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ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH122
SHEET 1 of 4
REFERENCE No H10917

PROJECT Ipswich Motorway Upgrade - Rocklea to Darra
LOCATION Cnr Archerfield Rd and Ipswich Rd service road Darra COORDINATES 495506.5 E; 6949966.5 N
PROJECT No FG5779 SURFACE R.L. 37.78m PLUNGE -90° DATE STARTED 25/11/10 GRID DATUM GDA94
JOB No 140/U16/902 HEIGHT DATUM AHD BEARING DATE COMPLETED 26/11/10 DRILLER Soil Surveys

DEPTH (m)	R.L. (m)	CASING OTHER 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	37.78					Silty CLAY (Possible Fill) Occasional siltstone rock fragments below 0.6m depth.					Non destructive digging up to 1.5m (Based on Drillers logs only)	
1	36.28				A	Silty CLAY (Alluvium) Mottled red-brown and red, moist, very stiff to hard. Medium to mainly high plasticity.					4,8,10 N=18	SPT
2					B	Contains iron concretions nodules; occasional minor angular high strength gravel fragments up to 10mm.	(Cl-CH)				19,27,30/110mm N>50	SPT
3					C						11,17,23 N=40	SPT
4	33.28				D	CLAYSTONE FINE GRAINED SEDIMENTARY ROCK COMPOSED MAINLY OF CLAY SIZED PARTICLES HW: Generally exhibits engineering properties of mottled grey-brown, moist, hard silty clay.					30/100mm N>50	SPT
5					E						30/90mm N>50	SPT
6					F		HW				30/60mm N>50 Is(50) = 0.05MPa	SPT o
7					(14)	Becoming low strength siltstone below 6.5m depth.					Is(50) = 0.07MPa Is(50) = 0.39MPa Is(50) = 0.78MPa	x x o
8												
9											Possible XW claystone.	
10												

REMARKS Observation well installed, infiltration zone from 1.8m to 32.07m.

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BOREHOLE No BH122
SHEET 2 of 4
REFERENCE No H10917

PROJECT Ipswich Motorway Upgrade - Rocklea to Darra
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DEPTH (m)	R.L. (m)	CASING OTHER 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	27.78										
11											
12	25.78		0								
13				G	SANDSTONE FINE GRAINED, MASSIVE, POORLY CEMENTED SEDIMENTARY ROCK XW: Generally exhibits engineering properties of yellow-brown, moist, very dense sand.					30/100mm N>50	SPT
14				H	Sand fraction fine to coarse grained. Becoming coarse grained sand below 15m depth.					30/110mm N>50	SPT
15				I	Iron staining throughout; minor purple sand below layer below@ 15m depth.					30/130mm N>50	SPT
16				J		XW				30/100mm N>50	SPT
17	20.78			K	Becoming medium grained sand with depth.					30/140mm N>50	SPT
18				L	CLAYSTONE FINE GRAINED SEDIMENTARY ROCK MAINLY COMPOSED OF CLAY SIZED PARTICLES XW: Generally exhibits engineering properties of grey to mottled red, moist, hard silty clay.					Mudstone interbeds. 9,14,21 N=35	SPT
19				M	High plasticity. Contains interbeds of purple mudstone upto 500mm thick	XW				16,21,25 N=46	SPT
20				N	(See over)					11,16,22 N=38	SPT

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BOREHOLE No **BH122**
SHEET **3** of **4**
REFERENCE No **H10917**

PROJECT Ipswich Motorway Upgrade - Rocklea to Darra
LOCATION Cnr Archerfield Rd and Ipswich Rd service road Darra COORDINATES 495506.5 E; 6949966.5 N
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DEPTH (m)	R.L. (m)	CASING OTHER 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	17.78										
21				O	CLAYSTONE XW: (Cont'd)					Mudstone interbeds. 12,19,27 N=46	SPT
22				P		XW				14,19,30/140mm N>50	SPT
23	14.78			Q	Gradually grading into very low strength sandstone.					18,24,30/130mm N>50	SPT
24				R	SANDSTONE MW: Pale grey, massive with minor laminations, fine to medium grained, very low to low strength.					26,30/120mm N>50	SPT
25					Becoming medium grained below 25.30m depth.	MW				DD = 1.64t/m ³ ; WD = 2.00t/m ³ ; MC = 22.2%; UCS=327KPa	
26					Generally defects are rare. - Drilling induced bedding partings @ 5-10° (<1/m)					Is(50) = 0.04MPa Is(50) = 0.05MPa	x o
27					Defects are mainly wide spaced, slightly rough, irregular, closed and clean.					Is(50) = 0.05MPa Is(50) = 0.10MPa	x o
28										Is(50) = 0.03MPa Is(50) = 0.04MPa	x o
29					MUDSTONE FINE GRAINED SEDIMENTARY ROCK MAINLY COMPOSED OF CLAY SIZED PARTICLES MW: Mottled red-brown, massive, fine grained, mainly very low to low strength.					Possible XW sandstone.	
30					Contains interbeds of sandy siltstone app. 700mm thick.	MW				Is(50) = 0.16MPa Is(50) = 0.10MPa	x o
31					Generally defects are rare. - Drilling induced lamination partings @ 5-10° (<1/m)					Is(50) = 0.08MPa DD = 1.66t/m ³ ; WD = 2.04t/m ³ ; MC = 22.4%; UCS=350KPa	o
32					Defects are mainly close to wide spaced, planar, smooth, closed and clean or iron stained.					Is(50) = 0.06MPa Is(50) = 0.07MPa	x o
33										Is(50) = 0.07MPa Is(50) = 0.05MPa	x o
34										Is(50) = 0.13MPa Is(50) = 0.12MPa	x o

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SHEET 4 of 4
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30	7.78											
31						MUDSTONE MW: (Cont'd)					Is(50) = 0.22MPa Is(50) = 0.18MPa	x o
						Becoming medium grained sandstone below 31m depth.	MW				Is(50) = 0.14MPa Is(50) = 0.19MPa	x o
32	5.71		69			Borehole terminated at 32.07m					Possible XW sandstone.	
33												
34												
35												
36												
37												
38												
39												
40												

REMARKS Observation well installed, infiltration zone from 1.8m to 32.07m.

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Project: **Ipswich Motorway Upgrade - Rocklea to Darra**
Borehole No: **BH 122**
Start Depth: 6.56m
Finish Depth: 32.07m
Project No: FG5779
H No: H10917

Page 1 of 2



0 100 200 300 400 500 600mm

SCALE 1:5

Project: **Ipswich Motorway Upgrade - Rocklea to Darra**
Borehole No: **BH 122**
Start Depth: 6.56m
Finish Depth: 32.07m
Project No: FG5779
H No: H10917

Page 2 of 2



SCALE 1:5