#### **COPYRIGHT NOTICE**

This geotechnical log and its associated data (the Document) is licensed by the Queensland Department of Transport and Main Roads under the <u>Creative Commons Attribution 4.0 Licence</u> (CC BY 4.0). When reusing the Document, in whole or in part, please attribute the Department as follows: "(c) State of Queensland (Department of Transport and Main Roads) 2020, licensed under the CC BY 4.0 Licence". This licence does not apply to the Queensland Government logo or trademarks.

#### **LIMITATION OF LIABILITY**

The CC BY 4.0 Licence contains a comprehensive Disclaimer of Warranties and Limitation of Liability. In addition, please note that this Document was prepared for Departmental use only. Reuse of the Document by anyone for any other purpose could result in error and/or loss. You should obtain professional advice before making decisions based on the contents of the Document.

When reproducing any part of this Document, you must also reproduce this limitation of liability notice in addition to the italicised attribution statement above.

Retrieved from the Queensland Geotechnical Database http://qgd.org.au/



QLD\_DMR\_LIB\_01A GLB Log A\_ENGINEERING BOREHOLE LOG WLITHOLOGY TOWNSVILLE RING ROAD 4 GEANEY LANE.GPJ <<DrawngFile>> Datgel CPT Tool gilnt Add-In 17/10/2013 11:47

# **ENGINEERING**BOREHOLE LOG

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

| BOREHOLE No  | BH407      |
|--------------|------------|
| SHEET        | _1_ of _3_ |
| REFERENCE No | H11495     |

| PRO   | JECT    | _T   | <u>owr</u>   | <u>sville R</u> | ing [     | Road Section 4  |                         |             |                                  |                                       |                |  |             |
|---|---------|--|--------------|-----------------|-----------|---|-------------------------|-------------|----------------------------------|---------------------------------------|----------------|--|-------------|
| LOCA  | ATION   | <u>_G</u>  | <u>ear</u>   | <u>ney Lane</u> | <u>Ov</u> | <u>erpass</u>   |                         |             |                                  |                                       | СО             | ORDINATES <u>464720.2 E; 7871710.</u>          | <u>1 N</u>  |
| PRO   | JECT No | <u>_F</u> (  | <u>G60</u>   | <u> </u>        | · — -     | SURFACE R.L. <u>13.24m</u> PLUNGE   |                         |             | D                                | ATE STARTED                           | <u> 1/5/13</u> | GRID DATUM GDA 94                              |             |
| JOB   | No      | _26  | <u> 38/1</u> | <u> 10M/5</u>   |           | HEIGHT DATUM <u>AHD</u> BEARING   |                         |             | DATE                             | E COMPLETED .                         | <u>2/5/13</u>  | DRILLER Cairns Drilling                        | L <b></b> _ |
| O DEPTH (m)   |         | RQD (1)% MATERIAL DESCRIPTION  WEST OF THE PROPERTY OF THE PRO |              | LITHOLOGY       | USC       | STRE  | ACT DEFECT SPACING (mm) | GRAPHIC LOG | ADDITIONAL DATA AND TEST RESULTS | SAMPLES<br>TESTS                      |                |  |             |
|   | 11.24   |  |              |                 |           | FILL Based on drillers log.  Clayey SAND  |                         |             |                                  |                                       |                | _ Non Destructive Drilling Techniques<br>Used. |             |
| -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>3   |         |  |              |                 | С         | Brown, moist, dense to very dense. Fine to medium grained sand.                 |                         | (SC         | (2)                              |                                       |                | 8,16,25<br>N=41                                | SPT =       |
| -<br>-<br>-<br>-<br>-<br>-  | 9.24    |  |              |                 | D         | Becoming very dense.  |                         |             |                                  |                                       |                | 23,30/80<br>N>50                               | SPT -       |
| - ·  <br> <br> <br>   |         |  |              |                 | E         | Silty SAND Pale brown to brown, moist, very dense. Fine to medium grained sand. |                         |             |                                  |                                       |                | 30/110<br>N>50                                 | SPT         |
| -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- |         |  |              |                 | F         |   |                         | (SM         | n)                               |                                       |                | 15,30/145<br>N>50                              | SPT -       |
| -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>8<br>-   |         |  |              |                 | G         |   |                         |             |                                  | + + + + + + + + + + + + + + + + + + + |                | 14/06/13<br>18,22,30/120<br>N>50               | SPT -       |
| -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- |         |  |              |                 | Н         | Sand becoming medium to coarse grained.   |                         |             |                                  |                                       |                | 15,25,30/120<br>N>50                           | SPT -       |
| R   | EMARK   | S <u>St</u>  | <u>and</u>   | lpipe Pie       | zom       | eter Installed  | ·                       |             |                                  |                                       |                | LOGGED BY<br>VP                                |             |
|   |         | _  | _            |                 |           |   |                         |             |                                  |                                       |                |  |             |



