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ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH119
SHEET 1 of 4
REFERENCE No H10892

PROJECT Ipswich Motorway Upgrade - Rocklea to Darra
LOCATION New Kimberley Street Off-ramp COORDINATES 496672.8 E; 6950416.6 N
PROJECT No FG5779 SURFACE R.L. 21.26m PLUNGE -90° DATE STARTED 11/11/10 GRID DATUM GDA94
JOB No 140/U16/902 HEIGHT DATUM AHD BEARING DATE COMPLETED 15/11/10 DRILLER R&D Drilling Pty Ltd

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
0	21.26											
0.86	20.86					Clayey GRAVEL (Fill)					Based on Drillers logs only	
1.0						Sandy CLAY (Alluvium) Grey to brown, moist, mainly firm. Low to medium plasticity. Sand fraction fine grained; layers of silty clay.						
2.0					A		(CL-CI)				11/11/2010 Ground water at 2.0m	U100
3.0					B						1,3,3 N=6	SPT
4.0	17.26				C	Silty CLAY (Residual) Pale grey, moist, stiff to very stiff. High plasticity.					8,8,12 N=20	SPT
5.0					D		(CH)				7,9,11 N=20	SPT
6.0					E	Becoming stiff clay below 6m depth.					13,5,5 N=10	SPT
7.0	14.26				F	CLAYSTONE FINE GRAINED SEDIMENTARY ROCK COMPOSED MAINLY OF CLAY SIZED PARTICLES XW: Generally exhibits engineering properties of grey, moist, hard silty clay.					19,25,30/140mm N>50	SPT
8.0					G	Low to medium plasticity; minor sand fraction in parts.	XW				7,14,18 N=32	SPT
9.0					H						9,12,20 N=32	SPT
10.0						(See over)						

REMARKS Observation well installed, infiltration zone from 2.0m to 35.5m.

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ENGINEERING BOREHOLE LOG

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BOREHOLE No BH119
SHEET 2 of 4
REFERENCE No H10892

PROJECT Ipswich Motorway Upgrade - Rocklea to Darra
LOCATION New Kimberley Street Off-ramp COORDINATES 496672.8 E; 6950416.6 N
PROJECT No FG5779 SURFACE R.L. 21.26m PLUNGE -90° DATE STARTED 11/11/10 GRID DATUM GDA94
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DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	SAMPLE	MATERIAL DESCRIPTION	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
10	11.26			J	CLAYSTONE HW: (Cont'd)					6,15,30/95mm N>50	SPT
11				K		XW				2/2/2011 11/2/2011	
12				L						13,21,30 N>50	SPT
12.76										24,30/140mm N>50	SPT
13	8.26		(78)		MW: Grey, massive, low strength.	MW				Is(50) = 0.03MPa	x
14			100		MUDSTONE SW: Dark grey to black, massive with interlamination, mainly low strength.				Clay zone	Is(50) = 0.07MPa Is(50) = 0.07MPa DD = 1.72t/m ³ ; WD = 2.06t/m ³ ; MC = 19.5%; UCS=558KPa	x o
15			(100)		Contains interbeds of siltstone in parts.						
16			100		Generally defects are rare. - Drilling induced lamination / bedding partings @ 5-10° (<1/m) - Irregular fractured / joint @ 15° and 25° (<1/m) Defects are medium to wide spaced, planar, smooth, closed and clean or clay infill.						
17			(95)						High strength.	Is(50) = 0.10MPa Is(50) = 0.11MPa DD = 1.74t/m ³ ; WD = 2.09t/m ³ ; MC = 19.7%; UCS=1178KPa	x o
18			100			SW				Is(50) = 0.07MPa Is(50) = 0.07MPa	x o
19			(100)						High strength.	Is(50) = 0.08MPa Is(50) = 0.09MPa	x o
20			100							DD = 1.62t/m ³ ; WD = 1.98t/m ³ ; MC = 22.4%; UCS=1441KPa	
20			(100)						Irregular joint @ 15° High strength.	Is(50) = 0.05MPa Is(50) = 0.14MPa	x o

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BOREHOLE No BH119
SHEET 3 of 4
REFERENCE No H10892

