Queensland Government
Department of Main Roads

ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH069
SHEET 1 of 2
REFERENCE No H10640

PROJECT BRUCE HIGHWAY (COOROY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION
LOCATION Cut 23 COORDINATES 481735.2 E; 7080736.5 N
PROJECT No FG5825 SURFACE R.L. 115.50m PLUNGE DATE STARTED 12/10/09 GRID DATUM MGA94
JOB No 128/10A/901 HEIGHT DATUM AHD BEARING DATE COMPLETED 12/10/09 DRILLER R & D Drilling

DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( )% CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (mm) (20 60 200 600 2000)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
0	115.50				**Gravelly SILT (Topsoil)** Pale grey.							Driller's log only		
	114.85			A	**PHYLLITE (HW)** Generally exhibits the engineering properties of light brown, dry, very dense, gravelly silt.							12,24,30/100 N>50		SPT
1							HW							
				B								Non-cohesive		
	113.50											21,30/80 N>50		SPT
2			(19)		**PHYLLITE (MW/SW)** Pale brown with occasional dark grey interbeds. Foliations typically dipping at 55-60°.							Is(50) = 0.73MPa		x
												Is(50) = 0.61MPa Is(50) = 1.52MPa		o x
3					Defects generally medium to widely spaced.							Clay seam		
			100									Is(50) = 0.78MPa Is(50) = 1.10MPa		o x
			(35)		Defect sets dip with foliation and at 10°, 70° and 90°. Defect planes thingly clay coated or iron stained.									
4												Is(50) = 1.07MPa Is(50) = 1.10MPa		o x
			100											
			(32)											
5												Is(50) = 0.66MPa Is(50) = 0.17MPa		o x
			100				MW-SW							
6			(17)									Is(50) = 1.08MPa Is(50) = 2.42MPa		o x
7					**Detailed defect descriptions shown on Form GEOT 533/8 attached.**							Is(50) = 4.07MPa Is(50) = 1.57MPa		x o
			100											
			(55)											
8												Is(50) = 1.05MPa Is(50) = 2.20MPa		o x
			100											
9			(41)									Is(50) = 1.44MPa Is(50) = 2.32MPa		o x
10					(See over)									

REMARKS **Detailed defect descriptions are shown on Form GEOT533/8 attached.**

LOGGED BY JA

QLD_DMR_LIB_01.GLB Log A_ENGINEERING BOREHOLE LOG W LITHOLOGY FG5825 BRUCE HWY COOROY-CURRA SECTION A BHS.GPJ DWG66872.GDW Datgel CPT Tool gINt Add-in 12/05/2010 13:47

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ENGINEERING BOREHOLE LOG

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BOREHOLE No BH069
SHEET 2 of 2
REFERENCE No H10640

PROJECT BRUCE HIGHWAY (COOROY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION
LOCATION Cut 23 COORDINATES 481735.2 E; 7080736.5 N
PROJECT No FG5825 SURFACE R.L. 115.50m PLUNGE DATE STARTED 12/10/09 GRID DATUM MGA94
JOB No 128/10A/901 HEIGHT DATUM AHD BEARING DATE COMPLETED 12/10/09 DRILLER R & D Drilling

DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( ) % / CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC / WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (mm) (20 60 200 600 2000)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
10	105.50				**PHYLLITE (MW/SW)** (Cont'd)						Is(50) = 3.43MPa		x
			100 (22)								Is(50) = 0.87MPa		o
11											Is(50) = 1.76MPa		x
											Is(50) = 0.58MPa		o
					From 11.50-13.0 Some bands of clayey broken phyllite present.								
12			100 (13)								Is(50) = 2.33MPa		x
											Is(50) = 0.79MPa		o
13							MW-SW				Is(50) = 2.12MPa		x
			100 (52)								Is(50) = 0.79MPa		o
14					**Detailed defect descriptions shown on Form GEOT 533/8 attached.**						Is(50) = 1.08MPa		o
											Is(50) = 0.54MPa		x
15			100 (18)										
	99.80		100								Is(50) = 1.61MPa		o
											Is(50) = 2.10MPa		x
					Borehole terminated at 15.7m								
16													
17													
18													
19													
20													

