# BOREHOLE ENGINEERING LOG

**HOLE NO : N071B_BH05**

| | | |
|---|---|---|
| CLIENT : TRANSPORT AND MAIN ROADS | POSITION : E: 358641, N: 8137295 (56 MGA94) | PAGE : 1 OF 1 |
| PROJECT : TNRP | SURFACE ELEVATION : 337.5 (AHD) | DATE DRILLED : 7/24/13 TO 7/24/13 |
| JOB NO : CB27000.F687 | DIP / AZIMUTH : 90° | LOGGED BY : JP |
| LOCATION : KENNEDY HWY (CAIRNS - MAREEBA) | | CHECKED BY : AJ |

DRILLING | MATERIAL

| PROGRESS: DRILLING & CASING | PROGRESS: WATER | DRILLING PENETRATION | GROUND WATER LEVELS | SAMPLES & FIELD TESTS | RL (m) | DEPTH (m) | GRAPHIC LOG | CLASSIFICATION SYMBOL | MATERIAL DESCRIPTION<br>Soil Type, Colour, Plasticity or Particle Characteristic<br>Secondary and Minor Components | MOISTURE CONDITION | CONSISTENCY | STRUCTURE<br>& Other Observations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AD/T | | F | NOT OBSERVED | | 337.5 | 0.0 | | | 0.08m ASPHALT: (0.08 m). | | | FILL |
| | | | | | | | | | SANDY GRAVEL: Orange brown, grey brown, fine to medium gravel, angular, fine to coarse grained sand, trace of fines. | | | |
| | | H | | 0.30m DS | | | | | 0.25m QUARTZITE: Orange brown, extremely to highly weathered, very low to medium strength. | D | | EXTREMELY TO HIGHLY WEATHERED ROCK |
| | | VH | | 0.50m | 337.0 | 0.5 | | | 0.50m End of Borehole | | | 0.50: TC - Bit Refusal |
| | | | | | 336.5 | 1.0 | | | | | | |
| | | | | | 336.0 | 1.5 | | | | | | |
| | | | | | 335.5 | 2.0 | | | | | | |
| | | | | | 335.0 | 2.5 | | | | | | |
| | | | | | 334.5 | 3.0 | | | | | | |
| | | | | | 334.0 | 3.5 | | | | | | |
| | | | | | 333.5 | 4.0 | | | | | | |

**DRILLING**

| | | | |
|---|---|---|---|
| HA | Hand Auger | RR | Rock Rolling |
| AS | Auger Screw | AT | Air Track |
| AD/T | Auger Drill TC-bit | HQ | HQ Coring |
| AD/V | Auger Drill V-bit | NQ | NQ Coring |
| WB | Washbore | NMLC | NMLC Coring |

DRILLING PENETRATION

VE Very Easy F Firm VH Very Hard
E Easy H Hard

GROUNDWATER SYMBOLS

= Water level (static)
= Water level (during drilling)

**SAMPLES & FIELD TESTS**

| | | | |
|---|---|---|---|
| DS | Disturbed Sample | SPT | Standard Penetration Test |
| ES | Env Soil Sample | U | Undisturbed Tube Sample |
| EW | Env Water Sample | W | Water Sample |

HP Hand Penetrometer
HV Hand Vane Shear
(P: Peak Su R: Residual Su)
N SPT blows per 300mm
HW SPT penetration by hammer weight
RW SPT penetration by rod weight

MOISTURE CONDITION
D = Dry M = Moist W = Wet

**DENSITY (SPT N-value)**

| | | |
|---|---|---|
| VL | Very Loose | 0 - 4 |
| L | Loose | 4 - 10 |
| MD | Medium Dense | 10 - 30 |
| D | Dense | 30 - 50 |
| VD | Very Dense | 50 - 100 |
| CO | Compact | >50/150mm |

**CONSISTENCY (Su) {N-value}**

| | | |
|---|---|---|
| VS | Very Soft | < 12 kPa {0-2} |
| S | Soft | 12 - 25 {2-4} |
| F | Firm | 25 - 50 {4-8} |
| St | Stiff | 50 - 100 {8-15} |
| VSt | Very Stiff | 100 - 200 {15-30} |
| H | Hard | > 200 kPa {>30} |

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