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ENGINEERING BOREHOLE

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

BOREHOLE No **BH19**

SHEET **1** of **2**

REFERENCE No **H9651**

PROJECT **IPSWICH MOTORWAY / LOGAN MOTORWAY GEOTECHNICAL INVESTIGATION**

LOCATION **Near Pier 5, Chainage 668m, on control MCJ1-C.** COORDINATES **29872.7 E; 147306.7 N**

PROJECT No **FG5404** SURFACE R.L. **24.80** DATE STARTED **21/07/05** DATUM **Ipswich Motorway**

JOB No **148/17A/57** DATUM **AHD** DATE COMPLETED **21/07/05** 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
0	24.80											
	24.35					ASPHALT						
						ROADBASE						
1	23.80										30/90mm N>50	SPT
	23.30					SANDSTONE Grey orange, fine grained, slightly moist. Exhibits properties of very dense Clayey Sand.						
						SILTSTONE Grey, minor orange iron staining, fine grained, low to medium plasticity, moist. Very stiff. Exhibits engineering properties of very stiff - hard Silty Clay or varies to medium dense - dense Clayey Silt in parts.					MC=16.7, WPI=2433 5,8,13 N=21 PI=24 LL=41 LS=14	SPT
2											MC=16.5, WPI=1978 5,7,10 N=17 PI=20 LL=36 LS=13	SPT
3												
4						Grey, trace of ironstaining, low plasticity, moist. Minor silt or varies to Silty Clay in parts.					6,6,9 N=15	SPT
5											6,9,12 N=21	SPT
6							XW					
						Grey, moist, friable, minor sand throughout. Varies to sandy clay in parts. High proportion of fines.					9,12,28 N=40	SPT
	18.10					SANDSTONE Pale grey, minor iron staining, fine grained, moist. Faint relict structure visible in parts. Exhibits engineering properties of very dense Clayey Sand.					Trace organic wood 5mm size. N=54 19,26,28 N=54	SPT
7												
8						Fine to medium grained.					21,19,27 N=46	SPT
9										Gravel layer (Drillers log)		
10						Resembles slightly clayey, medium grained sand.					9,15,19 N=34	SPT

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

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BOREHOLE No **BH19**

SHEET **2** of **2**

REFERENCE No **H9651**

PROJECT **IPSWICH MOTORWAY / LOGAN MOTORWAY GEOTECHNICAL INVESTIGATION**

LOCATION **Near Pier 5, Chainage 668m, on control MCJ1-C.** COORDINATES **29872.7 E; 147306.7 N**

PROJECT No **FG5404** SURFACE R.L. **24.80** DATE STARTED **21/07/05** DATUM **Ipswich Motorway**

JOB No **148/17A/57** DATUM **AHD** DATE COMPLETED **21/07/05** 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
10	14.80					Sandstone Cont'd.	XW					
11	14.30					SILICEOUS GRAVEL Siliceous gravel layer, particle size 5 to 40mm. Driller reported water loss.					Siliceous gravel layer. 30/120mm N>50	SPT
12	13.60					SANDSTONE Pale brown, fine grained, clayey bands, relict structure visible and laminations. Exhibits engineering properties of very dense, fine Clayey Sand.	XW-HW				30/120mm N>50	SPT
13	11.30											
14	10.10		100			Yellow brown, mostly fine grained - medium in parts, occasional interbeds of siltstone and shale. Bedding 20 - 30°. Occasional massive medium grained bands.	HW				Bedding 30° Jt, 30°, PL, SM, C thin brown CL coat Is(50)=0.26 MPa Fine to medium grained massive band. Is(50)=0.20 MPa Bedding 20°	x o
15	9.00		100			SILTSTONE and SHALE INTERBEDS Grey, discoloured yellow, minor iron staining, fine grained, clayey in parts. Bedding ~30°. Occasional XW bands. Defects 30°, 50°. Defect surfaces mostly PL, SM, C, thin clay film.	MW-HW				Is(50)=0.24 MPa Is(50)=0.23 MPa	x o
16						CARBONACEOUS SHALE Dark grey with thin pale grey siltstone interlamination, clayey in parts, bedding 30°. Below 16.08m core is highly fractured and broken up (possibly drilling induced).	HW				XW clayey band ~30° Jt, ~30°, PL, R, XW grey clay infill 2-3mm thick HW clayey band	
17	7.70		44			Borehole terminated at 17.1m						
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: **BH19**
Start Depth: 13.50m
Finish Depth: 17.10m
Project No: FG5404
H No: 9651

