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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 **BH104**

SHEET **1** of **4**

REFERENCE No **H9413**

PROJECT **GATEWAY UPGRADE PROJECT GEOTECHNICAL INVESTIGATION - NORTHERN SECTION**

LOCATION **CONTROL LINE: MCAO - Ch. 18641.1 - OFFSET 4.1 L** COORDINATES **9532.4 E; 169232.8 N**

PROJECT No **FM2055** SURFACE R.L. **3.77** DATE STARTED **2/8/04** DATUM **SETP**

JOB No DATUM **AHD** DATE COMPLETED **2/8/04** 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	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
0	3.77					ASPHALT AND ROADBASE Crushed rock up to 30mm.		GC				Drilling record only	
1	3.17					CLAYEY GRAVEL - FILL Pale brown to orange brown, moist, dense sandstone fragments.		GC				6,14,30 N=44	SPT
2	1.77					SAND - ALLUVIUM Brown to orange brown, wet, medium dense. Medium sand becoming coarse with depth.						5,6,9 N=15	SPT
3												7/9/04 6/10/04	
4								SM				8,11,12 N=23	SPT
5												11,12,13 N=25	SPT
6													
7	-2.98					SILTY CLAY - ALLUVIUM Pale green to mottled orange, slightly moist to dry. Medium plasticity, some red concretions and lateritic zones.		CI				10,5,7 N=12	SPT
8													
9												11,13,16 N=29	SPT
10	-6.23												

REMARKS SPT N values in clayey sandy gravel can overestimate density due to influence of coarser size gravel particles.

LOGGED BY
B.Woodgate & A.Dissanayake



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

REFERENCE No H9413

DRILLER R & D Drilling Pty Ltd

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

LOGGED BY
B.Woodgate & A.Dissanayake



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ENGINEERING BOREHOLE

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

BOREHOLE No **BH104**

SHEET **3** of **4**

REFERENCE No **H9413**

PROJECT GATEWAY UPGRADE PROJECT GEOTECHNICAL INVESTIGATION - NORTHERN SECTION

LOCATION CONTROL LINE: MCAO - Ch. 18641.1 - OFFSET 4.1 L

COORDINATES 9532.4 E; 169232.8 N

PROJECT No FM2055

SURFACE R.L. 3.77

DATE STARTED 2/8/04

DATUM SETP

JOB No

DATUM AHD

DATE COMPLETED 2/8/04

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	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
20	-16.23					CLAYEY SANDY GRAVEL - ALLUVIUM As above.							
21												17,30/120,- N>50	SPT
22							GC					15,16,17 N=33	SPT
23												16,30/105,- N>50	SPT
24	-20.13					SANDSTONE FINE TO MEDIUM GRAINED, MASSIVE TO LAMINATED, POORLY CEMENTED SEDIMENTARY ROCK. HW : Generally exhibits engineering properties of grey brown, moist, very dense silty sand gradually grading into low strength rock.		HW				Drilling record only	
25	-21.23		(100)			SW : Grey white to pale grey, thinly laminated to massive, mainly medium to high strength. Occasional carbonaceous layers up to 30mm. Defects - Generally rare. - Occasional drilling induced lamination partings <30deg (1/2m). - Joints @ 60deg (1-2/m).						Is(50)=0.45 MPa Is(50)=0.24 MPa	o x
26												Is(50)=0.61 MPa Is(50)=0.45 MPa	o x
27												Is(50)=0.56 MPa Is(50)=0.74 MPa	o x
28			100 (96)					SW				Is(50)=1.02 MPa Is(50)=0.78 MPa	o x
29												Is(50)=0.64 MPa Is(50)=1.08 MPa	o x
30	-26.23		100										

REMARKS SPT N values in clayey sandy gravel can overestimate density due to influence of coarser size gravel particles.

Borehole terminated at 30m

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BOREHOLE No BH104

SHEET 4 of 4

REFERENCE No H9413

PROJECT GATEWAY UPGRADE PROJECT GEOTECHNICAL INVESTIGATION - NORTHERN SECTION

LOCATION CONTROL LINE: MCAO - Ch. 18641.1 - OFFSET 4.1 L COORDINATES 9532.4 E; 169232.8 N

PROJECT No FM2055 SURFACE R.L. 3.77 DATE STARTED 2/8/04 DATUM SETP

JOB No DATUM AHD DATE COMPLETED 2/8/04 DRILLER R & D Drilling Pty Ltd

DEPTH (m)	R.L. (m)	ROD () %	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
30	-26.23												
31													
32													
33													
34													
35													
36													
37													
38													
39													
40													

REMARKS SPT N values in clayey sandy gravel can overestimate density due to influence of coarser size gravel particles.

LOGGED BY
B.Woodgate & A.Dissanayake

Project: **Gateway Upgrade Project Geotechnical Investigation**
Borehole No: **BH 104**
Start Depth: 25.00m
Finish Depth: 30.00m
Project No: FM2055
H No: 9413

