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ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/5-2009

BOREHOLE No BH003

SHEET 1 of 3

REFERENCE No H10642

PROJECT BRUCE HIGHWAY (COOROY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION

LOCATION Cut 12 COORDINATES 485161.5 E; 7081127.4 N

PROJECT No FG5825 SURFACE R.L. 174.02m PLUNGE DATE STARTED 19/10/09 GRID DATUM MGA94

JOB No 128/10A/901 HEIGHT DATUM AHD BEARING DATE COMPLETED 20/10/09 DRILLER R & D Drilling

Table with columns: DEPTH (m), R.L. (m), AUGER CASING CORE DRILLING, RQD (%), CORE REC %, SAMPLE, MATERIAL DESCRIPTION, LITHOLOGY, USC WEATHERING, INTACT STRENGTH, DEFECT SPACING (mm), GRAPHIC LOG, ADDITIONAL DATA AND TEST RESULTS, SAMPLES TESTS. Includes detailed geological descriptions and test results.

OLD_DMR_LIB_01.GLB_Log_A_ENGINEERING_BOREHOLE_LOG_W/LITHOLOGY_FG5825_BRUCE_HWY_COOROY_CURRA_SECTION_A_BHS.GPJ_DWG95012.GDW_Datlog_CPT_Tool.gint_Add-in 12/05/2010 10:29

REMARKS Detailed defect descriptions are shown on Form GEOT533/8 attached. Piezometer tip installed at 25.4m.

LOGGED BY MW



ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/5-2009

BOREHOLE No BH003
SHEET 2 of 3
REFERENCE No H10642

PROJECT BRUCE HIGHWAY (COOROY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION
LOCATION Cut 12 COORDINATES 485161.5 E; 7081127.4 N
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DEPTH (m)	R.L. (m)	ALGER CASING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING	INTACT STRENGTH				DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
										EH	VH	HM	VE					
10	164.02					PHYLITE (MW - SW): (Cont'd)												
11			100 (17)															
12			100 (51)			11.3 - 14.3m: Becoming close to SW rock.												
13			100 (27)															
14	159.72		100 (35)			PHYLITE (SW): Pale grey to slightly green, fine grained, foliated. Foliation is distinct and dips at 30°. Defects are generally medium to widely spaced. Prominent defect set parallel to foliation. Defect surfaces are typically clean.	MW-SW											
15			100 (46)															
16			100 (54)			Detailed defect descriptions are shown on Form GEOT533/8 attached.	SW											
17			100 (50)															
18			100 (75)			19.5 - 20.4m: Dark grey with quartz veins throughout.												
19																		
20																		

OLD_DMR_LIB_01_GLB_Log_A_ENGINEERING_BOREHOLE_LOG_W/LITHOLOGY_FG5825_BRUCE_HMY_COOROY-CURRA_SECTION_A_BHS.GPJ_DWG65012.GDW_Digital_GPT_Tool_gint_AddIn_12/05/2010_10:29

REMARKS Detailed defect descriptions are shown on Form GEOT533/8 attached. Piezometer tip installed at 25.4m.

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MW



**Queensland
Government**

Department of
Main Roads

ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND
SYMBOLS REFER FORM F:GEOT 017/5-2009

BOREHOLE No BH003

SHEET 3 of 3

REFERENCE No H10642

PROJECT BRUCE HIGHWAY (COOROY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION

LOCATION Cut 12 COORDINATES 485161.5 E; 7081127.4 N

PROJECT No FG5825 SURFACE R.L. 174.02m PLUNGE DATE STARTED 19/10/09 GRID DATUM MGA94

JOB No 128/10A/901 HEIGHT DATUM AHD BEARING DATE COMPLETED 20/10/09 DRILLER R & D Drilling

DEPTH (m)	R.L. (m)	AUGER CASING CORE DRILLING	RQD () %	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING	INTACT STRENGTH					DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS	
										EH	EH	IS	IS	VL					VL
20	154.02					PHYLLITE (SW): (Cont'd)													
21			100 (64)														Is(50) = 0.17MPa Is(50) = 0.78MPa	x o	
22			100 (39)			Detailed defect descriptions are shown on Form GEOT533/8 attached.													
23			100 (89)				SW											Is(50) = 0.26MPa Is(50) = 0.38MPa	x o
24			100 (89)																
25	148.56		100															Is(50) = 0.63MPa Is(50) = 1.16MPa	x o
26						Borehole terminated at 25.46m													
27																			
28																			
29																			
30																			

