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**Queensland
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Department of
Main Roads

ENGINEERING BOREHOLE

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

BOREHOLE No BH14

SHEET 1 of 2

REFERENCE No H9718

PROJECT IPSWICH MOTORWAY / LOGAN MOTORWAY GEOTECHNICAL INVESTIGATION

LOCATION Near Abutment A, Approximate Chainage 498m, about 1m left of control MCJ1-C. COORDINATES 30041.1 E; 147326.1 N

PROJECT No FG5404 SURFACE R.L. 20.80 DATE STARTED 18/07/05 DATUM Ipswich Motorway

JOB No 148/17A/57 DATUM AHD DATE COMPLETED 18/07/05 DRILLER Drillsure

DEPTH (m)	R.L. (m)	ALUGER 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
0	20.80					CLAYEY SAND (Fill) Pale grey brown, orange-brown iron staining throughout, fine grained, moist, medium dense. Slightly cemented in parts.						5.8.7 N=15	SPT
2	18.80					SANDY CLAY (Fill) Pale grey-brown, minor orange iron staining, fine grained, moist, firm. Varies to clayey sand in parts. Contains Geofabric.						3.3.4 N=7	SPT
4	17.30					SOFT SANDY CLAY or LOOSE CLAYEY SAND (Fill) Pale grey, fine to medium grained, brown iron staining throughout, very moist, possibly slightly acidic.						RW, 2.1 N=3	SPT
6	15.30					SANDSTONE Pale grey, minor orange brown iron staining, fine to medium grained, moist. Exhibits engineering properties of dense - very dense Clayey Sand. Fine grained.						10, 14, 17 N=31	SPT
7							XW					30/140mm N>50	SPT
8	12.80					SHALE and SANDSTONE Interbeds Thin interbeds of fine grained sandstone throughout. Engineering properties of hard Sandy Clay.						11, 30/50mm N>50	SPT
9	12.00		(90)			SHALE Brown becoming grey - dark grey with depth, subhorizontal bedding / lamination.						Is(50)=0.10 MPa Is(50)=0.17 MPa	x o
10				100			HW					XW band, pale brown, trace Fest XW band Jt, 0°, PL, SM, C, 1mm brown clay infill XW band	

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

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JML



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BOREHOLE No BH14

SHEET 2 of 2

REFERENCE No H9718

PROJECT IPSWICH MOTORWAY / LOGAN MOTORWAY GEOTECHNICAL INVESTIGATION

LOCATION Near Abutment A, Approximate Chainage 498m, about 1m left of control MCJ1-C. COORDINATES 30041.1 E; 147326.1 N

PROJECT No FG5404 SURFACE R.L. 20.80 DATE STARTED 18/07/05 DATUM Ipswich Motorway

JOB No 148/17A/57 DATUM AHD DATE COMPLETED 18/07/05 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	VH	I	M	J	V			EL	20	
10	10.80		(100)			Shale Cont'd. Grey - dark grey, occasional subhorizontal bedding. Numerous drilling induced bedding plane partings. Defects mostly dip 50° or 70°. Defect surfaces are mostly PL, SM, C with a thin clay infill, tight or rehealed. Occasional XW bands which have engineering properties of stiff to very stiff clay.	HW									XW band	Is(50)=0.12 MPa Is(50)=0.18 MPa	x o
11	9.30		100 (90)			As above.	MW									Jt, 70°, PL, T Jt, 50°, PL, SM, T Jt, 50°, PL, rehealed Thin coal interlamination 2mm at 10°	Is(50)=0.13 MPa Is(50)=0.21 MPa Is(50)=0.24 MPa Is(50)=0.26 MPa Is(50)=0.18 MPa Is(50)=0.17 MPa	x o o o
12	7.80		100 (86)			SANDSTONE Pale grey, fine to medium grained, thin Carb. interlamination, occasional thin coal seams. Bedding 10°-20°. Defects mostly parallel bedding, 50°-70° with surfaces mainly PL, SM-SR, with thin clayey film or Carb. deposits 1mm thick.	HW									XW Siltstone band	Is(50)=0.72 MPa Is(50)=0.36 MPa	x o
13	6.90					SHALE Occasional bands of sandstone, defects as before, subhorizontal bedding.	SW									Jts, 20°, PL, thin coal 0.5-1mm thick		
14	6.40		100				MW									MH strength siltstone band.	Is(50)=0.33 MPa Is(50)=0.19 MPa	x o
15						Borehole terminated at 14.4m	HW											
16																		
17																		
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**

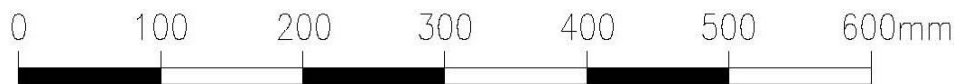
Borehole No: **BH14**

Start Depth: 8.80m

Finish Depth: 14.40m

Project No: FG5404

H No: 9718



SCALE 1:5