB No	249/435/375550	HEIGHT DATUM	AHD	BEARING	°
				DATE COMPLETED	06/07/2017
				DRILLER	NorthCoast Drilling

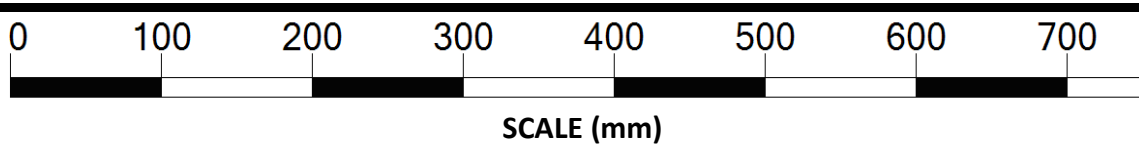
DEPTH (m)	R.L. (m)	FAUGER CASING WASHBORING CONE DRILLING	RQD (%) CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH											DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS			
								INTACT STRENGTH																
								EH	VH	H	M	L	VL	EL	EC	VC	C	M				W	VW	EW
21			100 (92)		SANDSTONE (Je1) SW: Cont'd. Pale grey, coarse grained, medium bedded, mainly medium to high strength. - BP: 30° to 40° (1/m); Pl/Ro-Sm; Tl; Cn or Cly Vr - Js: 10° to 20° (1-2/m); Un/Ro; Tl; Cly Vr - Js: 30° to 50° (1/m); Pl-Un/Ro; Tl; Cly Vr	SW																	UCS=10.40 MPa Is(50)=1.60 MPa Is(50)=1.20 MPa Is(50)=1.20 MPa Is(50)=1.10 MPa	(20.86m) D (21.05m) A (21.10m) D (21.26m) A (21.70m)
22																								
23			100 (100)			MW																		
24	91.46		100		Borehole completed at 24.15m	SW																	Is(50)=1.10 MPa Is(50)=1.10 MPa UCS=12.90 MPa	D (23.55m) A (23.57m) (24.06m)
25																								
26																								
27																								
28																								
29																								

REMARKS: Je1 - Evergreen Formation.	LOGGED BY	REVIEWED BY
	J. Armstrong	S. Foley

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 DEPARTMENT OF TRANSPORT AND MAIN ROADS
 GEOTECHNICAL SECTION



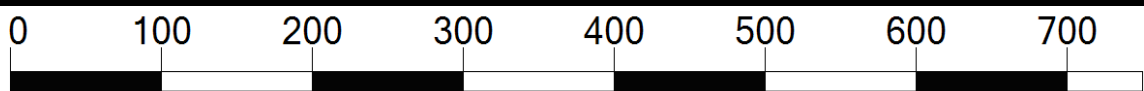
Project Name	Boyne River Bridge Replacement		
Project No.	FG6482	Date	07/07/2017
Borehole No.	BH13	Reference No.	H12909
Location	Pier 6, LHS	Start Depth (m)	13.10
Submitted By	S. Louei	Finish Depth (m)	24.15
Remarks			



CORE PHOTO LOG
 DEPARTMENT OF TRANSPORT AND MAIN ROADS
 GEOTECHNICAL SECTION



Project Name	Boyne River Bridge Replacement		
Project No.	FG6482	Date	07/07/2017
Borehole No.	BH13	Reference No.	H12909
Location	Pier 6, LHS	Start Depth (m)	13.10
Submitted By	S. Louei	Finish Depth (m)	24.15
Remarks			



SCALE (mm)