Queensland Government
Department of Main Roads

ENGINEERING BOREHOLE

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

BOREHOLE No BH102
SHEET 1 of 3
REFERENCE No H9411

PROJECT GATEWAY UPGRADE PROJECT GEOTECHNICAL INVESTIGATION - NORTHERN SECTION
LOCATION CONTROL LINE: MCAO - Ch. 18420.2 - OFFSET 23.5 R
COORDINATES 9642.6 E; 169040.0 N
PROJECT No FM2055
SURFACE R.L. 3.15
DATE STARTED 3/8/04
DATUM SETP
JOB No
DATUM AHD
DATE COMPLETED 4/8/04
DRILLER R & D Drilling Pty Ltd

DEPTH (m)	R.L. (m)	MATERIAL DESCRIPTION	USC	WEATHERING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES / TESTS
0	3.15	**SANDY GRAVEL - FILL** Dark brown, moist.	GP			
	2.55	**SILTY CLAY - FILL (??)** Dark grey to mottled brown, mostly firm.	OL			
1	1.95	Medium plasticity, slightly organic.				U50
		SANDY CLAY - FILL (??) Brown, moist, soft.	SC		MC=41.1%,WD=1.78t/m3, DD=1.26t/m3	
2	0.65					
		ESTUARINE (??) SILTY CLAY Dark grey to slightly mottled (top), moist, soft to firm.	CH		LL=58.4%, PI=31.6%, LS=15.6% APD=2.670t/m3 MC=64.8%, WD=1.64t/m3, DD=1.00t/m3	U50
3						
4	-1.20				LL=50.6%, PI=27.2%, LS=13.8% APD=2.669t/m3 MC=60.2%, WD=1.66t/m3, DD=1.04t/m3	U50
		SILTY SAND - ALLUVIUM Dark grey to brown, moist, mainly very loose to loose.				
5						
6					99% passing 2.36mm sieve -,-,1 N<1	SPT
7		Some gravel fraction from 7.0m to 7.25m.	SP-SM		12% passing 75um sieve 1,2,2 N=4	SPT
8						
		Becoming silty clayey with depth.			6% passing 2um sieve -,-,1 N<1	SPT
9						
10	-6.85					

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 NORTHERN UPGRADE.GPJ ENG BOREHOLE FINAL.GDT 30/4/05

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

LOGGED BY
D.Dobe & A.Dissanayake

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ENGINEERING BOREHOLE

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

BOREHOLE No BH102
SHEET 2 of 3
REFERENCE No H9411

PROJECT GATEWAY UPGRADE PROJECT GEOTECHNICAL INVESTIGATION - NORTHERN SECTION
LOCATION CONTROL LINE: MCAO - Ch. 18420.2 - OFFSET 23.5 R
COORDINATES 9642.6 E; 169040.0 N
PROJECT No FM2055
SURFACE R.L. 3.15
DATE STARTED 3/8/04
DATUM SETP
JOB No
DATUM AHD
DATE COMPLETED 4/8/04
DRILLER R & D Drilling Pty Ltd

DEPTH (m)	R.L. (m)	MATERIAL DESCRIPTION	USC	WEATHERING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
10	-6.85	**SILTY SAND / SANDY SILT - ALLUVIUM** Pale grey to mottled orange, moist, mainly medium dense to dense. Fine grained sand.			7,15,16 N=31	SPT
12					5,9,9 N=18	SPT
13		More sandy around 13m.	SM		9,10,14 N=24	SPT
14		Becoming more gravel towards bottom.				
15	-12.75				6,9,10 N=19	SPT
16		**SAND - ALLUVIUM** Orange brown to brown, wet, medium dense. Medium to coarse sand becoming fine with depth.			8,8,9 N=17	SPT
18			SP		2,5,6 N=11	SPT
19		Some gravel around 19m.			4,9,12 N=21	SPT
20	-16.85					

BOREHOLE WITH LITHOLOGY GATEWAY NORTHERN UPGRADE.GPJ ENG BOREHOLE FINAL.GDT 30/4/05

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BOREHOLE No BH102
SHEET 3 of 3
REFERENCE No H9411

PROJECT GATEWAY UPGRADE PROJECT GEOTECHNICAL INVESTIGATION - NORTHERN SECTION
LOCATION CONTROL LINE: MCAO - Ch. 18420.2 - OFFSET 23.5 R COORDINATES 9642.6 E; 169040.0 N
PROJECT No FM2055 SURFACE R.L. 3.15 DATE STARTED 3/8/04 DATUM SETP
JOB No DATUM AHD DATE COMPLETED 4/8/04 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 (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	-16.85				**CLAYEY SANDY GRAVEL - ALLUVIUM** Pale brown to orange brown, moist, dense to very dense. Angular to subangular gravel sizing up to 40mm.		GC					24,20,30 N=50		SPT
21	-18.25				**SANDSTONE** FINE TO MEDIUM GRAINED, POORLY CEMENTED, MAINLY MASSIVE TO SLIGHTLY LAMINATED SEDIMENTARY ROCK. HW : Generally exhibits engineering properties of pale brown to orange brown, moist, very dense silty sand grading into very low to low strength rock.		HW					30/80,-,- N>50		SPT
22														
23	-19.85		(100)		**SW :** Grey to pale grey, mainly massive to slightly laminated, low to mainly medium to occasional high strength. Defects - Generally rare. - Occasional drilling induced lamination partings <10 deg (1/2m). - Joint @ 60 deg(1/3m). Defects are generally planar, rough, light with no alteration and ironstaining.		SW					Is(50)=0.90 MPa Is(50)=0.54 MPa		o x
24												Is(50)=0.39 MPa Is(50)=0.50 MPa		o x
25			100											
26			(100)									Is(50)=0.32 MPa Is(50)=0.49 MPa Is(50)=1.11 MPa Is(50)=0.42 MPa		o x o x
27														
28	-24.85		100									Is(50)=0.86 MPa Is(50)=0.98 MPa		o x
29					Borehole terminated at 28m									
30														

BOREHOLE WITH LITHOLOGY GATEWAY NORTHERN UPGRADE.GPJ ENG BOREHOLE FINAL.GDT 30/4/05

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D.Dobe & A.Dissanayake

Project: **Gateway Upgrade Project Geotechnical Investigation**

Borehole No: **BH 102**

Start Depth: 23.00m
Finish Depth: 28.00m
Project No: FM2055
H No: 9411