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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 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)	BOREHOLE LOGGING CORE DRILLING	RQD (%)	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
0	3.84											
0.5	3.64				GRAVELLY CLAY - FILL						Drilling record only	
1.0					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
2.0	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.							4,5,5 N=10 SPT
3.0												
4.0					Minor gravel fraction at 4m.		SM					8,11,10 N=21 SPT
5.0												
6.0												12,15,16 N=31 SPT
7.0												
8.0	-3.46				SILTY CLAY - ALLUVIUM Pale grey green to mottled red, slightly moist to mainly dry, very stiff. Medium plasticity, minor sand fraction.		CI					15,13,10 N=23 SPT
9.0												
10.0	-6.16											6,7,10 N=17 SPT

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



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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)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING EH VH H M L VL EL	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
10	-6.16					SILTY CLAY - ALLUVIUM (As above)						5,6,10 N=16	SPT
11	-7.16					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.						5,12,11 N=23	SPT
12												7,14,15 N=29	SPT
13												3,5,7 N=12	SPT
14												4,7,7 N=14	SPT
15												6,10,12 N=22	SPT
16													
17													
18													
19	-14.86					GRAVELLY SANDY CLAY - ALLUVIUM Pale brown to orange, moist, hard. Gravel content decreases with depth.						25,30/100,- N>50	SPT
20	-16.16												

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.

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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)	USER CLASS 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
20	-16.16					GRAVELLY SANDY CLAY - ALLUVIUM (As above)							
21							CL					11,21,15 N=36	SPT
22	-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	o x
24								MW				Is(50)=0.09 MPa Is(50)=0.13 MPa	o x
25					100 (100)			SW				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								MW					
27													
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
29						Borehole terminated at 28.05m							
30													

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

Project: **Gateway Upgrade Project Geotechnical Investigation**
Borehole No: **BH 105**
Start Depth: 23.00m
Finish Depth: 28.00
Project No: FM2055
H No: 9414

