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GEOTECHNICAL BOREHOLE LOG BOREHOLE LOG Sheet 1 of 3 FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F.GEOT 017/8-2014 PROJECT Veloway (V1) Section D: Stage 2 (Juliette Street) LOCATION COORDINATES 503900.1 E; 6957702.2 N PROJECT No FG6253b SURFACE RL 11.10m PLUNGE 90° DATE STARTED 23/06/2015 GRID DATUM MGA Zone 56 JOB NO HEIGHT DATUM AHD BEARING ° DATE COMPLETED 24/06/2015 DRILER North Coast Drilling NO REFERENCE % INTACT DATE COMPLETED 24/06/2015 DRILER North Coast Drilling NO REFERENCE % INTACT DATE COMPLETED 24/06/2015 DRILER North Coast Drilling OUT STRENGTH DATE COMPLETED 24/06/2015 DRILER North Coast Drilling INTACT DEFECT ADDITIONAL DATA NO DEFECT ADDITIONAL DATA NO <	1					FINAL 1	4/08/2015	
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FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014 REFERENCE NO H12324 PROJECT Veloway (V1) Section D: Stage 2 (Juliette Street) LOCATION COORDINATES 503900.1 E; 6957702.2 N PROJECT NO FG6253b SURFACE RL 11.10m PLUNGE 90° DATE STARTED 23/06/2015 GRID DATUM MGA Zone 56 JOB NO HEIGHT DATUM AHD BEARING ° DATE COMPLETED 24/06/2015 DRILLER North Coast Drilling (W ADDITIONAL DATA AND TEST RESULTS SUSSES (W ADDITIONAL DATA AND TEST RESULTS SUSSES (ML (ML (ML SUSSES INTACT DEFECT ADDITIONAL DATA AND TEST RESULTS SUSSES (ML (ML (ML (ML SUSSES (ML (ML (ML (ML SUSSES (NL (ML (ML		🔊 Queensland	В	OREHOLE LC)G	Sheet 1 of 3		
SYMBOLS REPERFORM F35E01 01//8-2014 SYMBOLS REPERFORM F35E01 01//8-2014 PROJECT Veloway (V1) Section D: Stage 2 (Juliette Street) LOCATION COORDINATES 503900.1 E; 6957702.2 N PROJECT No FG6253b SURFACE RL 11.10m PLUNGE 90° DATE STARTED 23/06/2015 GRID DATUM MGA Zone 56 JOB NO HEIGHT DATUM AHD BEARING ° DATE COMPLETED 24/06/2015 DRILLER North Coast Drilling MATERIAL DESCRIPTION SUBSE SPACING MATERIAL DESCRIPTION SUBSE SPACING ADDITIONAL DATA AND TEST RESULTS USES SUBSE SPACING ADDITIONAL DATA AND TEST RESULTS USES SUBSE SPACING ADDITIONAL DATA AND TEST RESULTS LIGANO MATERIAL DESCRIPTION SUBSE SPACING ADDITIONAL DATA AND TEST RESULTS SUBSE SPACING ADDITIONAL DATA AND TEST RESULTS SUBSE SPACING SUBSE SPACING SUBSE SPACING COORE E COORE E	18 P						12324	
LOCATION COORDINATES 503900.1 E; 6957702.2 N PROJECT No FG6253b SURFACE RL 11.10m PLUNGE 90° DATE STARTED 23/06/2015 GRID DATUM MGA Zone 56 JOB No HEIGHT DATUM AHD BEARING ° DATE COMPLETED 24/06/2015 DRILLER North Coast Drilling Image: Correct of the provided	autos Ar	T HIDAIS	SYMB	OLS REFER FORM F:GEOT 017	//8-2014			
