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**Queensland
Government**

Department of
Main Roads

ENGINEERING BOREHOLE

FOR GEOTECHNICAL TERMS AND
SYMBOLS REFER FORM F:GEOT 017/2-2004

BOREHOLE No BH26

SHEET 1 of 5

REFERENCE No H9575

PROJECT GATEWAY BRIDGE DUPLICATION FOUNDATION INVESTIGATION - GATEWAY UPGRADE PROJECT
 LOCATION PIER 14 - DOWN STREAM END COORDINATES 9952.7 E; 168469.6 N
 PROJECT No FG5388 SURFACE R.L. 4.22 DATE STARTED 14/2/05 DATUM SETP
 JOB No _____ DATUM AHD DATE COMPLETED 15/2/05 DRILLER R&D DRILLING PTY LTD

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	ROD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING	INTACT STRENGTH						DEFECT SPACING (mm)			GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS	
										20	30	40	50	60	70	80	90	100				200
0	4.22					SAND (FILL ?) Black, moist, fine grained.		SP												Drilling records only		
1	3.32					ESTUARINE WEATHERED OC CRUST Dark grey to mottled grey, slightly moist, soft.		OL												15/02/2005	4,1,2 N=3	SPT
2	2.22					ESTUARINE SILTY CLAY Dark grey to black, moist, very soft to soft.															HW,-,1 N<1	SPT
3								OH													HW,1,1 N=2	SPT
4																					HW,-,- N<1	SPT
5																					HW,-,- N<1	SPT
6																					HW,-,- N<1	SPT
7	-2.28					SANDY SILT Dark grey to grey, moist, very soft. Very fine grained sand.		SM													HW,-,- N<1	SPT
8	-3.78					SILTY SAND Grey brown to brown, wet, mainly loose, becoming medium dense with depth. Fine grained sand, frequent shell fragments.		SM													2,2,2 N=4	SPT
9																						
10	-5.78																					

BOREHOLE WITH LITHOLOGY 24_5_2005 - NORTHERN APPROACH PIERS AND ABUTMENT BOREHOLES.GPJ ENGINEERING BOREHOLE 09_04.GDT 31/8/05

REMARKS SPT N values in clayey gravel can overestimate density due to influence of coarser size gravel particles. Defect angles have been measured with respect to a horizontal plane.

LOGGED BY
A. DISSANAYAKE (DISS)



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BOREHOLE No BH26

SHEET 2 of 5

REFERENCE No H9575

PROJECT GATEWAY BRIDGE DUPLICATION FOUNDATION INVESTIGATION - GATEWAY UPGRADE PROJECT
 LOCATION PIER 14 - DOWN STREAM END COORDINATES 9952.7 E; 168469.6 N
 PROJECT No FG5388 SURFACE R.L. 4.22 DATE STARTED 14/2/05 DATUM SETP
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DEPTH (m)	R.L. (m)	ALGER CASING WASH BORING CORE DRILLING	ROD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
10	-5.78					SILTY SAND As above.								1,1- N<1 SPT
11														
12							SM							1,2,2 N=4 SPT
13														4,7,4 N=11 SPT
14	-9.78					ESTUARINE SILTY CLAY Dark grey to black, moist, very soft. Frequent shell fragments.								RW,-- N<1 SPT
15														RW,-- N<1 SPT
16														RW,-- N<1 SPT
17							OH							RW,-- N<1 SPT
18														RW,-- N<1 SPT
19														RW,-- N<1 SPT
20	-15.78													RW,-- N<1 SPT