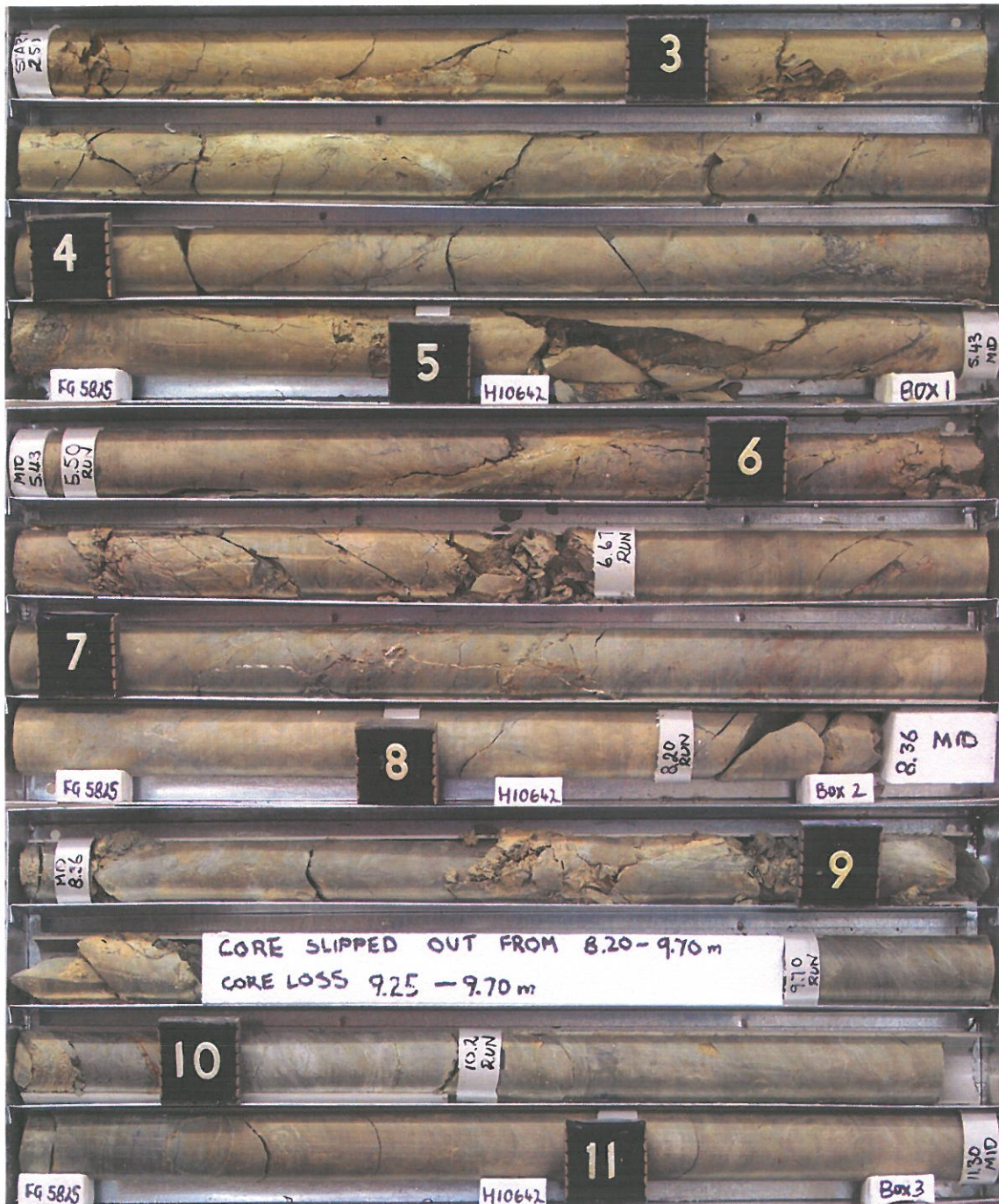
▽ 11/12/09
Broken zone

□ Quartz vein

REMARKS Detailed defect descriptions are shown on Form GEOT533/8 attached. Piezometer tip installed at 25.4m.