PROJECT Ipswich Motorway Upgrade - Rocklea to Darra
LOCATION New Kimberley Street Off-ramp COORDINATES 496672.8 E; 6950416.6 N
PROJECT No FG5779 SURFACE R.L. 21.26m PLUNGE -90° DATE STARTED 11/11/10 GRID DATUM GDA94
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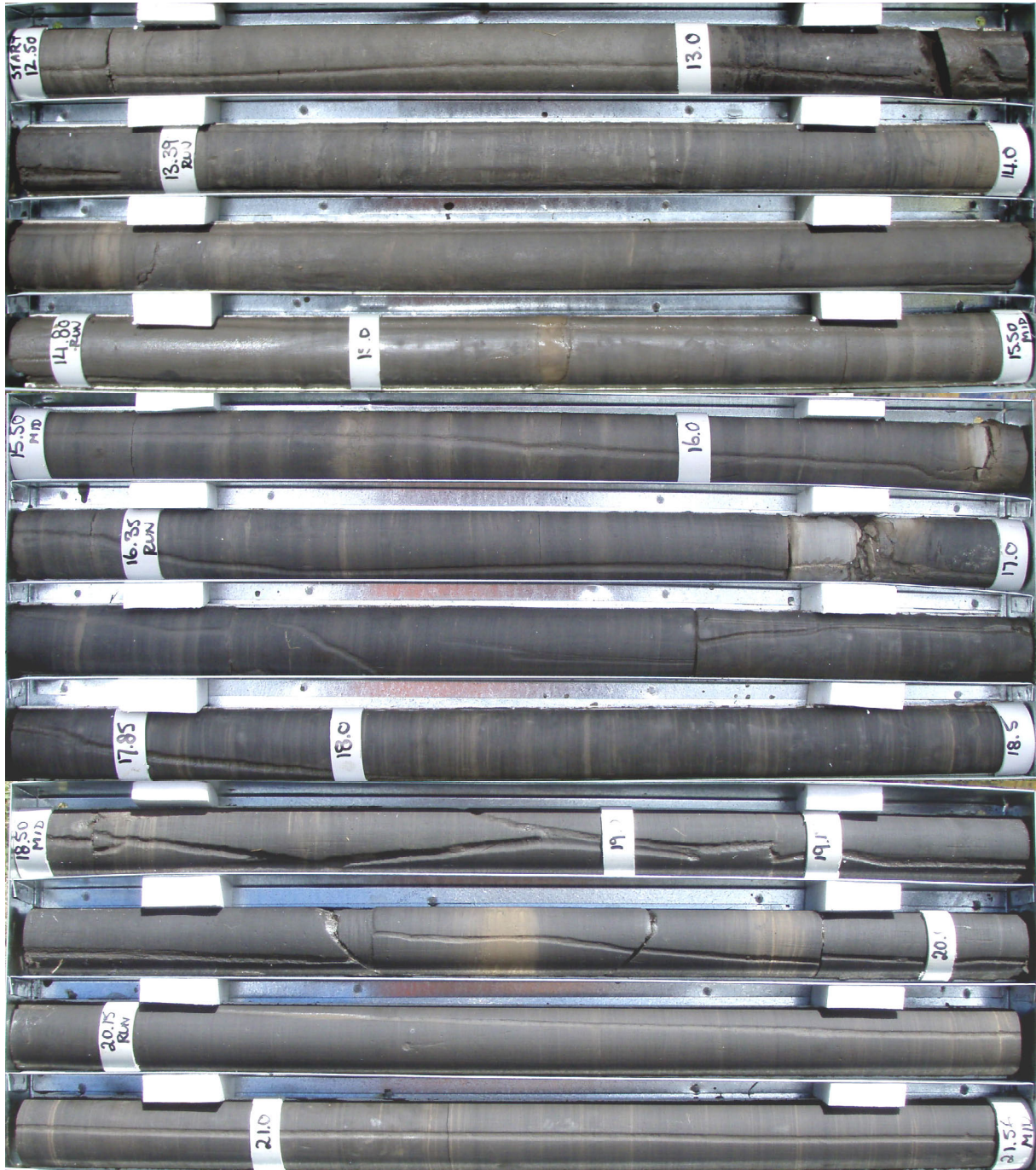
DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	SAMPLE	MATERIAL DESCRIPTION	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
20	1.26		100								
			(95)		MUDSTONE SW: (cont'd)						
21			100							Is(50) = 0.16MPa	o
22			(90)			SW				Is(50) = 0.08MPa Is(50) = 0.18MPa	x o
			100							XW clay zone	
23			(88)							XW clay zone	
24			100								
25	-3.84		(95)		CLAYSTONE MW: Pale grey, massive, fine grained, low strength. Defects are almost nil.	MW				Is(50) = 0.08MPa Is(50) = 0.15MPa	x o
26			100							DD = 1.84t/m ³ ; WD = 2.14t/m ³ ; MC = 16.7%; UCS=2229KPa	
27	-5.24		(100)		SANDSTONE FINE TO COARSE GRAINED, MASSIVE POORLY CEMENTED SEDIMENTARY ROCK MW: Grey-brown, massive with minor laminated, fine to coarse grained, very low strength. Defects: - Drilling induced lamination / bedding partings @ 5° (1-2/m)	MW				Is(50) = 0.11MPa Is(50) = 0.13MPa	x o
28			100		Defects are mainly close to wide spaced, irregular, slightly rough, open and closed with sand or carbonaceous material infill.					DD = 1.66t/m ³ ; WD = 2.02t/m ³ ; MC = 21.7%; UCS=341KPa	
29	-7.04		(80)		HW: Grey-brown, massive medium to coarse grained, extremely low to very low strength.	HW					
30			100		(See over)					XW highly erodable sand.	

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Project: **Ipswich Motorway Upgrade - Rocklea to Darra**
 Borehole No: **BH 119**
 Start Depth: 12.50m
 Finish Depth: 35.50m
 Project No: FG5779
 H No: H10892

Page 1 of 3



SCALE 1:5

F:GEOT043/1

Project: **Ipswich Motorway Upgrade - Rocklea to Darra**
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Start Depth: 12.50m
Finish Depth: 35.50m
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Page 2 of 3



SCALE 1:5

F:GEOT043/1

Project: **Ipswich Motorway Upgrade - Rocklea to Darra**
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Page 3 of 3



SCALE 1:5

F:GEOT043/1