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**Queensland  
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**Main Roads**

# ENGINEERING BOREHOLE

FOR GEOTECHNICAL TERMS AND  
SYMBOLS REFER FORM F:GEOT 017/3-2005

BOREHOLE No     BH38    

SHEET     1     of     2    

REFERENCE No     H9733    

PROJECT IPSWICH MOTORWAY / LOGAN MOTORWAY GEOTECHNICAL INVESTIGATION

LOCATION Bertha St O'pass. Near Abutment B, Approximate Chainage 12898m, 26m right of control MC20. COORDINATES 28566.2 E; 146963.8 N

PROJECT No FG5404 SURFACE R.L. 10.10 DATE STARTED 21/08/05 DATUM Ipswich Motorway

JOB No 148/17A/57 DATUM AHD DATE COMPLETED 21/08/05 DRILLER Drillsure

DEPTH (m)	R.L. (m)	ALGER 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
								EH	EH	EH	EH	EH				
0	10.10					<b>ASPHALT and ROAD BASE</b>										
0.970						<b>SANDY CLAY (Fill)</b> Pale grey - yellow brown, minor mottling with orange iron stains, fine grained, low plasticity, moist. Firm.									1,2,3 N=5	SPT
1.810						<b>SILTY CLAY (Alluvium)</b> Dark brown - black, organic, intermediate plasticity, moist. Stiff - very stiff.	CI-OL								PI=19 LL=47 LS=11 DD=1.50 t/m <sup>3</sup> WD=1.96 t/m <sup>3</sup> MC=30.6% PP(Su) = 170 KPa Consolidation	U48
2.710						<b>SILTY CLAY (Alluvium)</b> Dark brown, minor iron stains, intermediate plasticity, moist, trace organics. Stiff.									4,5,5 N=10	SPT
3.610						Becoming brown-grey, trace gravel up to 10mm size.									3,4,5 N=9	SPT
4.510							CI								3,3,5 N=8	SPT
5.410															4,4,6 N=10	SPT
6.310						<b>SANDY CLAY (Alluvium)</b> Brown-grey, minor orange iron staining throughout, fine grained, intermediate plasticity, moist. Trace organics. Firm to very stiff with depth.									2,3,3 N=6	SPT
7.210						Minor medium grained sand bands.									2,3,6 N=9	SPT
8.110						Pale grey with minor iron stains. Very stiff.	CI								6,10,12 N=22	SPT
9.010																
9.910																
10.810																

REMARKS No groundwater reported during drilling. See Additional Descriptive Coding sheet for abbreviations.

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BOREHOLE No     BH38    

SHEET     2     of     2    

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LOCATION Bertha St O'pass. Near Abutment B, Approximate Chainage 12898m, 26m right of control MC20. COORDINATES 28566.2 E; 146963.8 N

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JOB No 148/17A/57 DATUM AHD DATE COMPLETED 21/08/05 DRILLER Drillsure

DEPTH (m)	R.L. (m)	ALGER 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
								EH	EV	HM	J	V	EL				
10	0.10					<b>CLAYEY SAND</b> (Alluvium) Pale grey-brown, minor orange iron stains, fine - medium grained, moist. Occasional thin iron cemented bands. Dense.	SC								12,13,22 N=35	SPT	
11															9,10,14 N=24	SPT	
12	-1.60					<b>CLAYEY SANDSTONE</b> Pale grey, orange iron staining throughout, trace organics, moist. Slightly cemented with relict structure visible in parts and kernels of less weathered rock.									15,25,30/120mm N>50	SPT	
13						Exhibits engineering properties of very dense Clayey Sand. Varies to Clayey Silt in parts.	XW								17,30/120mm N>50	SPT	
14	-3.90		(86)			<b>SANDSTONE</b> Pale grey, discoloured yellow brown with minor orange iron stains. Medium grained, quartz with a slightly clayey matrix. Some high strength silicified bands in parts and occasional HW clayey bands. Minor thin carbonaceous interlaminations throughout. Bedding ~20°. Defects mostly dip 20°, occasionally 70°. Defect surfaces are mostly PL, SM, C, CN occasionally with a claystone infill 1mm thick.	MW								6/0mm HB N>50 Is(50)=0.55 MPa Is(50)=0.57 MPa Is(50)=0.12 MPa Is(50)=0.12 MPa	SPT x o x o	
15															Is(50)=0.15 MPa Is(50)=0.16 MPa	x o	
16	-6.45														Jt, 70°, PL-Un, SR, T, 1mm CL infill. Is(50)=0.16 MPa Is(50)=0.24 MPa	x o	
17	-6.90		100				SW								Brecciated / Faulted zone, 30mm thick on Jt, 45°, PL, SR, slickensided. Resembles gravelly fragments in a clayey sand matrix, very dense. Is(50)=0.23 MPa Is(50)=0.25 MPa	x o	
17						Borehole terminated at 17m											
18																	
19																	
20																	

REMARKS No groundwater reported during drilling. See Additional Descriptive Coding sheet for abbreviations.

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Project: **Ipswich Motorway / Logan Motorway Interchange**  
Borehole No: **BH38**  
Start Depth: 14.00m  
Finish Depth: 17.00m  
Project No: FG5404  
H No: 9733