REMARKS **Detailed defect descriptions are shown on Form GEOT533/8 attached.**

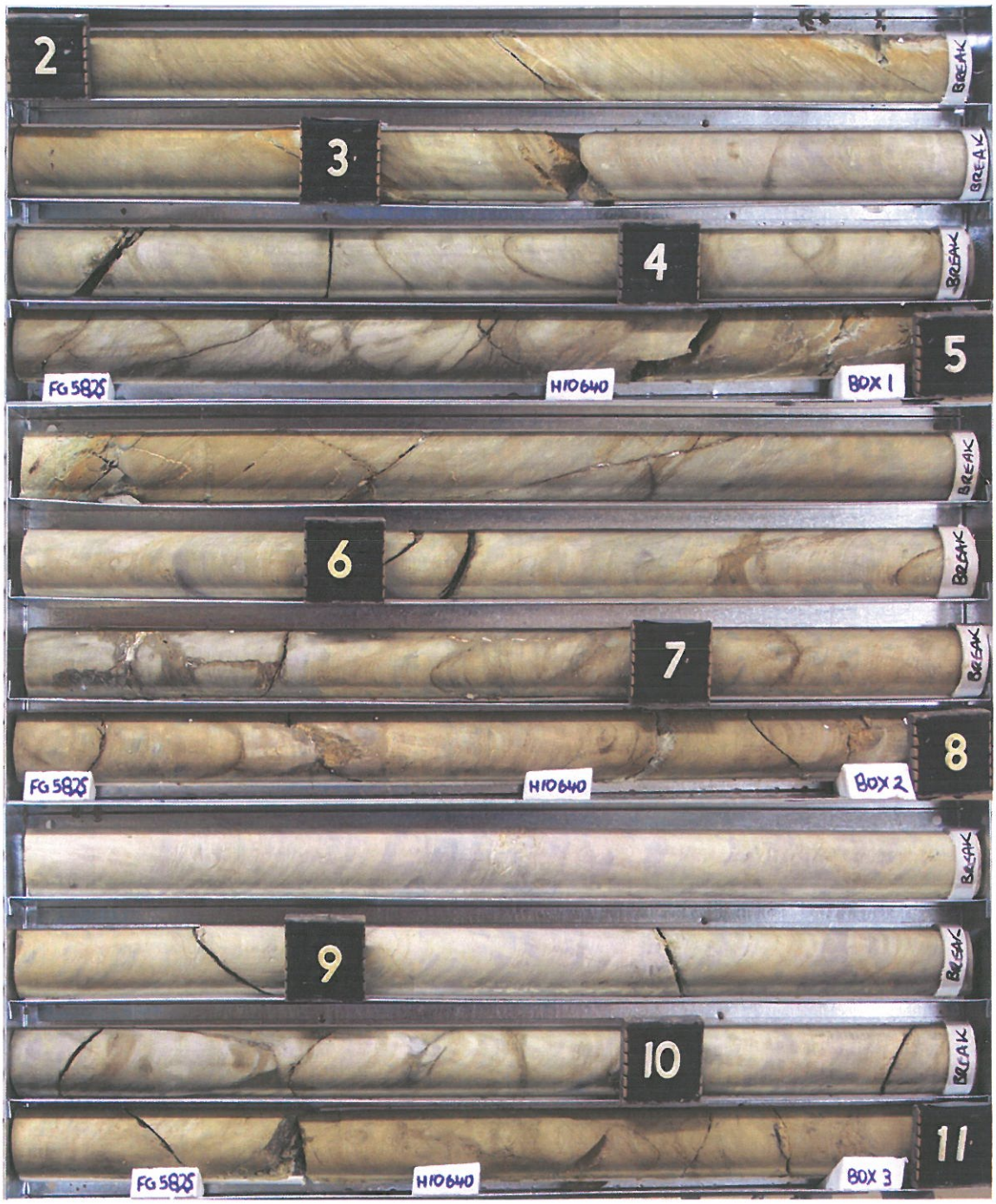
LOGGED BY JA

QLD_DMR_LIB_01.GLB Log A_ENGINEERING BOREHOLE LOG W LITHOLOGY FG5825 BRUCE HWY COOROY-CURRA SECTION A BHS.GPJ DWG66872.GDW Datgel CPT Tool gINt Add-In 12/05/2010 13:47

