Queensland Government

# ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/6-2010

BOREHOLE No BH C42
SHEET 1 of 2
REFERENCE No H11131

PROJECT Bruce Highway Upgrade (Coonoy to Curra) Section C
LOCATION Cut 10 COORDINATES 471559.5 E; 7094938.6 N
PROJECT No FG5799 SURFACE R.L. 82.00m PLUNGE DATE STARTED 26/07/11 GRID DATUM MGA94
JOB No 232/10A/2 HEIGHT DATUM AHD BEARING DATE COMPLETED 26/07/11 DRILLER Drillsure 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 82.00 | | | | **TOPSOIL**<br>Grey, dry. | | | | | | | | | |
| | 81.50 | | | | **SANDSTONE (HW):**<br>Brown, fine to medium grained. | | | HW | | | | Based on driller's logs only<br>30/70<br>N>50 | | SPT |
| 2 | 80.00 | | (0) | | **SANDSTONE (HW):**<br>Brown, medium to coarse grained, massive, very low strength.<br><br>Defects:<br>-Joint at 5°-10° (3/m)<br>-Joint at 45° (2/m)<br>-Joint at 55°-60° (1/m) | | | | | | | J, 10°, Pl, C, Clnf<br>J, 10°, Pl, T, C<br>J, 55°, Pl, T, Clnf<br>XW Clay Seam<br>XW Clay Seam | | |
| 3 | | | 96<br>(0) | | Defects are generally closely spaced.<br>Defect surfaces are planar or irregular, tight, slightly rough, clay infilled, iron stained. | | | HW | | | | XW Clay Seam<br>J, 50°, Pl, T, Clnf<br>J, 55°, Pl, T, Clnf<br>XW Clay Seam | | |
| 4 | | | 100<br>(27) | | Pebbles throughout up to 40mm. | | | | | | | J, 30°, Pl, O, SR, Clnf, FeSt<br>XW Clay Seam | | |
| | 77.58 | | | | **SANDSTONE (MW):**<br>Brown/grey, medium to coarse grained, massive, medium to mainly high strength, indurated and/or slightly metamorphosed. | | | | | | | J, 65°, Pl, T, Clnf<br>DD = 2.49t/m³; MC = 1.5%; UCS=11.1MPa<br>J, 50°, Pl, T, Clnf<br>J, ~70°, Pl, T, Clnf | | UCS |
| 5 | | | | | | | | | | | | Siltstone Interbed<br>XW Clay Seam | | |
| | | | 100<br>(67) | | Defects:<br>-Joint at 25°-30° (2/m)<br>-Joint at 40° (<1/m)<br>-Joint at 50° (<1/m)<br>-Joint at 60°-65° (1-2/m)<br>-Joint at 70° (1/m)<br><br>Defects are generally medium to widely spaced.<br>Defect surfaces are generally planar, tight, slightly rough, clay infilled, iron stained. | | | | | | | Is(50) = 0.71MPa<br>Is(50) = 0.61MPa | | x<br>o |
| 6 | | | | | | | | | | | | | | |
| 7 | | | 100<br>(80) | | Pebbles throughout up to 40mm, subrounded. | | | MW | | | | J, 60°, Broken, Pl, O, SR, Clnf, FeSt<br>J, 80°-85°, Pl, T, SR, Clnf, FeSt<br>CLy BZ<br>Is(50) = 2.17MPa<br>Is(50) = 2.00MPa | | x<br>o |
| 8 | | | | | | | | | | | | | | |
| 9 | | | 100<br>(94) | | | | | | | | | Is(50) = 1.13MPa | | x |
| 10 | | | | | | | | | | | | | | |

REMARKS

LOGGED BY JA/DC

QLD_DMR_LIB_01A.GLB Log A_ENGINEERING BOREHOLE LOG W LITHOLOGY FG5799 - BRUCE HWY UPGRADE SECTION C.GPJ DWG46352.GDW Datgel CPT Tool gINt Add-In 12/12/2011 16:29

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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 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 72.00 | | 100 (88) | | **SANDSTONE (MW):** Cont'd | | | | | | | Is(50) = 1.78MPa | | o |
| | | | | | | | | | | | | DD = 2.59t/m$^3$; MC = 0.8%; UCS=28.1MPa | | UCS |
| 11 | | | 100 (89) | | | | | | | | | | | |
| 12 | | | | | | | | | | | | J, 70°, Pl, T, Clnf, FeSt | | |
| | | | | | | | | | | | | Is(50) = 2.13MPa | | x |
| | | | | | | | | | | | | Is(50) = 3.35MPa | | o |
| 13 | | | 100 (7) | | | | | MW | | | | J, 70°, Pl, T, Clnf, FeSt<br>J, 65°, Pl, T, Clnf, FeSt<br>XW Clay Seam<br>J, 70°, Pl, O, Clnf, FeSt | | |
| 14 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Is(50) = 2.09MPa | | x |
| | | | | | | | | | | | | Is(50) = 1.61MPa | | o |
| 15 | | | 100 (50) | | | | | | | | | | | |
| | | | | | | | | | | | | Is(50) = 1.74MPa | | x |
| | | | | | | | | | | | | Is(50) = 4.23MPa | | o |
| 16 | | | 100 (25) | | | | | | | | | | | |
| | 65.56 | | | | **SILTSTONE (SW):** Red/grey, fine grained, subtly foliated, high strength, indurated and/or slightly metamorphosed. | | | | | | | J, 35°, Pl, O, Clnf, FeSt | | |
| 17 | | | | | Defects:<br>-Joint at 25°-30° (1/m)<br>-Joint at 30°-35° (2/m)<br>-Joint at 55°-60° (3-4/m) | | | SW | | | | DD = 2.69t/m$^3$; MC = 0.7%; UCS=25.3MPa | | UCS |
| | | | 100 (0) | | | | | | | | | | | |
| 18 | | | | | Defects are generally very close to closely spaced.<br>Defect surfaces are planar, tight or closed, smooth, clay infilled, iron stained. | | | | | | | Is(50) = 0.87MPa | | x |
| | | | | | | | | | | | | J, 25°, Pl, O, Clnf, FeSt Is(50) = 4.38MPa | | o |
| | 63.35 | | 100 | | | | | | | | | | | |
| | | | 100 (0) (0) | | **SANDSTONE (SHEAR ZONE) (HW):** Grey/brown, medium to coarse grained, massive, very low strength,<br>Defects:<br>-Brecciated and clayey throughout. | | | HW | | | | Shear Zone<br>J, 60°, Pl, O, SR, Clnf, FeSt | | |
| 19 | | | | | | | | | | | | | | |
| 20 | 62.00 | | 100 | | | | | | | | | | | |

Borehole terminated at 20m

REMARKS

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# CORE PHOTO LOG - BH C42

| Project Name: | BRUCE HIGHWAY UPGRADE - SECTION C | | |
|---|---|---|---|
| Project No.: | FG5799 | Date: | 08/09/2011 |
| Details: | Cut 10 | Start Depth (m): | 2.00 |
| Reference No.: | H11131 | Finish Depth (m): | 20.00 |


SCALE 1:5

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