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BOREHOLE No BH26

SHEET 3 of 5

REFERENCE No H9575

PROJECT GATEWAY BRIDGE DUPLICATION FOUNDATION INVESTIGATION - GATEWAY UPGRADE PROJECT

LOCATION PIER 14 - DOWN STREAM END COORDINATES 9952.7 E; 168469.6 N

PROJECT No FG5388 SURFACE R.L. 4.22 DATE STARTED 14/2/05 DATUM SETP

JOB No _____ DATUM AHD DATE COMPLETED 15/2/05 DRILLER R&D DRILLING PTY LTD

DEPTH (m)	R L (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING	INTACT STRENGTH					DEFECT SPACING (mm)			GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS		
									EH	VH	IM	ML	VL	20	60	200				600	2000
20	-15.78					ESTUARINE SILTY CLAY (As above)															
21																					RW, N<1 SPT
22																					RW, N<1 SPT
23																					RW, N<1 SPT
24								OH													RW, N<1 SPT
25																					RW, N<1 SPT
26																					RW, N<1 SPT
27																					RW, N<1 SPT
28	-23.28					SANDY SILT Dark grey to grey, wet, loose. Fine sand with high shell content.		SM													5,4,4 N=8 SPT
29	-24.18					SAND AND GRAVEL Grey brown to brown, wet, medium dense to very dense.		GP-GM													Blade bit was used to 28.4 Roller bit was used between 28.4m and 38.5m. 8,8,12 N=20 SPT
30	-25.78																				

BOREHOLE WITH LITHOLOGY 24_5_2005 - NORTHERN APPROACH PIERS AND ABUTMENT BOREHOLES.GPJ ENGINEERING BOREHOLE 09_04.GDT 31/8/05

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BOREHOLE No **BH26**

SHEET 4 of 5

REFERENCE No **H9575**

PROJECT GATEWAY BRIDGE DUPLICATION FOUNDATION INVESTIGATION - GATEWAY UPGRADE PROJECT

LOCATION PIER 14 - DOWN STREAM END COORDINATES 9952.7 E; 168469.6 N

PROJECT No FG5388 SURFACE R.L. 4.22 DATE STARTED 14/2/05 DATUM SETP

JOB No _____ DATUM AHD DATE COMPLETED 15/2/05 DRILLER R&D DRILLING PTY LTD

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	ROD (%)	MATERIAL DESCRIPTION	LITHOLOGY	INTEGRITY / WEATHERING							DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS		
						USC	WEATHERING	EH	VH	HM	LM	VL					EL	
30	-25.78			SAND AND GRAVEL (As above) Sub-angular to sub-rounded quartzitic and lithic fragments sizing up to 50mm.										20				
31																	10,9,11 N=20	SPT
32																	12,17,30/110 N>50	SPT
33					GP-GM													
34																	3,2,15 N=17	SPT
35																		
36																	30/85,-,- N>50	SPT
37	-32.28			GRAVELLY SANDY CLAY Brown, moist, hard. High plasticity, sub-angular to sub-rounded quartzitic and lithic fragments.	CL												30,30/95 N>50	SPT
38																		
39	-34.28		(89)	INTERBEDDED MUDSTONE AND SANDSTONE SW : White, pale grey to dark grey, thinly laminated and bedded, mainly medium strength to high strength with occasional very high strength sandstone bands. Defects - Generally rare. - Occasional drilling induced lamination partings <20° (1-2/m) & joint 60-70° (1/m).	SW													
40	-35.78		100															

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SHEET 5 of 5

REFERENCE No H9575

PROJECT GATEWAY BRIDGE DUPLICATION FOUNDATION INVESTIGATION - GATEWAY UPGRADE PROJECT

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BOREHOLE WITH LITHOLOGY 24.5.2005 - NORTHERN APPROACH PIERS AND ABUTMENT BOREHOLES.GPJ ENGINEERING BOREHOLE 09.04.GDT 31/8/05

DEPTH (m)	R.L. (m)	AUGER WASHER WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
40	-35.78		(90)			INTERBEDDED MUDSTONE AND SANDSTONE (As above)						Is(50)=0.80 MPa Is(50)=2.09 MPa	x o
41							SW					Is(50)=0.37 MPa Is(50)=0.80 MPa	x o
42	-37.28		100			Borehole terminated at 41.5m							
43													
44													
45													
46													
47													
48													
49													
50													

REMARKS SPT N values in clayey ground can overestimate density due to influence of coarser size gravel particles. Defect angles have been measured with respect to a horizontal plane.

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Project: Gateway Bridge Duplication Investigation

Borehole No: BH 26

Start Depth: 38.50m

Finish Depth: 41.50m

Project No: FG5388

H No: 9460

