

COPYRIGHT NOTICE

This geotechnical log and its associated data (the Document) is licensed by the Queensland Department of Transport and Main Roads under the [Creative Commons Attribution 4.0 Licence](#) (CC BY 4.0). When reusing the Document, in whole or in part, please attribute the Department as follows: "*(c) State of Queensland (Department of Transport and Main Roads) 2020, licensed under the CC BY 4.0 Licence*". This licence does not apply to the Queensland Government logo or trademarks.

LIMITATION OF LIABILITY

The CC BY 4.0 Licence contains a comprehensive Disclaimer of Warranties and Limitation of Liability. In addition, please note that this Document was prepared for Departmental use only. Reuse of the Document by anyone for any other purpose could result in error and/or loss. You should obtain professional advice before making decisions based on the contents of the Document.

When reproducing any part of this Document, you must also reproduce this limitation of liability notice in addition to the italicised attribution statement above.

Retrieved from the Queensland Geotechnical Database <http://ggd.org.au/>



ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH048
SHEET 1 of 2
REFERENCE No H10624

PROJECT BRUCE HIGHWAY (COOROY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION
LOCATION Cut 15 COORDINATES 483846.5 E; 7081277.3 N
PROJECT No FG5825 SURFACE R.L. 122.85m PLUNGE _____ DATE STARTED 3/9/09 GRID DATUM MGA94
JOB No 128/10A/901 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 3/9/09 DRILLER R & D Drilling

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
0	122.85											
0	122.75				TOPSOIL							
				A	PHYLLITE (XW) Generally exhibits the engineering properties of light grey to brown, moist, very stiff to hard clayey SILT.						9,10,15 N=25	SPT
1					Intermediate plasticity; rock fabric visible throughout.							
				B	Occasional high plasticity clay seams.	XW					10,17,26 N=43	SPT
2												
				C							18,21,30/120 N>50	SPT
3	119.85		(48)		PHYLLITE (MW) Grey-brown, fine to very fine grained, low strength, moderately foliated.						Is(50) = 0.13MPa Is(50) = 0.05MPa	x o
			100		Foliations generally 10° - 40°.							
4			(29)		Defects generally close to medium spacing. Defect sets typically parallel to foliation, with other sets at 75° - 85°. Some defect surfaces clay infilled and some defects with alteration halos.						Is(50) = 0.38MPa Is(50) = 0.31MPa	x o
					Hairline fracturing throughout, showing iron staining.							
5			100	(0)	Clayey broken zones occur at regular intervals of approximately 0.75m.							
6												
			97	(33)	From 6.5m Pale grey with dark grey mottling.	MW					Is(50) = 0.18MPa Is(50) = 0.06MPa Is(50) = 0.29MPa	x o x
7					Detailed defect descriptions are shown on Form GEOT 533/8 attached.							
8			100	(94)							Is(50) = 0.50MPa Is(50) = 0.48MPa	o x
			100	(47)								
9											Is(50) = 0.49MPa	x
			100	(57)							Is(50) = 0.45MPa	x
10					(See over.)							

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

LOGGED BY
AN



ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH048
SHEET 2 of 2
REFERENCE No H10624

PROJECT BRUCE HIGHWAY (COOROY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION
LOCATION Cut 15 COORDINATES 483846.5 E; 7081277.3 N
PROJECT No FG5825 SURFACE R.L. 122.85m PLUNGE _____ DATE STARTED 3/9/09 GRID DATUM MGA94
JOB No 128/10A/901 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 3/9/09 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	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
10	112.85													
11						PHYLLITE (MW) (Cont'd)						Is(50) = 0.56MPa Disturbed zone bounded by clay lined joints		
12			100 (87)									Is(50) = 0.64MPa Is(50) = 0.53MPa	x	
13			100 (50)									Is(50) = 0.62MPa Is(50) = 0.47MPa	x	
14												Brecciated zone with clay infill. Multiple rehealed joints, 85°-90° Disturbed zone		
15	108.45		100 (86)			PHYLLITE (SW) Pale grey with extensive dark grey mottling and interbedding Strongly foliated, foliations typically 40°. Defects generally medium spacing. Defects typically dipping parallel to foliation, with other sets dipping at 10° and 40°. Defect surfaces generally iron stained or with thin clay infilling. Detailed defect descriptions are shown on Form GEOT 533/8 attached.						Is(50) = 0.51MPa Is(50) = 1.67MPa Is(50) = 0.63MPa Rehealed fracture zone Is(50) = 0.72MPa Is(50) = 0.45MPa Zone of subvertical joints / quartz veins with clay infill Is(50) = 0.83MPa Is(50) = 0.30MPa	x	
16			100 (43)											
17	105.50		100									Is(50) = 0.53MPa	x	
18						Borehole terminated at 17.35m								
19														
20														