QLD\_DMR\_LIB\_01A GLB Log A\_ENGINEERING BOREHOLE LOG WLITHOLOGY TOWNSVILLE RING ROAD 4 GEANEY LANE.GFJ <<DrawingFile>> Datgel CPT Tool gibt Add-in 17/10/2013 11:47

### ENGINEERING BOREHOLE LOG

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

BOREHOLE No \_\_\_BH407 \_\_\_
SHEET \_\_2 \_\_ of \_\_3 \_\_
REFERENCE No \_\_\_H11495 \_\_

| PRO   | JECT        | Townsville Ring Road Section 4   |     |                              |             |   |                     |                 |                                    |                            |  |  |
|---|-------------|--|-----|------------------------------|-------------|---|---------------------|-----------------|------------------------------------|----------------------------|--|--|
| LOCA  | ATION       | Geaney Lane Overpass         COORDINATES         464720.2 E; 7871710.1 N     |     |                              |             |   |                     |                 | OORDINATES 464720.2 E; 7871710.1 N |                            |  |  |
| PRO   | JECT No     | No <u>FG6020</u> SURFACE R.L <u>13.24m</u> PLUNGE DATE STARTED <u>1/5/13</u> |     |                              |             |   |                     |                 | GRID DATUM GDA 94                  |                            |  |  |
| JOB   | No          | 268/10M/5 HEIGHT DATUM AHD BEARING   |     |                              | _           | -   | DATE COMPLETED      | 2/ <u>5/</u> 13 | DRILLER <u>Cairns Drilling</u>     |                            |  |  |
| DEPTH (m)   | R.L.<br>(m) | CASING<br>ROCK ROLLER<br>WASH BORING   |     | RQD<br>( )%<br>CORE<br>REC % | MATERIAL    |   | LITHOLOGY           | USC             | WEATHERING                         | INTACT DEFECT SPACING (mm) | GRAPHIC LOG                                  | ADDITIONAL DATA  AND  TEST RESULTS  AND  SAMPLES SAMPL |
| - 11<br>11<br>  |             |  |     |                              | J           | Silty SAND (Cont'd)  Becoming dense.  |                     |                 |                                    |                            |  | 12,18,25<br>N=43<br>SPT =  |
| -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- |             |  |     |                              | L           | Some clayey sand.   |                     | (S              | sM)                                |                            |  | 10,13,26<br>N=39 SPT -   |
| - 14<br>  | -2.76       |  |     |                              | M           |   |                     |                 |                                    |                            |  | 12,14,20<br>N=34 SPT   |
| - 17  |             |  |     |                              | N           | VOLCANIC BRECCIA Pyroclastic rock consisting of angular fragments embedded in a finer grained matrix. HW: Pale pink, red brown, medium to coarse grained, massive, generally very low strength. XW in part which exhibits the engineering properties of a Clayey Sand with some gravel. | 44444444            |                 |                                    |                            |  | Rockroller 30/20 Technique Used from 16.5m. N>50; No Recovery  |
| -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- |             |  |     |                              | P           |   |                     | Н               | ıw                                 |                            |  | 30/40<br>N>50; No Recovery   |
| <u> </u>  |             |  |     | (0)                          | Q           |   |                     |                 |                                    |                            |  | 30/50<br>N-50  |
|   | -6.56       |  |     | (0)                          |             |   | Δ                   | L               |                                    |                            | <u>                                     </u> | N>50   |
| _ 20  |             |  |     |                              |             | MW: (See over).   | $\perp^{\triangle}$ | M               | <b>IW</b>                          |                            |  |  |
| R   | EMARK       | S <u>Sta</u>   | ndp | oipe <u>Pie</u>              | zo <u>m</u> | eter Installed  |                     | _               | _                                  |                            |  | LOGGED BY  |
|   |             |  |     |                              |             |   |                     | _               | _                                  |                            |  | VP   |



