Queensland Government
Department of Main Roads

ENGINEERING BOREHOLE

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

BOREHOLE No BH29
SHEET 1 of 4
REFERENCE No H9578

PROJECT GATEWAY BRIDGE DUPLICATION FOUNDATION INVESTIGATION - GATEWAY UPGRADE PROJECT
LOCATION PIER 17 - DOWN STREAM END
COORDINATES 9857.2 E; 168660.0 N
PROJECT No FG5388
SURFACE R.L. 3.10
DATE STARTED 08/02/05
DATUM SETP
JOB No
DATUM AHD
DATE COMPLETED 08/02/05
DRILLER R&D DRILLING PTY LTD

DEPTH (m)	R.L. (m)	MATERIAL DESCRIPTION	USC	WEATHERING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
0	3.10	**ROAD BASE** Crushed rock fill.	GC		Drilling records only	
	2.80	**ESTUARINE WEATHERED OC CRUST** Dark brown to mottled grey, slightly moist, soft to mainly firm, silty clay. High plasticity.				
1					2,2,2 N=4	SPT
2			OL			
3					2,2,2 N=4	SPT
	-0.40	**ESTUARINE SILTY CLAY** Dark grey to dark brown, moist, very soft. High plasticity, slight organic throughout.				
4					RW,-,- N<1	SPT
5			OH			
6	-3.00	**SILTY SAND / SAND** Grey brown to grey, wet, very loose to loose. Fine sand becoming medium with depth.			RW,-,- N<1	SPT
7					2,1,1 N=2	SPT
8			SM			
9					2,2,4 N=6	SPT
10	-6.90				Coarse grained gravel and some shells	

ALIGNMENT: AUGER / CASING / WASH BORING / CORE DRILLING
RQD ( )% CORE REC %
SAMPLE
LITHOLOGY
INTACT STRENGTH: EH VH H M L VL EL
DEFECT SPACING (mm): 20 60 200 600 2000
GRAPHIC LOG

BOREHOLE WITH LITHOLOGY GATEWAY UPGRADE PROJECT.GPJ ENGINEERING BOREHOLE 09_04.GDT 31/08/05

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)

Queensland Government
Department of Main Roads

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BOREHOLE No BH29
SHEET 2 of 4
REFERENCE No H9578

PROJECT GATEWAY BRIDGE DUPLICATION FOUNDATION INVESTIGATION - GATEWAY UPGRADE PROJECT
LOCATION PIER 17 - DOWN STREAM END
COORDINATES 9857.2 E; 168660.0 N
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DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( )% CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (mm) (20 60 200 600 2000)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES / TESTS
10	-6.90				**SILTY CLAY - ALLUVIUM** Grey brown to orange brown, moist, firm. High plasticity and slightly lateritised.		CH					2,3,4 N=7	SPT
11													
12	-9.40											4,3,5 N=8	SPT
13					**SANDY SILT / SILTY SAND** Brown to orange brown, moist, loose to mainly medium dense. Very fine sand.							4,5,6 N=11	SPT
14													
15							SM					3,3,4 N=7	SPT
16													
17	-13.90				**SAND / SILTY SAND** Brown to orange brown, wet, mainly medium dense with loose and dense bands. Fine sand becoming coarse quartizic gravels with depth.							4,5,8 N=13	SPT
18												4,4,5 N=9	SPT
19							SM						
20	-16.90											4,5,9 N=14	SPT

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BOREHOLE No BH29
SHEET 3 of 4
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PROJECT GATEWAY BRIDGE DUPLICATION FOUNDATION INVESTIGATION - GATEWAY UPGRADE PROJECT
LOCATION PIER 17 - DOWN STREAM END COORDINATES 9857.2 E; 168660.0 N
PROJECT No FG5388 SURFACE R.L. 3.10 DATE STARTED 08/02/05 DATUM SETP
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DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( )% CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (mm) (20 60 200 600 2000)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
20	-16.90				**SAND / SILTY SAND** As above. More gravelly towards bottom.							Blade bit was used down to 20.5m. Roller sit was used below 20.5m.		
21												18,17,16 N=33		SPT
22							SM					10,12,9 N=21		SPT
23														
24												10,14,15 N=29		SPT
	-21.50				**SAND AND GRAVEL** Orange brown, wet, very dense. Sub-angular to sub-rounded, quartz and litic fragments, sizing up to 30mm.										
25												30/100,-,- N>50		SPT
26							GP-GM							
27	-23.90		(100)		**INTERBEDDED MUDSTONE AND SANDSTONE. SANDSTONE DOMINANT** SW : Grey to dark grey, thinly laminated and bedded, low to mainly medium strength.							30/25,-,- N>50		SPT
28												Sandstone interbed	Is(50)=0.09 MPa Is(50)=0.40 MPa	x o
29			100 (75)		Defects - Generally rare. - Occasional drilling induced lamination partings <15° (1-2/m). Slightly broken towards bottom.		SW							
	-26.40				**SANDSTONE** **FINE TO MEDIUM GRAINED,** **LAMINATED CEMENTED SEDIMRNARY**									
30	-26.90		100				SW							

BOREHOLE WITH LITHOLOGY GATEWAY UPGRADE PROJECT.GPJ ENGINEERING BOREHOLE 09_04.GDT 31/08/05

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30	-26.90				**ROCK** SW : Pale grey to grey, laminated, mainly high strength. Defects - Generally rare. Borehole terminated at 30m								

BOREHOLE WITH LITHOLOGY GATEWAY UPGRADE PROJECT.GPJ ENGINEERING BOREHOLE 09_04.GDT 31/08/05

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Project: **Gateway Bridge Duplication Investigation**

Borehole No: **BH 29**

Start Depth: **27.00**m
Finish Depth: 29.90m
Project No: FG5388
H No: 9458