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# ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND  
SYMBOLS REFER FORM F:GEOT 017/8-2014

BOREHOLE No   BH179    
SHEET   2   of   3    
REFERENCE No   12120  

PROJECT   Mackay Ring Road Geotechnical Investigation - Stage 1    
LOCATION   Fursden Creek Overflow Bridge Pier 4; CH: 8770m;   COORDINATES   721441.9 E; 7661089.9 N    
PROJECT No   FG6184   SURFACE R.L.   6.98m   PLUNGE            DATE STARTED   16/10/14   GRID DATUM   GDA 94 /MGA Zone 55    
JOB No            HEIGHT DATUM   AHD   BEARING            DATE COMPLETED   17/10/14   DRILLER   Saxon Drilling  

| DEPTH (m) | R.L. (m) | AUGER CASING WASH BORING CORE DRILLING | RQD (%) | CORE REC % | SAMPLE | MATERIAL DESCRIPTION  | LITHOLOGY | INTACT STRENGTH |            |   |   |   |    |    |    |    |   |    | DEFECT SPACING (mm) | GRAPHIC LOG | ADDITIONAL DATA AND TEST RESULTS | SAMPLES TESTS |                  |     |
|-----------|----------|--|---------|------------|--------|---|-----------|-----------------|------------|---|---|---|----|----|----|----|---|----|---------------------|-------------|----------------------------------|---------------|------------------|-----|
|           |          |  |         |            |        |   |           | USC             | WEATHERING |   |   |   |    |    |    |    |   |    |                     |             |                                  |               |                  |     |
|           |          |  |         |            |        |   |           | EH              | VH         | H | M | J | VL | EL | EC | VC | W | WV | WVW                 | EW          |                                  |               |                  |     |
| 10        | -3.02    |  |         |            | K      | <b>Clayey SAND (ALLUVIUM)</b><br>Brown and yellow, moist, medium dense. Fine to medium grained sand. Trace fine gravel.                 | (SC)      |                 |            |   |   |   |    |    |    |    |   |    |                     |             |                                  |               | 8,13,14<br>N=27  | SPT |
| 11        |          |  |         |            | L      |   |           |                 |            |   |   |   |    |    |    |    |   |    |                     |             |                                  |               | 6,11,11<br>N=22  | SPT |
| 11.50     | -4.52    |  |         |            |        | <b>Silty CLAY (RESIDUAL)</b><br>Brown-yellow and grey, moist, mainly very stiff to hard. High plasticity.                               |           |                 |            |   |   |   |    |    |    |    |   |    |                     |             |                                  |               | 8,11,13<br>N=24  | SPT |
| 12        |          |  |         |            | M      |   |           |                 |            |   |   |   |    |    |    |    |   |    |                     |             |                                  |               | 6,9,12<br>N=21   | SPT |
| 13        |          |  |         |            | N      |   | (CH)      |                 |            |   |   |   |    |    |    |    |   |    |                     |             |                                  |               | 15,15,17<br>N=32 | SPT |
| 14        |          |  |         |            | P      | 14.00m: Becoming Sandy CLAY. Low plasticity.  |           |                 |            |   |   |   |    |    |    |    |   |    |                     |             |                                  |               |                  |     |
| 14.90     | -7.92    |  |         |            |        | <b>GRANODIORITE (Kgwu)</b><br>XW: Recovered as grey-black and brown, moist to dry, very dense Clayey SAND. Fine to medium grained sand. |           |                 |            |   |   |   |    |    |    |    |   |    |                     |             |                                  |               | 15,22,30/130     | SPT |
| 15        |          |  |         |            | Q      |   |           |                 |            |   |   |   |    |    |    |    |   |    |                     |             |                                  |               | 23,30/70         | SPT |
| 16        |          |  |         |            | R      |   |           |                 |            |   |   |   |    |    |    |    |   |    |                     |             |                                  |               | 30/120           | SPT |
| 17        |          |  |         |            | S      |   |           |                 |            |   |   |   |    |    |    |    |   |    |                     |             |                                  |               | 30/110           | SPT |
| 18        |          |  |         |            | T      |   |           |                 |            |   |   |   |    |    |    |    |   |    |                     |             |                                  |               | 30/70            | SPT |
| 19        |          |  |         |            | U      |   |           |                 |            |   |   |   |    |    |    |    |   |    |                     |             |                                  |               |                  |     |
| 20        |          |  |         |            |        |   |           |                 |            |   |   |   |    |    |    |    |   |    |                     |             |                                  |               |                  |     |

REMARKS   Kgwu - Wundaru Granodiorite;    
  # Sample failed along existing defect surface.  

LOGGED BY  
**MS**



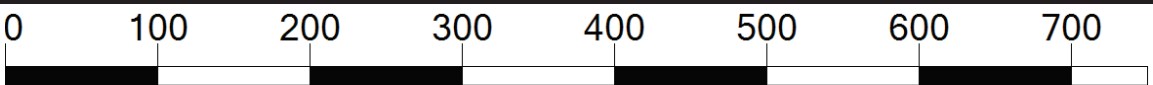
**CORE PHOTO LOG**

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Department of  
 Transport and Main Roads

|              |                               |                  |          |
|--------------|-------------------------------|------------------|----------|
| Project Name | <b>Mackay – Ring Road</b>     |                  |          |
| Project No   | FG6184                        | Date             | 17/10/14 |
| Borehole No  | BH179                         | TMR H No         | 12120    |
| Location     | Fursden Creek Overflow Bridge | Start Depth (m)  | 22.2     |
| Detail       | Pier 4                        | Finish Depth (m) | 27.9     |
| Chainage     | <b>8770m</b>                  | Submitted By     | J. Lopez |
| Remarks      |                               |                  |          |



SCALE 1:5