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ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH101
SHEET 1 of 2
REFERENCE No H10868

PROJECT Ipswich Motorway Upgrade - Rocklea to Darra
LOCATION Granard Road off ramp COORDINATES 500946.0 E; 6952255.4 N
PROJECT No FG5779 SURFACE R.L. 4.65m PLUNGE -90° DATE STARTED 19/10/10 GRID DATUM GDA94
JOB No 140/U16/902 HEIGHT DATUM AHD BEARING DATE COMPLETED 19/10/10 DRILLER R&D Drilling Pty Ltd

DEPTH (m)	R.L. (m)	CASING OTHER WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	INTACT STRENGTH						DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS	
							USC	WEATHERING	EH	VH	H	M					J
0	4.65					Gravelly SAND (Possible FILL) Gravel fraction sizing up to 60mm.									Non-destructive digging up to 1.5m depth. Based on Drillers logs only		
1	3.15				A	Silty CLAY (ALLUVIUM) Grey to brown, orange iron staining, moist, firm to stiff, high plasticity.										2,2,3 N=5	SPT
2						Minor traces of quartzitic gravel and black carbonaceous material below 3.5m depth.									▽ 28/1/2011 ▽ 22/12/2010 ▽ 11/2/2011		
3					B												U100
4					C											4,5,7 N=12	SPT
5	-0.36				D											3,4,7 N=11	SPT
6					E	BASALT FINE GRAINED INTRUSIVE TO BASIC EXTRUSIVE IGNEOUS ROCK. HW: Generally exhibits engineering properties of grey brown to black, moist, very dense clayey gravel.										30/100mm N>50	SPT
7					F	Gravel fraction subangular high strength basaltic fragments sizing >20mm.										30/150mm, 30/95mm N>50	SPT
8	-3.36				G											30/40mm N>50	SPT
9	-4.76		(28)			MW: Grey brown, flow banded, fine grained, highly fractured and altered, mainly low to high strength. Defect: -Bedding partings @5-10° -Joint @60-70° Defects are very close to close spaced, curved, irregular, rough, open with wall alteration and infill with clay or iron stained.										ls(50) = 1.52MPa ls(50) = 1.65MPa	x o
10			(10)			HW: Dark grey brown to black, fine grained, very low strength.											
			100														
			100														
			(0)			(See over)											

REMARKS Observation well installed, infiltration zone from 6.0m to 16.58m.

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BOREHOLE No BH101
SHEET 2 of 2
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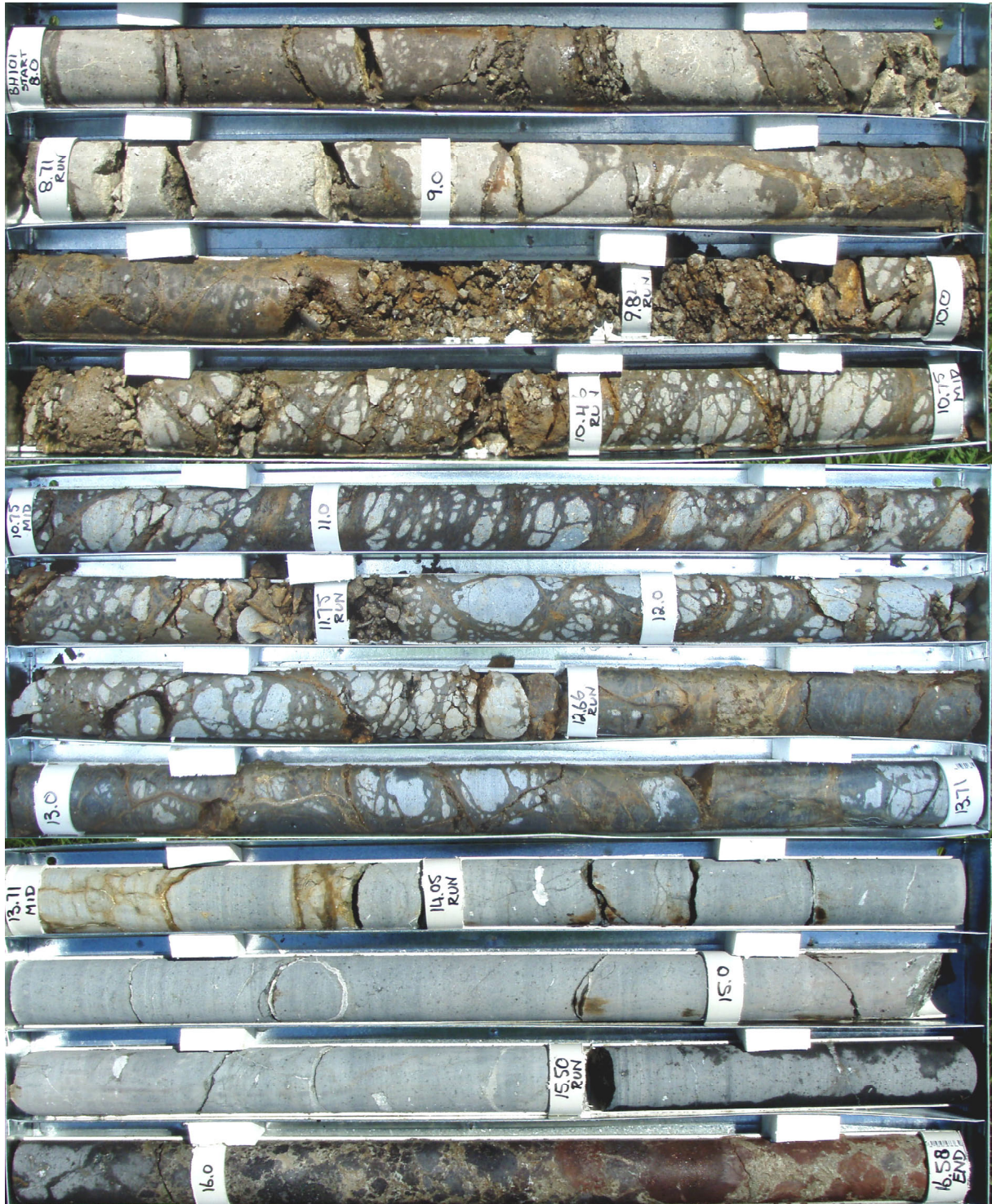
PROJECT Ipswich Motorway Upgrade - Rocklea to Darra
LOCATION Granard Road off ramp COORDINATES 500946.0 E; 6952255.4 N
PROJECT No FG5779 SURFACE R.L. 4.65m PLUNGE -90° DATE STARTED 19/10/10 GRID DATUM GDA94
JOB No 140/U16/902 HEIGHT DATUM AHD BEARING DATE COMPLETED 19/10/10 DRILLER R&D Drilling Pty Ltd