# **ENGINEERING**BOREHOLE LOG

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

| BOREHOLE No  | BH407      |
|--------------|------------|
| SHEET        | _3_ of _3_ |
| REFERENCE No | H11495     |

| PRO.                  | JECT  | Townsville Ring Road Section 4                        |             |        |   |   |           |        |                                  |                           |             |                                |  |         |  |
|-----------------------|---|---|-------------|--------|---|---|-----------|--------|----------------------------------|---------------------------|-------------|--------------------------------|--|---------|--|
|                       |   |   |             |        |   |   |           |        | RDINATES 464720.2 E; 7871710.1 N |                           |             |                                |  |         |  |
| PRO.                  | JECT No   | <u>FG6</u>  | 020         |        | SURFACE R.L. <u>13.24m</u>  | PLUNGE  |           |        | DATE S                           | STARTED                   | 1/5/13      | GRID DATUM                     |  |         |  |
| JOB                   | No  | 268/10M/5 HEIGHT DATUM AHD BEARING                    |             |        |   | DATE COM  | IPLETED . | 2/5/13 | DRILLER <u>Cairns Dr</u>         |                           | L           |                                |  |         |  |
| OEPTH (m)             | R.L.<br>(m)   | CASING<br>ROCK ROLLER<br>WASH BORING<br>CORE DRILLING | á           | SAMPLE | MATERIAL<br>DESCRIPTIO  |   | LITHOLOGY | USC    | INTACT<br>STRENGTH<br>ボデェミュラロ    | DEFECT<br>SPACING<br>(mm) | GRAPHIC LOG | ADDITIONAL<br>AND<br>TEST RESU |  | SAMPLES |  |
| -22                   | 0.10  |   | 100<br>(92) |        | VOLCANIC BRECCIA MW:(Cont'd) Pink, red with minor dark gre coarse grained, massive, me high strength. HW in parts si: 500mm with very low strengt! Defects: - Joints @ 10°-20° (1/m) - Joints @ 45° (2/m) - Joints @ 60°-70° (2/m) - Irregular Joint (1/m) Defects are generally planar irregular), rough, open, clay i Defect spacing: Medium to w | dium to mainly<br>zing up to<br>h.<br>(some<br>nfilled. |           | HW     |                                  |                           |             | s(<br> s(<br> s(<br> s(<br> s( | 50) = 2.14MPa<br>50) = 1.21MPa<br>50) = 1.18MPa<br>50) = 1.35MPa<br>JCS=21.6 MPa<br>50) = 1.18MPa<br>50) = 1.43MPa<br>50) = 0.68MPa<br>50) = 2.51MPa |         |  |
| -26<br>27<br>28<br>29 | -12.46  | 3 Stan  | dpipe Pie   | zom    | Borehole terminated at 25.7r  | n   |           |        |                                  |                           |             |                                |  |         |  |
|                       | REMARKS Standpipe Piezometer Installed LOGGED BY VP |   |             |        |   |   |           |        |                                  |                           |             |                                |  |         |  |

DEPARTMENT OF TRANSPORT & MAIN ROADS Geotechnical Branch 35 Butterfield Street, HERSTON Qld 4006 Phone 07 3066 3336



| Townsville Ring Road Section 4 |  |   |
|--------------------------------|--|---|
| FG 6020                        | Date   | 02/05/13  |
| BH 407                         | TMR H No                                       | 11495   |
| Geaney Lane Overpass           | Start Depth (m)                                | 19.50   |
| Abutment B (Right)             |  | 25.70   |
|                                | Submitted By                                   | MS  |
|                                |  |   |
| 25.0                           |  | 24.0<br>24.0<br>24.0  |
| 200 300 400<br>SCALE 1:5       | 500 600  | 700   |
|                                | BH 407 Geaney Lane Overpass Abutment B (Right) | FG 6020 BH 407 TMR H No Geaney Lane Overpass Abutment B (Right) Finish Depth (m) Submitted By |