PROJECT No FG6253b SURFACE RL 11.10m PLUNGE 90° DATE STARTED 23/06/2015 GRID DATUM MGA Zone 56 JOB No HEIGHT DATUM AHD BEARING ° DATE COMPLETED 24/06/2015 DRILLER North Coast Drilling Image: Complete to the second se	PROJECT	Veloway (V1) Section D: Stage 2 (Juliet	e Street)					
JOB No HEIGHT DATUM AHD BEARING * DATE COMPLETED 24/06/2015 DRILLER North Coast Drilling Image: Complete back of the second secon	LOCATION				COO	RDINATES 503900.1 E; 69577	02.2 N	
Image: Strength and strength strength and strength strength and strength and strength and strength and strength and strength strength and strength and strength and strength and strength strength and strength and strength strength and strength strength and strength strength strength and strength s	PROJECT No	FG6253b SURFACE RL	1.10m PLUNG	6E_90°	DATE STARTED 23/06/2015	GRID DATUM MGA ZONG	e 56	
Clayey SILT (Fill)	JOB No	HEIGHT DATUM	HD BEARIN	IG DA	ATE COMPLETED 24/06/2015	DRILLER North Coa	st Drilling	
Clayey SILT (Fill)		POD		()				
Clayey SILT (Fill)	Ê <u> </u>			STRENGTH SF	EFECT	AND	PLES	
Clayey SILT (Fill)	(m) DED						SAM	
Brown, dry, soft. Trace gravel,			5116. 3	<u>ַ</u> שָּׂלָדִצ _{ָּד} אַקֿשׂשָאַט 	Σ≥≥∑ш 			
10.60 subrounded.	-	Brown, dry, soft. Trace	gravel, $\frac{\times \sqrt{1}}{\sqrt{16}}$ (N	иц) 🛨				
	-		·× ••ו	GP) —				
Strown, ary, dense	- 10.30	Brown, dry, dense	×					
10.30 Sitty GRAVEL (Fill) (GP) 8:60 A Grey brown mottled red, dry, stiff to very stiff. Image: Comparison of the state of the s	-1	A Grey brown mottled r						
Image: subrounded in the subrou	-	very stiff.		1				
	-			сн) —				
	- 2			+				
	-							
8.60 10, 10, 22 Clayey GRAVEL (Residual) 10, 10, 22	- 8.00			\neg \pm			ODT	
B Brown mottled grey red, dry, dense.	-	Biowir mottled grey re		+			SPT	
30mm. With fine to medium sand.	- 3 -							
	-		**** ***	1 —				
	-		(0	GP)				
Clayey Layer, pale grey, firm dry, high plasticity.	- 4		y, firm dry,	+			_	
C high plasticity. + Hold SPT From 4.1m: Becoming medium + +				1 =		11-23	SPT	
	-	dense.	* <u>*</u> ***					
	- - <u>-</u> 6.10			<u>+</u>			-	
Silty CLAY (Residual)	-			±				
High plasticity. Trace medium to	-	High plasticity. Trace r	edium to	1 ±		3, 15, 10	_	
D coarse sand and fine gravel	-	D coarse sand and fine g	ravel	Ŧ		N=25	SPT	
	- 6			+			-	
	-		 	The second secon				
	-		 					
	- 7		. <u> </u>	1		13, 15, 20		
Trace fine gravel, angular <5mm.	-		×			N=35	SPT	
	-		× (c	сн) —			_	
	-							
	- 8		×	+				
	-		×			0.04.00/440		
- Sand and gravel fraction - - 8, 21, 30/140 - - - - - - F decreasing. - -	-		on			8, 21, 30/140		
	- - - 9		 	1 1				
	-		×					
	-		×	+				
5 6.10 Sity CLAY (Residual) Pale grey to white, dry, very stiff. 3. 15, 10 Pale grey to white, dry, very stiff. 3. 15, 10 D coarse sand and fine gravel X X X	- 110		×					

TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

Continued on next sheet

REMARKS: Ri = Ipswich Coal Measures

11, 19, 28 N=47

REVIEWED BY

S. Foley

LOGGED BY

C. Boyes

	Þ.1								GF	OTECHN		Γ	BOREHOLE No		.4/08/2015 3 H02
Queensland						BOREHOLE LOG					Sheet				
	Ø		G	0	/e	ernment			FOR	GEOTECHNICAL TE	RMS AND		REFERENCE No		12324
	20042	AT HORUS		(1.1.1)				SYN	MBOLS	REFER FORM F:GE	OT 017/8-2014				
PROJE		Ve	loway	(V1)	Se	ction D: Stage 2 (Juliette Street)									
LOCAT			COFOL							<u></u>			COORDINATES 503900.1		
PROJECT No FG6253b SURFACE RL 11.10m							NGE 9	<u> </u>		ARTED 23/06/2015					
JOB N	•					HEIGHT DATUM AHD	В	EAF			DATE COMPI	LETED 24/06/2015	DRILLER	North Coa	st Drilling
DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING	CO RE DKE DKE CO REC	% L	SAMPLE	MATERIAL DESCRIPTION		ПТНОГОСУ	USCS WEATHERING	INTACT STRENGTH 표구구구주구경교			ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
<u> </u>			8			SILTSTONE (Ri)	×	< × ×		<u>"''''''''''''''''''''''''''''''''''''</u>					ODT
E				ľ		XW: Recovered as grey mottled re brown, moist, hard, Silty CLAY.	ed	X X X X		-	-				SPT
E						Trace medium to coarse sand, an organic material. High plasticity.	id 🕺	<			-				-
- 11							>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	× × × ×		-					
F							~ ~ ~	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~		-	-				-
F					н	Becoming dark grey mottled brown. Organic fraction increasing	g. ×	XXXX		-			14, 1	23, 30/140	SPT
- 12						Sand fraction decreasing.	222	× × × ×							
							~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	× × × ×							-
							×	<							-
- - 13						Becoming pale grey. Trace angula	ar S	. × × × ×					15, 2	24, 30/120	-
F					L	gravel.		× × × ×		-	-				SPT
E							~ ~ ~	× × × × ×							-
- 14						Becoming dark grey.	~ ~ ~	× × × × ×		-	_				-
							~ ~ ~ ~	× × × ×		-	-				-
-	-3.50				J		×	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~			-			18/70mm hb	SPT
-			(0	"		TUFFACEOUS SILTSTONE (Ri) HW: Brown grey, laminated to th		× × × ×	HW	VL					
15						bedded, generally extremely low low strength.	to 🕺	× × × ×	xw	E	EC	15.14m-15.34m: BZ	Cly		
-						XW Cly zones throughout. Defects:	>	× × × × × ×							-
F			10		_	-LP: 5°-10° (1-2/m), Pl/Ro, Tl, Cly -J's: 25°-30° (3/m), Pl/Sm, Tl, Cly		× × × ×	HW HW MW		VC	15.74m-15.76m: XW 15.80m-15.81m: XW			-
16			10	0		-J's: 80°-90° (<1/m), Pl-Un/Sm, Cl	ly	×××	HW	L	с		ls(50)= ls(50)=	=0.20 MPa =0.15 MPa	A (16.10m) D (16.12m)-
Ē			(1			Vr	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	< ×	MW	M		16.45m-16.49m: BZ	. ,		- D (16.12m)
E							> >	· ~	HW MW			10.02III-10.00III. BZ			
17			10 (90			From 17.0m: Becoming interbedded with fine to medium	× × ×	* * * * * *							
-						Sandstone.	× × ×	×××××				17.50m-17.63m: Sar		=0.06 MPa	
F							× × ×	*****	нw	VL-L	м	Interbed, medium g		=0.19 MPa	
- - 18						Defeature	>	× × × ×							-
Ľ -			<u>10</u> (92			Defects: -LP/BP: 5°-10° (5-6/m), PI/Ro, TI, Cly Vr	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	* * * * *	×w		c	18.42m-18.43m: BZ	Cly, DI		-
-  -  -							>	$< \times$	нw ₩₩	LM	м	- 18.82m-18.83m: XW	/ Chy Is(50):	=0.12 MPa	- D (18.80m) ⁻
- 19							. × × ×	× × × ×	HW	LM		10.0211-10.03111. XW		=0.32 MPa	A (18.85m)
Ē							***	× × × × ×	<del>хw</del> нw	LM		- 19.22m-19.23m: DI	BZ		
Ē			10				>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	~~~~~	×w		м	😑 19.64m-19.66m: Cly	Zone		
	-8.90		(8)			Continued on next sheet	>>	< × ×	ΗW		c				
R	emaf	RKS:	Ri =	lpsv	vic	continued on next sneet							LOGGED BY	BE//I	EWED BY
													C. Boyes		Foley
-						1	TMR GEO	TECH	INICAL BO	DREHOLE LOG - CREATED \	VITH HOLEBASE SI		0. D0y03	J.	

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FINAL 14/08/2015													
								GE	OTECHNICAL		BOREHOLE No		BH02
Queensland							BOREHOLE LOG				Sh	eet 3 of 3	
Government							FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014				REFERENCE No		12324
PROJECT Veloway (V1) Section D: Stage 2 (Juliette Street)													
LOCATION COORDINATES 503900.1 E; 6957702.2 N													
PROJE	CT No	FG	6253	b		SURFACE RL 11.10m	PLU	JNGE S	00° DATE STA	 RTED 23/06/2015	GRID DATU	M MGA Zone	e 56
JOB NO HEIGHT DATUM AHD BEARING DATE COMPLETED 24/06/2015										5 DRILLE	R North Coa	ast Drilling	
			R	QD				U			ADDITIONAL DATA		
DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING		) % DRE C %	SAMPLE	MATERIAL DESCRIPTION	ПТНОГОСУ	USCS WEATHERING	INTACT DEFECT STRENGTH SPACING		AND TEST RESULTS		SAMPLES TESTS
-		AUG CAS WAS	COR	.0 %		TUFFACEOUS SILTSTONE (Ri)		>	₽₹ぇぇぃੑੑੑੑਖ਼ਖ਼		ls//	50)=0.09 MPa	 D (20.10m)-
	-9.40		1	00		HW: Cont'd	· · · · ·	нw	LM M	20.47m: Becoming	ls(	50)=0.23 MPa	A (20.16m)
-						Borehole completed at 20.50m				grained.			
21													
F													-
E									Ŧ				
- 22								ĺ	<u>+</u>				
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R	FMAR	KS∙	Ri =	:  ns	wi	ch Coal Measures							
	-1417-111			103	** 10						LOGGED BY C. Boyes		Foley
						ті	MR GEOTEC	HNICAL B	DREHOLE LOG - CREATED WITH HOLEBASE SI		C. DUYES	3.	i uley