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Project: **Bruce Highway Upgrade (Cooroy – Curra) Section A**
 Borehole No: **BH3**
 Start Depth: 2.50m
 Finish Depth: 25.46m
 Project No: FG5825
 H No: 10642



SCALE 1:5

F:GEOT043/1

Project: **Bruce Highway Upgrade (Cooroy – Curra) Section A**

Borehole No: **BH3**

Start Depth: 2.50m

Finish Depth: 25.46m

Project No: FG5825

H No: 10642

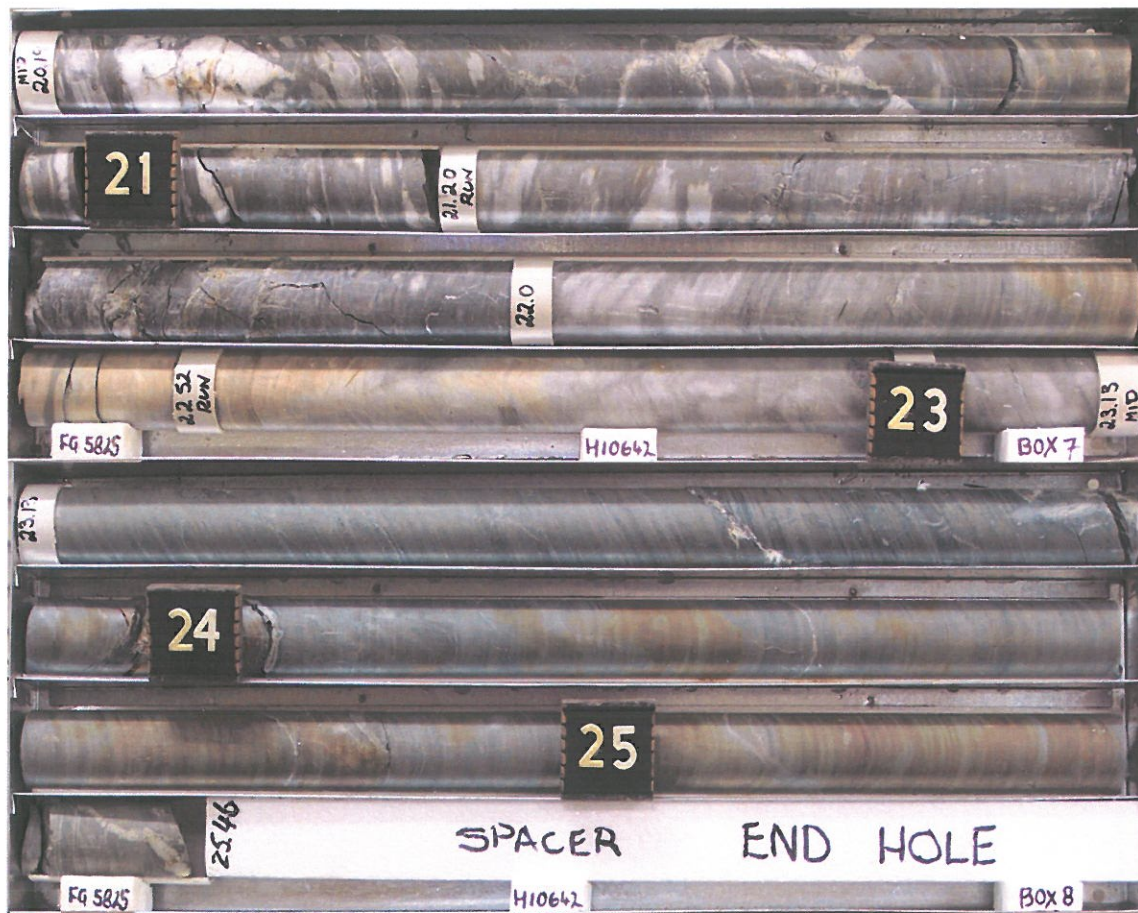


0 100 200 300 400 500 600mm

SCALE 1:5

F:GEOT043/1

Project: **Bruce Highway Upgrade (Cooroy – Curra) Section A**
Borehole No: **BH3**
Start Depth: 2.50m
Finish Depth: 25.46m
Project No: FG5825
H No: 10642