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

LOGGED BY
AN

Project: **Bruce Highway Upgrade (Cooroy – Curra) Section A**
Borehole No: **BH 48**
Start Depth: 3.00m
Finish Depth: 17.35m
Project No: FG5825
H No: 10624

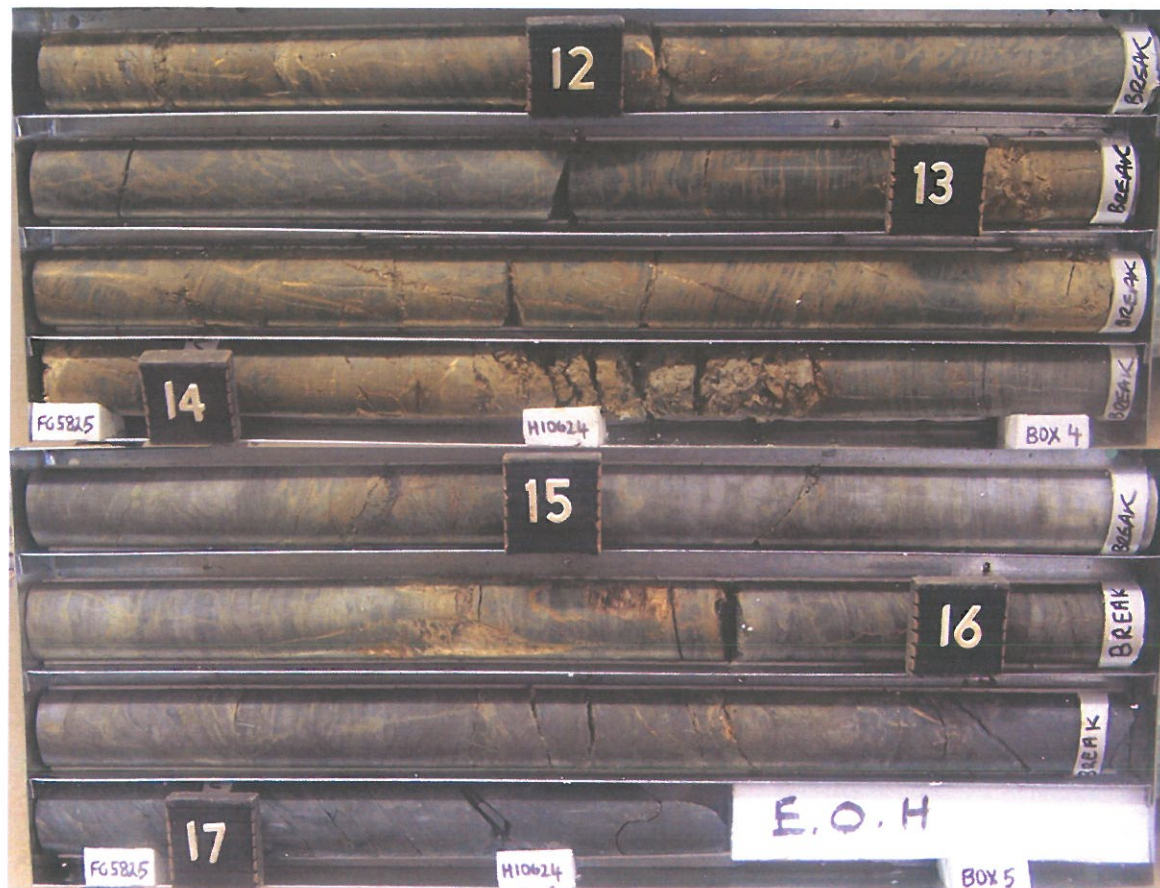


0 100 200 300 400 500 600mm

SCALE 1:5

F:GEOT043/1

Project: **Bruce Highway Upgrade (Cooroy – Curra) Section A**
Borehole No: **BH 48**
Start Depth: 3.00m
Finish Depth: 17.35m
Project No: FG5825
H No: 10624



