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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 BH121

SHEET 1 of 2

REFERENCE No H9430

PROJECT GATEWAY UPGRADE PROJECT GEOTECHNICAL INVESTIGATION - NORTHERN SECTION

LOCATION CONTROL LINE: MCAO - Ch. 21965.5 - OFFSET 37.6 R COORDINATES 9319.1 E; 172248.7 N

PROJECT No FM2055 SURFACE R.L. 1.33 DATE STARTED 7/7/04 DATUM SETP

JOB No DATUM AHD DATE COMPLETED 7/7/04 DRILLER R&D DRILLING PTY LTD

| DEPTH (m) | R.L. (m) | USER'S CASH WASH BORING | RQD (%) | CORE REC % | SAMPLE | MATERIAL DESCRIPTION | LITHOLOGY | USC | WEATHERING | INTACT STRENGTH | DEFECT SPACING (mm) | GRAPHIC LOG | ADDITIONAL DATA AND TEST RESULTS | SAMPLES TESTS |
|-----------|----------|-------------------------------|------------|---------------|--------|---|-----------|-------|------------|--------------------|---------------------------|-------------|--|------------------|
| | | | | | | | | | | | | | | |
| 0 | 1.33 | | | | | Silty CLAY - FILL Mottled grey brown, moist, firm to stiff. | | CL | | | | | | |
| 1 | 0.33 | | | | | ESTUARINE WEATHERED OC CRUST Dark grey to mottled brown, moist, firm. | | OL | | | | | ▽ 7/9/04 ▽ 6/10/04 MC=49.6%, WD=1.70t/m3, DD=1.14t/m3 | U100 |
| 2 | -0.47 | | | | | High organic content; high plasticity; some jarosite crystals around partly to completely decomposed roots. | | | | | | | | |
| | | | | | | ESTUARINE SANDY CLAY Dark grey to grey, moist to mainly wet, mainly soft to firm. | | CI | | | | | Peak Su=31.5kPa, Res Su=4.5kPa | FSV |
| | | | | | | Minor shell content; medium to coarse grained sand. | | | | | | | <1,RW,RW N<1 SPT penetrated to 3.5m | SPT |
| 3 | -2.05 | | | | | ESTUARINE SILTY CLAY Dark grey, moist, soft to firm, sensitive. | | | | | | | LL=38.8%, PI=16.4%, LS=9.2% MC=53.4%, WD=1.74t/m3, DD=1.14t/m3 | U100 |
| 4 | | | | | | High organic content; partly decomposed to unweathered shells; becoming slightly sandy with depth; high shell fraction at the bottom. | | OH | | | | | Peak Su=22.5kPa, Res Su=5.4kPa | FSV |
| 5 | | | | | | | | | | | | | MC=46.4%, WD=1.80t/m3, DD=1.24t/m3 | U100 |
| 6 | -4.67 | | | | | SILTY SAND / SAND - ALLUVIUM Grey to mottled yellow brown, moist, loose to mainly medium dense. | | | | | | | | 4,4,5 N=9 |
| | | | | | | Fine to medium grained sand | | | | | | | | |
| 7 | | | | | | | | | | | | | | 6,6,9 N=15 |
| 8 | | | | | | | | SM-SP | | | | | | |
| 9 | | | | | | | | | | | | | | 4,4,6 N=10 |
| 10 | -8.67 | | | | | | | | | | | | | |

REMARKS

LOGGED BY

B.Woodgate & A.Dissanayake



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|-----------|----------|--------------------------|---------|------------|--------|--|-----------|----------------|-----------------|----|----|----|----|---------------------|-------------|----------------------------------|---------------|
| | | | | | | | | | EF | VH | IM | JL | EL | | | | |
| 10 | -8.67 | | | | | SILTY SAND / SAND - ALLUVIUM (As above) | | SM-SP | | | | | | | | 3,4,8 N=12 | SPT |
| | -9.12 | | | | | Borehole terminated at 10.45m | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | |

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

REMARKS _____

LOGGED BY
B.Woodgate & A.Dissanayake