Borehole Infrastructure Report

<table>
<thead>
<tr>
<th>Bore ID</th>
<th>Casing Size (mm)/ Type</th>
<th>TOC (mAHD)</th>
<th>Casing Depth (mBGL)</th>
<th>Screen Size (mm)/ Aperture (mm)/ Type</th>
<th>Cement (mBGL)</th>
<th>Screen Depth (mBGL)</th>
<th>SWL (mTOC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18889</td>
<td>50/PVC12</td>
<td>596.261</td>
<td>-0.9</td>
<td>7.2</td>
<td>-0.8</td>
<td>1.0</td>
<td>4.43</td>
</tr>
</tbody>
</table>

Map of Ti Tree Super Science Piezometer Locations, Pine Hill Station, NT.

Note* Appendix includes Well Completion, Lithology and Geophysical Logs, Hydraulic Test and Chemical Analysis.

Infrastructure Report prepared by:  

Contact Details:  

Checked by:  

Prof Peter Cook  

stephanie.villeneuve@flinders.edu.au  
Office: 08 8201 2724  

Prof AB
Well Completion Log

Construction Legend:
- Steel
- Gravel Pack
- Creek Sand
- PVC
- Lock Cap
- Fall Back
- Slots
- Bung
- Soil
- Hole
- End Cap
- Cuttings
- Cement
- Bentonite
- Screen

Page 1 of 1

Date Start: 5/08/2012
Completed: 6/06/2012
Contractor: NRETAS
Lithology Log

Very fine (some grains up to very coarse) silty soft friable silty sand light brown (5YR5/6).

As above, passing down to coarse sand with pebbles to 15 mm.

Coarse pebbly sand, light brown (5YR6/4).

Very coarse pebbly sand, moderate orange pink (5YR8/4). Pebbles to 50 mm.

As above, plus minor silty sandstone as below

Soft semi-plastic silty sandstone, mostly fine but ranging up to coarse, light brown (5YR5/6).

---

<table>
<thead>
<tr>
<th>Page 1 of 1</th>
<th>Air Lift Yield L/s</th>
<th>small</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Start</td>
<td>5/06/2012</td>
<td></td>
</tr>
<tr>
<td>Completed</td>
<td>6/06/2012</td>
<td></td>
</tr>
<tr>
<td>Contractor</td>
<td>NRETAS</td>
<td></td>
</tr>
<tr>
<td>Status</td>
<td>Standing Water Level m BGL</td>
<td>3.4</td>
</tr>
<tr>
<td>Piezometer</td>
<td>Gamma cps</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Depth of casing at logging 3 &amp; 6.5 m</td>
<td></td>
</tr>
</tbody>
</table>
Geophysical Logs

The portable Mount Sopris logging system was used to collect geophysical data from bore 18889. The 2PGS probe was used to collect natural gamma measurements, and the 2PIA probe was used to measure conductivity/induced resistivity.
Pumping Test

A pumping test was performed on piezometer 18889 on 30/06/2012 by attaching a level logger to a submersible Whale pump, lowering the pump to a depth of 7.5 mTOC and using a flow rate of 5.2 L/min. The results of the test are presented below. The report author may be contacted for the full data set.
Chemical Analysis

Basic chemical analysis of the dissolved solutes and concentration of ions in the borehole was performed. The testing also included hydrogen ion activity (pH) and fluid electrical conductivity (EC). Data from the chemical analysis is shown below.

<table>
<thead>
<tr>
<th>Well ID</th>
<th>Date Sampled</th>
<th>SWL m</th>
<th>TOC μS/cm</th>
<th>pH</th>
<th>EC μS/cm</th>
<th>Temp °C</th>
<th>Alkalinity mg/L CaCO₃</th>
<th>Ca²⁺ mg/L</th>
<th>K⁺ mg/L</th>
<th>Mg²⁺ mg/L</th>
<th>Na⁺ mg/L</th>
<th>Si mg/L</th>
<th>Cl⁻ mg/L</th>
<th>NO₃⁻ mg/L</th>
<th>SO₄²⁻ mg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>18889</td>
<td>30/06/2012</td>
<td>4.425</td>
<td>5.64</td>
<td>50</td>
<td>25.2</td>
<td>2.52</td>
<td>3.1</td>
<td>3.16</td>
<td>1.4</td>
<td>4.32</td>
<td>5.71</td>
<td>2.8</td>
<td>&lt;0.05</td>
<td>1.7</td>
<td></td>
</tr>
</tbody>
</table>