SCALE 1:5

F:GEOT043/1

DEFECT DESCRIPTIONS OF ENGINEERING BORELOGS

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

BOREHOLE NO.:	BH48
SHEET:	1 of 4
REFERENCE NO.:	H10624

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

LOCATION: Cut 15

PROJECT NO.: FG5825

SURFACE R.L.: 122.85

DRILLER: R & D Drilling

JOB NO.: 128/10A/901

DATUM: MGA94

DATE DRILLED: 03/09/09

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
3.01	J	0	Un	S	C	FeSt	
3.08	J	25	Un	S	C	FeSt	
3.11	J	35	Un	SR	C	FeSt	Cl, 2mm
3.13	J	20	Un	SR	C	FeSt	
3.14	J	10	PI		C		Cl, 1mm
3.15	J	15	PI	S	C		Clay Veneer
3.19	J	10	PI	S	C		Clay veneer
3.23	J	5	St	S	C		Cn
3.24	J	0	PI	SR	C	FeSt	
3.26	J	5	PI	S	C	FeSt	
3.27	J	0	PI	SR	C	FeSt	
3.31-3.32	J	0	PI	S	C		Cl, 10mm
3.50	J	0	PI	SR	C	FeSt	Cl, 8mm
3.58	J	10	PI	S	C	FeSt, MnSt	
3.62	J	10	PI	S	C	FeSt, MnSt	
3.66	J	80	PI		C		In
3.75-3.79	BZ	W/ Clayey Matrix					
3.83	DI						

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	SI	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.: BH48

SHEET: 2 of 4

REFERENCE NO.: H10624

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
3.88	J	15	Pl		C		Cl, 10mm
3.91	J	20	Pl		C		Cl, 10-15mm
3.96	J	30	Pl		C		Cl, 10mm
4.10	J	0	Pl	S	C	FeSt	Clay veneer
4.17	J	55	Un	SR	C	FeSt	Cl, <1mm
4.23	J	75	Un	R	C	FeSt	Cl, 1mm
4.27	J	0	Pl	S	C		Cl, 1mm
4.38	J	30	Un		C		Cl, 3mm
4.62-4.65	CZ	10	Un		C		Clayey Matrix in crushed rock
4.75	J	20	Pl	S	C	FeSt,MnSt	
4.82	DI						
4.85	J	30	Un	SR	C	FeSt,MnSt	
4.86	J	45	Un	R	C	FeSt,MnSt	Clay Veneer
4.89	J	35	Un	R	C		Cl, 1mm
4.92	J	40	St	SR	C	FeSt	Clay Veneer
4.94-4.96	CZ						Clayey matrix in crushed rock
4.99	J	20	Pl	S-PO	C		
4.99-5.02	BZ					FeSt	
5.06	J	20	Pl	SR	C	FeSt	Cl, <1mm
5.09	J	25	Pl	S	C	FeSt	
5.12	J	75	Un-St	SR	C	FeSt,MnSt	Clay Veneer
5.18-5.28	BZ						Broken rock W/ Clayey matrix
5.39	J	15	Pl	S	C	FeSt,MnSt	
5.41							
5.48-5.56	FP x 5	5	Pl	S	C	FeSt,MnSt	Cl, 2mm
5.57-5.59	CZ	5	Pl		C		Broken rock W/ Clayey matrix
5.61	J	15	Un	R	C	FeSt,W	
5.68	J	75-80	Un	SR	C	FeSt	Cl, 1mm
5.77	J	10	Un	R	C	FeSt	Cl, 2mm
5.81	J	30	Pl		C		Cl, 3mm
5.87	J	5	Un	S	C		Cl, 4mm
5.91	J	5	Pl	S	C		Cl, 3mm
5.99	J	10	Pl	S	C	FeSt	
6.05	J	10	Pl	S	C	FeSt,MnSt	
6.09	J	10	Pl	S	C	FeSt	
6.11	J	10	Pl	S	C	FeSt	
6.14	J	5					
6.17	J	70-85	St	R	C	FeSt	Cl, 3mm crushed rock in defects
6.22	J	5	Pl		C		Cl, 3mm
6.32	J	10	Pl	S	C	FeSt	Cl, 2mm
6.35	J	10		S			Cl
6.37	J	10	Pl	S	C		Cl, 4mm
6.42-6.45	CZ	30	Un	S	C		
6.52	J	10	Un	S	C		
6.54	J	25	St	S	C		
6.58	J	35	Un	S-PO	C		
6.68	J	80	Pl	S	C	FeSt	
6.92	J	65	Pl	S	C	FeSt	
6.94	J	70	Pl	S	C	FeSt	
7.05	FP	30	Pl	S	C		
7.09	FP	25	Pl	S	C	FeSt,MnSt	
7.11	J	30	St	S	C		Cl, 4mm
7.15	J	30	Pl	SR	C	FeSt,MnSt	