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
								EH	VH	H	M	J	V				
10	-5.36					HW: (CONT'D) Contains less weathered medium to high strength rock kernels and rock groundmass.	HW								Resembles a very dense clayey sand and gravel.		
	-5.86		100		(16)	MW: Grey brown, fine to medium grained, highly fractured throughout, low to medium strength. Contains high strength cobble size rock fragments up to 100mm in the upper surface; iron staining in parts.									Joint @ 20° iron stained. Joint @ 45° clay infill.		
			100		(0)	Defect: - Bedding partings @ 5-10° - Joint @ 15° - Joint @ 45° - Joint @ 70°	MW								BZ		
			100		(8)	Defects are very close to close spaced, planar to undulating, rough, open with wall alteration and infill with clay or iron stained.									Clay seams		
	-8.96		100		(80)	SW: Pale grey, fine grained, bedded, mainly very high strength. Contains vesicles filled with calcite up to 4mm thin; some secondary minerals. Defects: - Bedding partings @ 5-10° - Joint @ 15-30°	SW								Vertical fracture app. 300mm long with clay infill.		
			100		(83)	Defects are medium to wide spaced, planar to undulating, rough, close and open with wall alteration and infill with clay or calcite.									Vertical fracture app. 100mm long with red iron stained.		
	-11.31		100		(83)	AGGLOMERATE MW: Dark grey brown, poorly sorted fine to coarse grained, mainly low strength.	MW								Amygdaloidal structured basalt. Is(50) = 6.86MPa Is(50) = 6.54MPa	x o	
	-11.94		100												Calcite veins dipping @ 45° Joint @ 24° calcite infill Calcite vein	Is(50) = 5.00MPa Is(50) = 4.75MPa	x o
															DD = 2.74t/m ³ ; MC = 1.4%; UCS=29.5MPa		
															Is(50) = 5.29MPa Is(50) = 8.48MPa	x o	
						Occasional contains medium strength band up to 100mm long in parts; red iron staining throughout. Borehole terminated at 16.58m									Piezometer at 16.58m depth.		

REMARKS Observation well installed, infiltration zone from 6.0m to 16.58m.

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Project: **Ipswich Motorway Upgrade - Rocklea to Darra**
Borehole No: **BH 101**
Start Depth: 8.00m
Finish Depth: 16.58m
Project No: FG5779
H No: H10868



SCALE 1:5

F:GEO043/1