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

Borehole No: **BH69**

Start Depth: 2.00m
Finish Depth: 15.70m
Project No: FG5825
H No: 10640



0 100 200 300 400 500 600mm

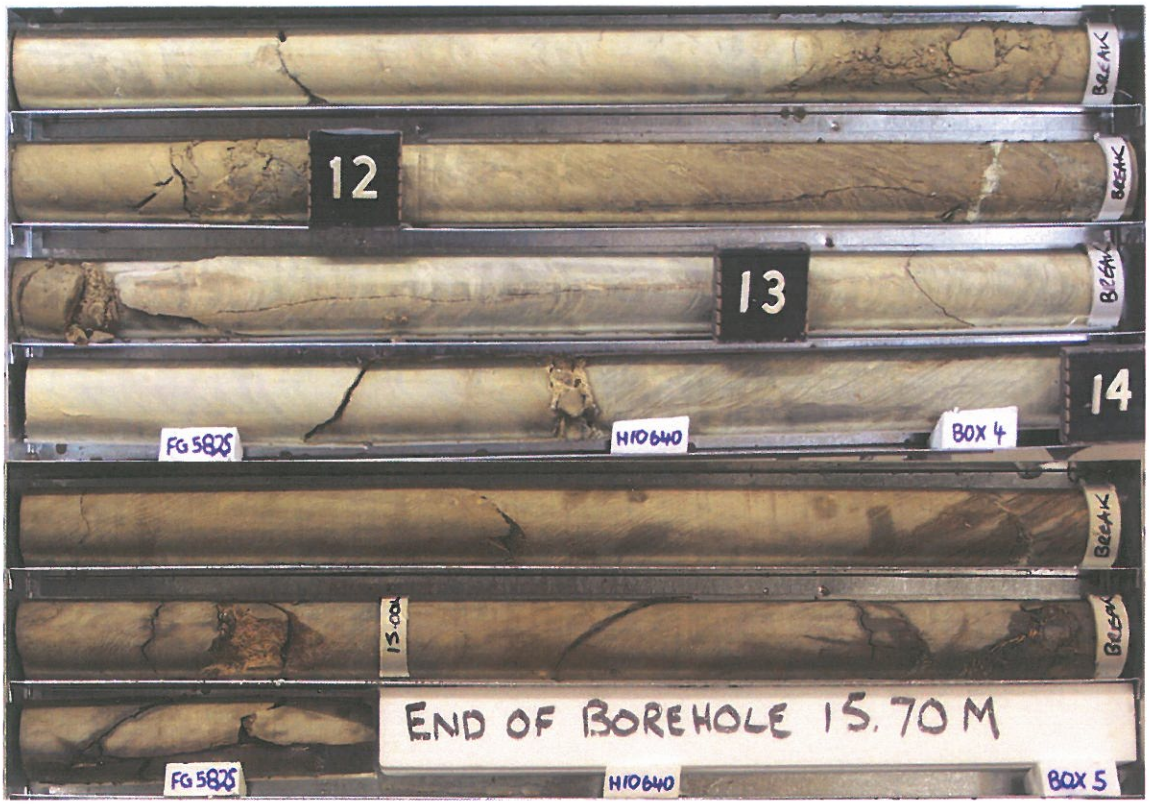
SCALE 1:5

F:GEOT043/1

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

Borehole No: **BH69**

Start Depth: 2.00m
Finish Depth: 15.70m
Project No: FG5825
H No: 10640



0 100 200 300 400 500 600mm

SCALE 1:5

F:GEOT04

GEOTECHNICAL BRANCH LABORATORY
Materials Services - Brisbane
35 Butterfield Street, HERSTON Q 4006
Phone: (07) 3115 3035 Fax: (07) 3115 3011

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Department of Main Roads

DEFECT DESCRIPTIONS OF ENGINEERING BORELOGS

[CHARACTERISATION OF DEFECTS ARE IN ACCORDANCE WITH ISRM SUGGESTED METHODS (1981)]

