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# ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND  
SYMBOLS REFER FORM F:GEOT 017/6-2010

BOREHOLE No BH C32  
SHEET 1 of 3  
REFERENCE No H11122

PROJECT Bruce Highway Upgrade (Cooroy to Curra) Section C  
LOCATION Cut 9 COORDINATES 471861.5 E; 7094360.9 N  
PROJECT No FG5799 SURFACE R.L. 83.30m PLUNGE \_\_\_\_\_ DATE STARTED 22/07/11 GRID DATUM MG94  
JOB No 232/10A/2 HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 22/07/11 DRILLER Drillsure Pty Ltd

DEPTH (m)	R.L. (m)	ALUGER 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	83.30											
0	83.20				<b>TOPSOIL</b>							
					<b>SANDSTONE (XW):</b> Brown, slightly moist.		XW				Based on driller's logs only	
1	82.30				<b>SANDSTONE (HW):</b> Brown, medium grained.		HW				30/100 N>50	SPT
	81.80		(50)		<b>SANDSTONE (MW):</b> Brown, fine to medium grained, massive, medium to high strength, indurated and/or slightly metamorphosed.		MW				Is(50) = 0.35MPa Is(50) = 1.77MPa	x o
2	81.12				Defects: See siltstone below.							
			100 (67)		<b>SILTSTONE (MW):</b> Brown, fine grained, massive, mainly medium strength, indurated and/or slightly metamorphosed.							
3					Defects: -Joint at 15°-20° (3/m) -Joint at 40° (~2/m) -Joint at 60° (1/m) -Joint at 80° (1/m)							
4			100 (57)		Defects are generally close to medium spaced. Defect surfaces are planar, tight or open, smooth, clay infilled or iron stained.						J, 80°, Pl, T, S, Cinf Is(50) = 0.75MPa Is(50) = 0.38MPa	x o
5											J, 80°, Pl, T, S, FeSt	
6			100 (69)				MW				J, 40°, Pl, O, Cinf DD = 2.54t/m³, WD = 2.58t/m³, MC = 1.6%; UCS=20.2MPa	UCS
7												
			100 (51)								Is(50) = 0.67MPa	x
8											XW Clay Seam	
											Is(50) = 1.82MPa	x
9	74.40				<b>SANDSTONE (MW):</b> Brown, fine to medium grained, massive, medium to high strength, indurated and/or slightly metamorphosed.		MW				J, 80°, Pl, C, QZ	
10			100 (58)		(See over)							

REMARKS Note: Very minor water loss throughout borehole.

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# ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND  
SYMBOLS REFER FORM F:GEOT 017/6-2010

BOREHOLE No BH C32

SHEET 2 of 3

REFERENCE No H1122

PROJECT Bruce Highway Upgrade (Cooroy to Curra) Section C

LOCATION Cut 9

COORDINATES 471861.5 E; 7094360.9 N

PROJECT No FG5799

SURFACE R.L. 83.30m

PLUNGE

DATE STARTED 22/07/11

GRID DATUM MGA94

JOB No 232/10A/2

HEIGHT DATUM AHD

BEARING

DATE COMPLETED 22/07/11

DRILLER Drillsure Pty Ltd

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	73.30													
11						<b>SANDSTONE (MW): Cont'd</b>  Defects: -Joint at 15°-20° (3/m) -Joint at 30° (4-5/m) -Joint at 55° (1-2/m) -Joint at 70° (<1/m) -Joint at 80°-90° (~2-3/m)  Defect spacing is generally close. Defect surfaces are planar, tight or open, slightly rough, clay infilled or iron stained.							DD = 2.63t/m <sup>3</sup> , MC = 0.8%; UCS=67.39MPa	UCS
12			100 (26)										J, 70°, C, QZ	
13			100 (0)										BZ  Highly Fractured Zone. Vertical to subvertical J's, I, T, QZ, FeSt	
14			100 (27)										Is(50) = 2.23MPa Is(50) = 1.72MPa	x o
15			100 (51)										XW Clay Seam  BZ	
16	67.00		100 (8)			<b>SANDSTONE (SW):</b> Brown/grey, fine grained, massive, generally high strength, indurated and/or slightly metamorphosed.  Defects: -Joint at 10-20 (5/m) -Joint at 50-60 (~2/m) -Joint at 80-90 (~3/m)  Defects are generally closely spaced. Defect surfaces are irregular, tight or open, slightly rough, clay in filled or iron stained.  Occasional siltstone and conglomerate beds. Conglomerate particles size up to 10mm.								
17			100 (0)											
18			100 (23)										CLy BZ	
19													Is(50) = 1.87MPa Is(50) = 4.68MPa	x o
20														

REMARKS Note: Very minor water loss throughout borehole.

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# ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND  
SYMBOLS REFER FORM F:GEOT 017/6-2010

BOREHOLE No BH C32

SHEET 3 of 3

REFERENCE No H11122

PROJECT Bruce Highway Upgrade (Cooroy to Curra) Section C

LOCATION Cut 9 COORDINATES 471861.5 E; 7094360.9 N

PROJECT No FG5799 SURFACE R.L. 83.30m PLUNGE --- DATE STARTED 22/07/11 GRID DATUM MG84

JOB No 232/10A/2 HEIGHT DATUM AHD BEARING --- DATE COMPLETED 22/07/11 DRILLER Drillsure Pty Ltd

DEPTH (m)	R.L. (m)	ALUSER CASING WASH BORE DRILLING 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
20	63.30					SANDSTONE (SW): Cont'd		SW						
	62.95		100			Borehole terminated at 20.35m							BZ	
21														
22														
23														
24														
25														
26														
27														
28														
29														
30														

REMARKS Note: Very minor water loss throughout borehole.

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## CORE PHOTO LOG - BH C32

Project Name:	BRUCE HIGHWAY UPGRADE - SECTION C		
Project No.:	FG5799	Date:	08/09/2011
Details:	Cut 9	Start Depth (m):	1.50
Reference No.:	H11122	Finish Depth (m):	20.35



SCALE 1:5



**CORE PHOTO LOG - BH C32**

Project Name:	BRUCE HIGHWAY UPGRADE - SECTION C		
Project No.:	FG5799	Date:	08/09/2011
Details:	Cut 9	Start Depth (m):	1.50
Reference No.:	H11122	Finish Depth (m):	20.35

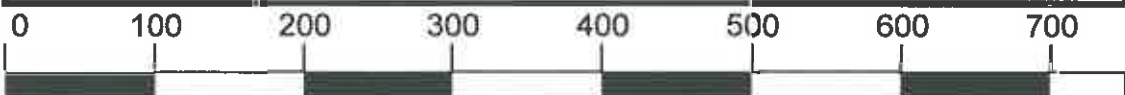


SCALE 1:5



## CORE PHOTO LOG - BH C32

Project Name:	BRUCE HIGHWAY UPGRADE - SECTION C		
Project No.:	FG5799	Date:	08/09/2011
Details:	Cut 9	Start Depth (m):	1.50
Reference No.:	H11122	Finish Depth (m):	20.35



SCALE 1:5