SCALE 1:5

F:GEO043/1

GEOTECHNICAL BRANCH LABORATORY

Materials Services - Brisbane
35 Butterfield Street, HERSTON Q 4006
Phone: (07) 3115 3000 Fax: (07) 3115 3011



**DEFECT DESCRIPTIONS
OF ENGINEERING BORELOGS**

[CHARACTERISATION OF DEFECTS ARE IN ACCORDANCE WITH
GEOTECHNICAL TERMS AND SYMBOLS – FORM : GEOT 017/5 – 2009

BOREHOLE NO.:	BH03
SHEET:	1 of 3
REFERENCE NO.:	H10642

PROJECT:	Bruce Highway Upgrade (Cooroy – Curra) Section A Geotechnical Investigation		
LOCATION:	Cut 10		
PROJECT NO.:	FG5825	SURFACE R.L.:	174.0
DRILLER:	R & D Drilling		
JOB NO.:	128/10A/901	DATUM:	MGA94
DATE DRILLED:	19/10/09		

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
2.50-2.59	BZ						
2.63	J	60	Un	S	O	FeSt, MnSt	
2.75	J	70	Un	S	C	MnSt	
2.87	Clay seam	70	PI		C		20mm wide
3.03	J	60	Un	S	C	MnSt, FeSt	
3.08	J	60	Un	S	C	MnSt, FeSt	
3.20	Clay seam	70	PI		C		~7mm wide
3.28-3.40	BZ						
3.50	Clay seam	65-90	PI		C		10-15mm wide
3.65	J	40	Un	S	C	W	
3.69	J	65	Un	S	C	FeSt, MnSt	
3.82	J	50	Un	Sr	C	MnSt	
3.85	J	60	Un	S	C	FeSt, MnSt	
3.91	J	25	PI		C		Crushed rock in defect
4.26	J	70	Un	Sr	C	FeSt, MnSt	Cln, 1mm
4.46	J	35	PI	Sr	C	FeSt, MnSt	
4.50	J	35	Un	Sr	C	FeSt, MnSt	
4.61-4.82	BZ						

Abbreviations (as per F: GEOT 017/5 – 2009)

ROUGHNESS		WALL ALTERATIONS		TYPE		OTHER	
R	Rough	FeSt	Iron Stained	J, Js	Joint, Joints	Cln	Clay Infill
Sr	Slightly Rough	W	Weathered	B	Bedding	CLy	Clayey
S	Smooth	Smn	Secondary Mineralisation	BP	Bedding Parting	Co	Coal Seam
SL	Slickensided	Cn	Clean	FP	Foliation Parting	Carb	Carbonaceous
PO	Polished	MnSt	Manganese Stained	LP	Lamination Parting	Sl	Sand Infill
PLANARITY		APERTURE		CLV	Cleavage	QZ	Quartz
PI	Planar	C	Closed	Fr	Fracture	CA	Calcite
St	Stepped	O	Open	SZ	Sheared Zone	Chl	Chlorite
Un	Undulating	F	Filled	CZ	Crushed Zone	In	Incipient
Cu	Curved	T	Tight	BZ	Broken Zone	Int	Intersecting
Ir	Irregular			HFZ	Highly Fractured Zone	Lam (s)	Lamination (s)
				WS	Weathered Seam	Di	Drilling Induced
				Vn	Vein	H	Horizontal
						V	Vertical

NOTE: This sheet should be read in conjunction with appropriate Engineering Borelog. Defect angles were measured with respect to horizontal plane.

