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Queensland  
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Main Roads

## ENGINEERING BOREHOLE

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

BOREHOLE No BH128

SHEET 1 of 5

REFERENCE No H9437

PROJECT GATEWAY UPGRADE PROJECT GEOTECHNICAL INVESTIGATION - NORTHERN SECTION

LOCATION CONTROL LINE: MCWO - Ch. 831.8 - OFFSET 5.1R COORDINATES 9164.2 E; 173530.0 N

PROJECT No FM2055 SURFACE R.L. 5.61 DATE STARTED 19/8/04 DATUM SETP

JOB No                      DATUM AHD DATE COMPLETED 19/8/04 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	5.61					<b>LANDFILL</b> Dark grey brown to black gravel and clay comprising metal, wire, plastic bags and partly decomposed tree fragments.  Becoming very loose gravelly fill with depth.							
1													
2												4,2,4 N=6	SPT
3													
4	1.61					<b>SANDY SILTY CLAY - ALLUVIUM</b> Dark grey green to grey brown, moist, soft to mainly firm.  Fine grained sand, relics of completely decomposed shell fragments, medium to high plasticity.							
5												-3,2 N=5	SPT
6												2,1,2 N=3	SPT
7													
8	-2.29					<b>SAND / SILTY SAND - ALLUVIUM</b> Pale grey brown to pale green, moist to mainly wet, loose to mainly medium dense.							
9												4,5,5 N=10	SPT
10	-4.39												

REMARKS SPT N values in sand and 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  
B.Woodgate & A.Dissanayake



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## ENGINEERING BOREHOLE

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BOREHOLE No BH128

SHEET 2 of 5

REFERENCE No H9437

PROJECT GATEWAY UPGRADE PROJECT GEOTECHNICAL INVESTIGATION - NORTHERN SECTION

LOCATION CONTROL LINE: MCWO - Ch. 831.8 - OFFSET 5.1R

COORDINATES 9164.2 E; 173530.0 N

PROJECT No FM2055 SURFACE R.L. 5.61

DATE STARTED 19/8/04

DATUM SETP

JOB No                      DATUM AHD

DATE COMPLETED 19/8/04

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	
10	-4.39														
11						SAND / SILTY SAND - ALLUVIUM (As above)							6,8,11 N=19	SPT	
12						Fine grained sand becoming coarse with depth, occasional subangular to subrounded quartzitic gravel up to 10mm.							5,5,9 N=14	SPT	
13													7,9,7 N=16	SPT	
14															
15	-9.09					SILTY CLAY - ALLUVIUM Pale green grey to slightly mottled, moist to mainly dry, stiff to mainly very stiff.							7,7,7 N=14	SPT	
16						Minor fine sand interlayers (<20mm), medium to high plasticity.									
17													Slickensided joint	4,7,10 N=17	SPT
18													No recovery	4,8,11 N=19	SPT
19														4,5,8 N=13	SPT
20	-14.39														

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BOREHOLE No BH128

SHEET 3 of 5

REFERENCE No H9437

PROJECT GATEWAY UPGRADE PROJECT GEOTECHNICAL INVESTIGATION - NORTHERN SECTION

LOCATION CONTROL LINE: MCWO - Ch. 831.8 - OFFSET 5.1R COORDINATES 9164.2 E; 173530.0 N

PROJECT No FM2055 SURFACE R.L. 5.61 DATE STARTED 19/8/04 DATUM SETP

JOB No \_\_\_\_\_ DATUM AHD DATE COMPLETED 19/8/04 DRILLER R&D DRILLING PTY LTD

DEPTH (m)	R.L. (m)	UGER 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	-14.39					SILTY CLAY - ALLUVIUM (As above)							
21												5,6,9 N=15	SPT
22												4,7,9 N=16	SPT
23												4,5,7 N=12	SPT
24												4,8,9 N=17	SPT
25												4,4,5 N=9	SPT
26													
27													
28	-22.09					SILTY CLAY - ALLUVIUM Dark grey, moist, firm to stiff.  Slightly mottling with depth.						2,3,4 N=7	SPT
29												2,4,6 N=10	SPT
30	-24.39												

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BOREHOLE No BH128

SHEET 4 of 5

REFERENCE No H9437

PROJECT GATEWAY UPGRADE PROJECT GEOTECHNICAL INVESTIGATION - NORTHERN SECTION

LOCATION CONTROL LINE: MCWO - Ch. 831.8 - OFFSET 5.1R

COORDINATES 9164.2 E; 173530.0 N

PROJECT No FM2055

SURFACE R.L. 5.61

DATE STARTED 19/8/04

DATUM SETP

JOB No                     

DATUM AHD

DATE COMPLETED 19/8/04

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
30	-24.39					SILTY CLAY - ALLUVIUM (As above)								
31								CI					4,6,8 N=14	SPT
32	-26.39					SAND AND GRAVEL - ALLUVIUM Pale grey brown to brown, wet, medium dense to mainly very dense.  Gravel content increases with depth, subangular quartzitic gravel sizing up to 40mm.							High gravel content	
33								GP					10,13,15 N=28	SPT
34													10,26,30/125 N>50	SPT
35													30/90,-- N>50	SPT
36	-30.29					SANDSTONE FINE TO MEDIUM GRAINED, MASSIVE TO SLIGHTLY LAMINATED SEDIMENTARY ROCK.  HW :		HW					Drilling record only	
37	-31.39		(77)			SW : Grey green to pale grey, mainly massive to slightly laminated, very low to mainly low strength.  Some concordant lithic and rip-up clasts and occasional carbonaceous laminations, becoming calcareous and high strength with depth.  Becoming medium to high strength below 39.0m.		SW					Is(50)=0.36 MPa Is(50)=0.30 MPa	o x
38													Is(50)=0.04 MPa Is(50)=0.02 MPa Is(50)=0.24 MPa Is(50)=0.03 MPa	o x o x
39													Is(50)=0.69 MPa Is(50)=0.61 MPa	o x
40	-34.39			100										

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BOREHOLE No BH128

SHEET 5 of 5

REFERENCE No H9437

PROJECT GATEWAY UPGRADE PROJECT GEOTECHNICAL INVESTIGATION - NORTHERN SECTION

LOCATION CONTROL LINE: MCWO - Ch. 831.8 - OFFSET 5.1R COORDINATES 9164.2 E; 173530.0 N

PROJECT No FM2055 SURFACE R.L. 5.61 DATE STARTED 19/8/04 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	DEFECT	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
										STRENGTH					
40	-34.39					SW : (As above)  Defects - Generally rare. - Occasional drilling induced lamination partings <20deg (1/2m).  Defects are generally planar, rough, closed to tight with no ironstaining or alterations.			SW				Is(50)=1.03 MPa Is(50)=1.03 MPa	o x	
41				(93)									Is(50)=0.57 MPa Is(50)=0.61 MPa	o x	
42	-36.39			100									Is(50)=0.95 MPa Is(50)=0.75 MPa	o x	
43						Borehole terminated at 42m									
44															
45															
46															
47															
48															
49															
50															

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Project: **Gateway Upgrade Project Geotechnical Investigation**

Borehole No: **BH 128**

Start Depth: 37.0m

Finish Depth: 42.0m

Project No: FM2055

H No: 9437

