Queensland Government
Department of Main Roads

ENGINEERING BOREHOLE

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

BOREHOLE No	BH105
SHEET	1 of 3
REFERENCE No	H9414

PROJECT GATEWAY UPGRADE PROJECT GEOTECHNICAL INVESTIGATION - NORTHERN SECTION

LOCATION CONTROL LINE: MCAO - Ch. 18639.1 - OFFSET 31.4 R COORDINATES 9566.0 E; 169245.5 N

PROJECT No FM2055 SURFACE R.L. 3.84 DATE STARTED 30/7/04 DATUM SETP

JOB No DATUM AHD DATE COMPLETED 30/7/04 DRILLER R & D Drilling Pty Ltd

DEPTH (m)	R.L. (m)	MATERIAL DESCRIPTION	USC	WEATHERING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
0	3.84					
	3.64	**GRAVELLY CLAY - FILL**			Drilling record only	
		SILTY CLAY - FILL Grey green to mottled red, moist, mostly firm to stiff. Medium plasticity, some live roots.	CI		1,2,3 N=5	SPT
1						
2	1.84	**SAND - ALLUVIUM** Brown to orange brown, wet, loose to mainly medium dense. Medium grained sand becoming dense coarse gravel with occasional gravel particles sizing up to 30mm, some stiff to very stiff silty clay interlayers.	SM		4,5,5 N=10	SPT
3						
		Minor gravel fraction at 4m.			8,11,10 N=21	SPT
4						
5					12,15,16 N=31	SPT
6						
7	-3.46				15,13,10 N=23	SPT
		SILTY CLAY - ALLUVIUM Pale grey green to mottled red, slightly moist to mainly dry, very stiff. Medium plasticity, minor sand fraction.	CI		6,7,10 N=17	SPT
8						
9						
10	-6.16					

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

LOGGED BY B.Woodgate & A.Dissanayake

BOREHOLE WITH LITHOLOGY GATEWAY NORTHERN UPGRADE.GPJ ENG BOREHOLE FINAL.GDT 28/4/05

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ENGINEERING BOREHOLE

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

BOREHOLE No BH105
SHEET 2 of 3
REFERENCE No H9414

PROJECT GATEWAY UPGRADE PROJECT GEOTECHNICAL INVESTIGATION - NORTHERN SECTION
LOCATION CONTROL LINE: MCAO - Ch. 18639.1 - OFFSET 31.4 R
COORDINATES 9566.0 E; 169245.5 N
PROJECT No FM2055
SURFACE R.L. 3.84
DATE STARTED 30/7/04
DATUM SETP
JOB No
DATUM AHD
DATE COMPLETED 30/7/04
DRILLER R & D Drilling Pty Ltd

DEPTH (m)	R.L. (m)	MATERIAL DESCRIPTION	USC	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
10	-6.16	**SILTY CLAY - ALLUVIUM** (As above)	CI	5,6,10 N=16	SPT
	-7.16				
11		**SANDY SILT / SILTY SAND - ALLUVIUM** Pale grey to orange, moist, medium dense. Fine to medium sand, occasional quartzitic gravels up to 20mm, minor clay fraction.	SM	5,12,11 N=23	SPT
12					
13				7,14,15 N=29	SPT
14					
15				3,5,7 N=12	SPT
16				4,7,7 N=14	SPT
17					
18				6,10,12 N=22	SPT
	-14.86				
19		**GRAVELLY SANDY CLAY - ALLUVIUM** Pale brown to orange, moist, hard. Gravel content decreases with depth.	CL	25,30/100,- N>50	SPT
20	-16.16				

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

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

LOGGED BY B.Woodgate & A.Dissanayake

BOREHOLE WITH LITHOLOGY GATEWAY NORTHERN UPGRADE.GPJ ENG BOREHOLE FINAL.GDT 28/4/05

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BOREHOLE No BH105
SHEET 3 of 3
REFERENCE No H9414

PROJECT GATEWAY UPGRADE PROJECT GEOTECHNICAL INVESTIGATION - NORTHERN SECTION
LOCATION CONTROL LINE: MCAO - Ch. 18639.1 - OFFSET 31.4 R
COORDINATES 9566.0 E, 169245.5 N
PROJECT No FM2055
SURFACE R.L. 3.84
DATE STARTED 30/7/04
DATUM SETP
JOB No
DATUM AHD
DATE COMPLETED 30/7/04
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	-16.16				**GRAVELLY SANDY CLAY - ALLUVIUM** (As above)		CL					11,21,15 N=36	SPT
21	-17.46				**SANDSTONE** FINE TO MEDIUM GRAINED, LAMINATED TO SLIGHTLY MASSIVE, POORLY CEMENTED SEDIMENTARY ROCK. HW : Generally exhibits engineering properties of grey brown, moist, very dense silty sand, grading into low strength rock.		HW					30/85,-,- N>50	SPT
23	-19.16		(100)		**MW :** Grey brown to orange brown, thinly laminated to slightly massive, very low to mainly low strength. Defects - Generally rare. - Occasional drilling induced lamination partings 30-45deg (1/2m).		MW					Is(50)=0.09 MPa Is(50)=0.06 MPa Is(50)=0.09 MPa Is(50)=0.13 MPa	o x o x
25			100				SW					SW sandstone band Is(50)=0.11 MPa Is(50)=0.10 MPa Is(50)=0.12 MPa Is(50)=0.11 MPa	o x o x
26			(100)				MW						
28	-24.21		100				SW					Is(50)=0.09 MPa Is(50)=0.12 MPa Is(50)=0.16 MPa Is(50)=0.09 MPa	o x o x
30					Borehole terminated at 28.05m								

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Defect angles have been measured with respect to a horizontal plane.

LOGGED BY B.Woodgate & A.Dissanayake

BOREHOLE WITH LITHOLOGY GATEWAY NORTHERN UPGRADE.GPJ ENG BOREHOLE FINAL.GDT 28/4/05

Project: **Gateway Upgrade Project Geotechnical Investigation**

Borehole No: **BH 105**

Start Depth: 23.00m

Finish Depth: 28.00

Project No: FM2055

H No: 9414