BOREHOLE NO.:	BH48
SHEET:	3 of 4
REFERENCE NO.:	H10624

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
7.16	J	75	Pl	S	C	FeSt,MnSt	
7.18	J	25	Pl	S	C		
7.21	J	15	Un	S	C	FeSt,MnSt	
7.28	J	20	Un	SR	C	FeSt,MnSt	
7.36	J	5	Un	S	C	W	Cl, 2mm
7.42	J	25	Pl	S	C	FeSt,MnSt	Cl, 3mm
7.45-7.47	CZ	30	Pl		C		Crushed rock W/ clayey matrix
7.49	J	80	Pl	S	C		Qz and coal, 1mm Fest, clay Veneer
7.55	J	80	Pl	S	C	FeSt,MnSt	
7.68-7.69	CZ	0					
7.72	J	5	Un		C		Cl, 2mm
7.82	J	45	Un	S	C	FeSt	Crushed rock W/ clayey matrix
7.88	J	80	Un		C		Cl, 3mm
7.98	J	40	Pl	SR	C	FeSt	
8.36	FP	40	Pl	S	C	FeSt	Cl, <1mm
8.44	J	40	Pl	S	C	FeSt	Minor crushed rock in defect
8.54	J	35	Un	S	C	FeSt,MnSt	
8.62-8.69	BZ					Broken rock W/ Clay Matrix	
8.72	J	15	Pl	S	C	FeSt	Clay Veneer
8.74	DI						
8.78	J	0	Un	S	C	FeSt	
8.90	J	85-90	Un	SR	C	FeSt,W	
8.94	J	85	Pl	S	C	FeSt,W	Cl, 1mm
9.14	J	75	Pl	S	C	FeSt,W	
9.23	J	35	Un	SR	C		
9.28	J	85-90	Pl	S	C	FeSt	Clay Veneer
9.52	FP	50	Pl	SR	C	FeSt,W	
9.58	FP	50	Pl	S	C		
9.64	J	75	Pl	SR	C	FeSt,w	Clay Veneer
9.66	J	35	Pl	S	C		Cl, 1mm
9.72	J	35	Pl	SR	C	FeSt	
9.80	DI						
9.87	J	25	Un	SR	C		Cl, 2mm
9.96	J	30	Un	SR	C	FeSt	
10.34	J	25	Un	S	C	FeSt	
10.45	FP	40	Pl	S	C	FeSt	
10.61	J	40	Un	S	C	FeSt	Cl, 2mm
10.64-10.67	CZ	10	Pl		C		
10.74	J	35	Un	S	C	FeSt	
10.86	J	40	Un	R	C	FeSt	Cl, 2-8mm
10.93	J	25	Pl		C		Cl, 3mm
11.06	J	60	Un	R	C	FeSt	Crushed rock in defect
11.15	J	70	Un	R	C	FeSt	Clay veneer
11.36	J	35	Un	PO	C		Chlorite Veneer
11.74	J	10	Un		C		Crushed rock W/ clay matrix in defect
11.99-1200	BZ	0			C		
12.03	DI						
12.47	J	10	Pl	S-PO	C		Cn
12.76	J	20	Pl	S	C		Cl, 2mm
12.78	J	60	Un-St	R	C	FeSt	Cl, 2-4mm
12.85	J	10	Pl		C		Cl, 2mm
12.98-13.09	Brecciated/ Altered Zone ???						Crushed rock W/ clay matrix

BOREHOLE NO.:	BH48
SHEET:	4 of 4
REFERENCE NO.:	H10624

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
13.27	J	15	Pl	SR	C	FeSt	Clay Veneer
13.31	J	70	Pl		C		Crushed rock in defect, 3mm
13.40	J	30	Un	SR	C	FeSt	
13.56	J	15	Pl		C		Cl, 1mm
13.81	J	30	Un	S	C	FeSt	Cl, 1mm
13.93	J	60	Pl		C		Cl, 1-3mm
13.84-14.21	Zone of Closely Spaced Micro-Fracturing						
14.21-14.43	BZ						
14.83	J	25	Un	S	C	FeSt	
14.88	J	30	Pl		C		
14.93	J	5	Pl	SR	C	FeSt	
15.14	J	40	Un	R	C	FeSt	Cl, 1mm
15.55-15.82	QZ	80-90	Un		C		Qz 1-30mm wide
15.56-15.68	QZ	80-90	Un		C		Qz 2-20mm
15.78-15.84	QZ	90					Qz 30mm wide
15.82	J	10	Pl	S-PO	C	FeSt	
15.86	J	5	Pl	R	C	FeSt	
16.02-16.03	CZ	0	Pl	S	C		Cl, 10mm
16.42	J	10	St	S	C	FeSt	
16.49	J	30	Un	SR	C	FeSt	
16.52	J	20	Un	SR	C	FeSt	Clay Veneer
16.58	J	15	Pl	S	C	FeSt	
16.61	J	40	Pl	R	C	FeSt	Cl, <1mm
16.71	J	0	Un	S	C	FeSt	
16.75	J	10-15	Un	SR	C	FeSt	Cl, <1mm
16.78	FP	50	Un	S	C		Cl, 1mm
17.02	J	35	Un	S	C		
17.07	J	40	Un	S	C		Cl, 1mm
17.11	J	35	Un	S	C		
17.14	J	35	Un	S	C		
17.31	J	60	Un	S	C		