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**Queensland  
Government**

Department of  
Main Roads

## ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH036

SHEET 1 of 2

REFERENCE No H10592

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

LOCATION Cut 13

COORDINATES 484741.0 E; 7081158.6 N

PROJECT No FG5825

SURFACE R.L. 146.63m

PLUNGE       

DATE STARTED 30/7/09

GRID DATUM MGA94

JOB No 128/10A/901

HEIGHT DATUM AHD

BEARING       

DATE COMPLETED 30/7/09

DRILLER Geodril

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
0	146.63												
0.5					A	Clayey SILT (COLLUVIUM) Red, moist, stiff.  Occasional angular rock fragments; traces of organics.	(ML)					4,5,4 N=9	SPT
1.5	145.13				B	PHYLLITE (XW): Generally exhibits the engineering properties of mottled red-grey, moist, very stiff, clayey Silt.  Rock fabric visible throughout.						6,13,15 N=28	SPT
2.5					C		XW					6,12,11 N=23	SPT
3.5					D	Increase in red ironstaining; very thin iron cemented bands 1mm thick.						9,11,17 N=28	SPT
4.5	142.13				E	PHYLLITE (HW): Generally exhibits the engineering properties of mottled red, moist, hard, clayey Silt.  Rock fabric visible throughout; thin iron cemented bands 1mm thick.	HW					15,19,21 N=40	SPT
5.5					F							16,29,27 N>50	SPT
6.5	139.98				G							30/150 N>50	SPT
7.0		(0)				PHYLLITE (MW): Red-brown to slightly green, fine grained, foliated.  Foliation is indistinct.  Defects are generally closely spaced.  Defect sets dipping at 30 and 70°.  Defect surfaces are typically iron stained.	MW					Is(50) = 0.31MPa Is(50) = 0.64MPa	o x
7.5		100 (12)										Is(50) = 0.44MPa Is(50) = 0.48MPa	o x
8.0		88 (0) 67 (0) 0 (0) 0 (0) 50 (29) 100 (0)				8.5 - 9.1m: Area of core loss; possible clayey broken zone.  Detailed defect descriptions are shown on Form GEOT533/8 attached.						Core sample damaged below 8.3m. Hole shifted 0.5m and coring continued from 8.3m. Crushed zone	
8.5													
9.0													
9.5													
10.0												Broken zone	

REMARKS Detailed defect descriptions are shown on Form GEOT533/8 attached. Major core loss and damaged core in initial hole below 8.3m. Hole was shifted 0.5m and redrilled from 8.3m.

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# ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH036

SHEET 2 of 2

REFERENCE No H10592

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

LOCATION Cut 13 COORDINATES 484741.0 E; 7081158.6 N

PROJECT No FG5825 SURFACE R.L. 146.63m PLUNGE \_\_\_\_\_ DATE STARTED 30/7/09 GRID DATUM MGA94

JOB No 128/10A/901 HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 30/7/09 DRILLER Geodrill

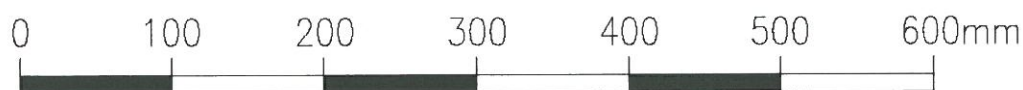
DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
10	136.63					PHYLLITE (MW): (Cont'd)							
				100									
				(0)									
				100									
				(0)									
				75									
				(0)									
11	135.43			83		Detailed defect descriptions are shown on Form GEOT533/8 attached.							
				(0)									
				17		PHYLLITE (XW - HW):							
				(0)		Large area of core loss, possible XW-HW zone or shear zone.							
				67									
				(0)									
12				0									
				(0)									
13				0									
				(0)									
	133.13			0									
14						Borehole terminated at 13.5m							
15													
16													
17													
18													
19													
20													

REMARKS Detailed defect descriptions are shown on Form GEOT533/8 attached. Major core loss and damaged core in initial hole below 8.3m. Hole was shifted 0.5m and redrilled from 8.3m.

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Project: **Bruce Highway Upgrade (Cooroy – Curra) Section A**  
 Borehole No: **BH36**  
 Start Depth: 6.65m  
 Finish Depth: 13.50m  
 Project No: FG5825  
 H No: 10592



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]

<b>BOREHOLE NO.:</b>	BH 36
<b>SHEET:</b>	1 of 2
<b>REFERENCE NO.:</b>	H10592

<b>PROJECT:</b>	Bruce Highway (Cooroy – Curra) Section A Geotechnical Investigation					
<b>LOCATION:</b>	Cut 13					
<b>PROJECT NO.:</b>	FG5825	<b>SURFACE R.L.:</b>	146.62	<b>DRILLER:</b>	Geodrill	
<b>JOB NO.:</b>	128/10A/901	<b>DATUM:</b>	MGA94	<b>DATE DRILLED:</b>	30/07/09	

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
6.74	J	30	Un	SR	C	FeSt	
6.79	J	40	PI	SR	C	FeSt	
6.83	J	70	PI	SR	C	FeSt, W	
6.97	J	50	Un	SR	C	FeSt, W	
7.07	J	40	PI	SR	C	FeSt, W	
7.14	J	30	PI	R	C	W	
7.17	J	30	PI	R	C	W, FeSt	
7.23	J	30	Un	SR	C	FeSt, W	
7.29	J	45	Un	SR	C	FeSt, W	
7.34	DI						
7.45	J	40	Un	S	C	W	
7.49	J	60	PI	R	C	FeSt	Cl, < 1mm
7.68	J	30	PI	R	C	FeSt, W	
7.77	J	35	Un	R	C	FeSt, W	
7.92	J	35	Un	S	C		Cn
7.95	J	80	Un	R	C	W	
7.96	J	80	Un	R	C	W	
8.34	J	75	PI	S	C	FeSt,W	Cl, 2mm

### 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.



<b>BOREHOLE NO.:</b>	BH 36
<b>SHEET:</b>	2 of 2
<b>REFERENCE NO.:</b>	H10592

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
8.39-8.49	CZ-DI						
9.34	J	25	Pl	R	C	FeSt, W	
9.46	J	30	Un	R	C	FeSt	
9.56	J	65	Pl	S	C	FeSt, W	
9.65-9.88	BZ						
9.85	J	50	Un	R	C	FeSt, W	Cl, <1mm
9.93	J	55	Un	R	C	FeSt	
10.03	J	60	Pl	R	C	FeSt, W	
10.09	J	70	Un	S	C	Fest, W	
10.80	J	40	Un	S	C	FeSt	
10.41-10.51	BZ-DI						
10.80	J	25	Un	R	C	FeSt	
10.94-11.20	BZ-DI						
11.58-12.00	BZ-DI						