BOREHOLE NO.:	BH69
SHEET:	1 of 2
REFERENCE NO.:	H10640

PROJECT: Bruce Highway (Cooroy – Curra) Section A Geotechnical Investigation

LOCATION: Cut 23

PROJECT NO.:	FG5825	**SURFACE R.L.:**	115.5	**DRILLER:**	R & D Drilling
JOB NO.:	128/10A/901	**DATUM:**	AHD	**DATE DRILLED:**	12/10/09

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
2.23	J	80	Pl	S	O		Cn
2.43	J	55	Pl		C		Cl,1mm
3.00	Clay Seam	55	Pl		C		20mm Wide
3.19	J	45	Pl	R	C		
3.58	J	45	Pl	S	C		Clay Veneer
3.80	J	40	St		C		Rehealed
3.94	J	70	Pl		C		Rehealed
4.02	J	20	St	R	C	FeSt	
4.07	J	60	Pl	S	C	Cn	
4.15	J	50	St	SR	C	FeSt,MnSt	
4.29	J	45	St	S	C		Cn
4.39	J	75	Un	S	C	FeSt	
4.59	J	50	Pl	S	C	FeSt	
4.65	Fr	60	Ir		C		
4.79	J	80	Ir	S	C	FeSt	
4.88	J	30	Ir		C		Cl,3mm
4.96	J	45	Pl		C		Cl, 3mm
5.19	J	40	Pl	S	C		Cn

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

ROUGHNESS		WALL ALTERATIONS		TYPE		OTHER	
R	Rough	FeSt	Iron Stained	J, Js	Joint, Joints	Cl	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
Pl	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.:	BH69
SHEET:	2 of 2
REFERENCE NO.:	H10640

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
5.25	J	60	Pl	R	C	FeSt,MnSt	Cl, 1mm
5.30	J	50	Pl		C		Cl, 1mm
5.46	J	80	Un		C		Cl, 1-2mm
6.00	J	65	Pl	S	C		Cn
6.19	J	75	Pl	R	FeSt, W		
6.70	J	20	Pl	SR	C	FeSt	
6.74	J	85	Pl	R			Cl,1mm
6.90	J	80	Un	R		FeSt,W	Cl, 2mm
7.31	J	35	Pl	R	C	FeSt,MnSt	
7.37	J	75	Pl	S		FeSt	Clay Veneer
7.44	J	70	Pl	S	C	FeSt	Clay Veneer
7.51	J	50	Pl	S	C	FeSt	Clay veneer
7.74	Clay seam	50	Pl		C		10mm Wide
7.81	J	80	Un	SR	C	FeSt	
8.92	J	50	Pl	SR	C	W	
9.25	J	20	Pl	SR	C	W	
9.55		40	Pl	R	C	FeSt	
9.63	J	75	Pl	SR	C	FeSt	
9.73	J	45	Pl	SR	C	W	
9.97	J	50	Pl	S	C	W	
10.20	J	35	Pl	S	C	FeSt	
10.36	J	50	Pl	SR	C	FeSt,W	
10.62	J	85	Un	S	C	FeSt,W	Cl,1mm
10.77	J	30	Pl	S	C	FeSt	Cl,1mm
10.84	J	10	St	R	C	FeSt	Cl,1mm
11.20	J	70	Un	SR	C	FeSt	Cl,1mm
11.53	Fr	75	Pl	SR	C	FeSt	Clay veneer
11.86	J	50	Pl	S	C	FeSt	
12.39	Clay Seam	80	Pl		C		
12.47	J	30	Un	R	C		
12.55	J	55	Un	SR	C		Clay &Crushed Rock infill 4mm
12.62	BZ/ Clay seam	20	Pl		C		
12.62-13.15	J	90	Pl		C		Rehealed
12.66	J	80	St	S	C	W,FeSt	
12.82	J	50	Un	R	C	W	
14.31	J	50	Pl	SR	C		
14.67	J	50	Pl		C		Cl,2mm
14.89	J	50	Pl	SR	C	FeSt,W	
14.93	J	40	Pl	SR	C	FeSt,W	
15.14	J	50	Pl	S	C		Clay Veneer
15.36	J	60	Pl	S	C		Cl, 1mm
15.41-15.50	BZ						