BOREHOLE NO.:	BH03
SHEET:	2 of 3
REFERENCE NO.:	H10642

DEPTH	DEFECT TYPE	DIP (DEGREES)	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
5.16	J	85	Un	S	C	MnSt, FeSt	Cln, 1mm
5.27	J	65	Pl	S	C	W	
5.33	J	55	Pl	S	C	MnSt	Cln, 3mm
5.67-5.93	Clay seam	75	Un		C		20-30mm wide
5.96-6.15	BZ						
6.30	J	30	Un	S	O		Cln, 1mm
6.35-6.52	J	55-60	Pl	S	C	FeSt	
6.77	J	75	Pl	S	C	FeSt, MnSt	
6.90	J	40	Pl	S	C	FeSt	Cln, 1mm
7.13-7.41	BZ						
7.25	J	80-90	Un	S	C	FeSt	Cln, 1mm
7.27	J	80-90	Un		C		Cln, 1mm
7.36	J	45	Pl		C		Cln, 2mm
8.07	J	50	Un	S	C	W	
8.74-8.82	BZ						
8.87	J	70	Pl	Sr	C	FeSt, MnSt	Cln, 1mm
8.90	J	30	Un	S	C	W	
9.96-10.02	WS						
10.20	J	45	Pl	S	C	FeSt, MnSt	
10.28	J	35	Pl	S	C	FeSt	
10.74	J	65	Pl	Sr	C	FeSt	Cln, 1mm
10.85	J	35	Un	Sr	C	MnSt	
10.90	J	30	Un	S	C	FeSt	
11.46	J	25	Un	S	C		Cln
11.84	J	25	Pl	S	C	FeSt, MnSt	
12.12	J	45	Un	S	C	FeSt	
12.21	J	40	Un	S	C		Cln, <1mm
12.44	WS	35	Pl		C		
12.57	FP	30	Pl		C		
12.85	J	30				FeSt	
13.49	J	35	Un	S	C	FeSt	
13.69	J	35	Un	S	C		
13.82	J	0	Un	Sr	C	Fest, Mnst	
13.93	J	45	Pl		C		Cln, 3mm
14.16	J	45	Pl		C		Cln, 2mm
14.32	J	35	Un	S	C		
14.47	J	30	Pl	S	C		Cn
14.62-14.64	WS						
14.69	J	25	Pl		C		
14.88	FP	20	Pl	S	C		Cn
15.63	J	55	Un	Sr	C	W	
15.69	J	30	St	R	C	W	
15.87	J	20	Un	S	C		
15.94	J	25	Un	S	C		Cn
16.34	FP	25	Un	S	C		Cn
16.77	J	55	Pl	S	C		Cn
16.87	J	30	Un	S	C		
17.31	FP	20	Un	S	C		Cn
17.49	J	15	Pl		C		Cln, 7mm
17.55	J	15	Pl		C		Cln, 1mm
18.05	QZ Vn	60	Pl		C		10mm wide
18.11	QZ Vn	55	Un				5mm wide
18.87	FP	15	Pl	S	C		Cn
19.22	FP	20	Pl	S	C		Cn
19.41	J	20	Pl	S	C		Cn
19.51-19.52	QZ Vn	30	Pl		C		10mm wide
19.58	QZ Vn	30	Pl		C		5mm wide

BOREHOLE NO.:	BH03
SHEET:	3 of 3
REFERENCE NO.:	H10642

DEPTH	DEFECT TYPE	DIP (DEGREES)	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
19.61-19.66	WS						
19.79-20.36	Zone of QZ Vn (2-40mm wide), Un, non-pervasive						
20.99-21.07	QZ Vn						
20.42-20.82	Testing-induced defects?						
20.92-21.00	Testing-induced defects?						
21.10-21.38	Testing-induced defects?						
21.36-21.58	QZ Vn (20-40mm wide)						
21.60-22.00	Testing-induced defects?						
22.46	Jt	5	lr	S	C		
22.54	FP	10	St	S	C		Cn
22.73	FP	10	St	S	C		Cn
22.82	FP	10	St	S	C		Cn
23.21	J	70	Un	S	C		Cn
23.44	J	50	Un	Sr	C	W	
23.62	J	50	Pl		C		Cln, 2mm
23.95	J	45	Un	S	C	FeSt	
23.98	J	25	Un	S	C	FeSt	
24.05	QZ Vn	45	Pl		C		6mm wide
24.86	FP	30	Pl	S	C		Cn
25.39-25.46	QZ Vn		Un				5-10mm