



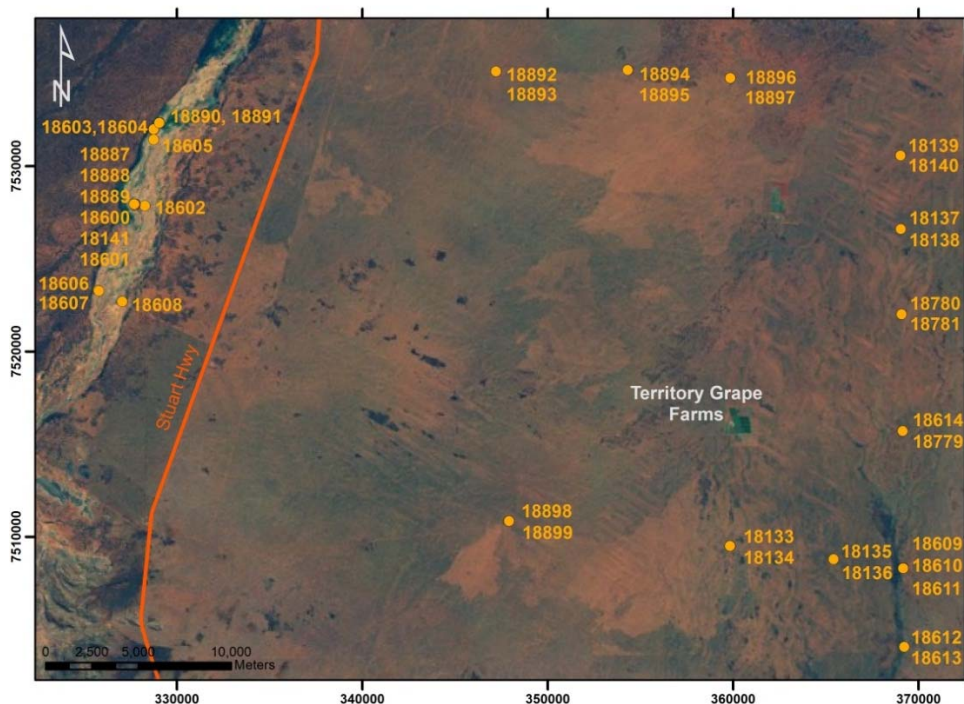
An Australian Government Initiative

Groundwater Education Investment Fund Project

Borehole Infrastructure Report

Borehole Type	Piezometer	GPS Easting	(MGA-94 Zone 53)	329034
Unique Well ID	18891	GPS Northing		7532344
Completion Date	22 June 2012	Location		Pine Hill Station, NT
Drilled By	NRETAS	Installed By		NRETAS
Monument Type	Round-Swing Top	Depth Drilled		11 m
Monument Diameter/Width	216 mm	Drilled Diameter/Method		200 mm (min), Rotary Air
Development Details	Airlift 0.01 L/s			
Project Comments: 18891 is a single completion piezometer adjacent to the Woodford River, Ti Tree, NT.				

Bore ID	Casing Size (mm)/ Type	TOC (mAHD)	Casing Depth (mBGL)		Screen Size (mm)/ Aperture (mm)/ Type	Cement (mBGL)		Screen Depth (mBGL)		SWL (mTOC)
	200/Steel		-1.0	3.0	NA	0.0	3.0	NA	NA	NA
18891	50/PVC12	588.64	-0.925	6.6	50/0.5/UPVC18	0.0	3.9	4.6	5.6	5.97

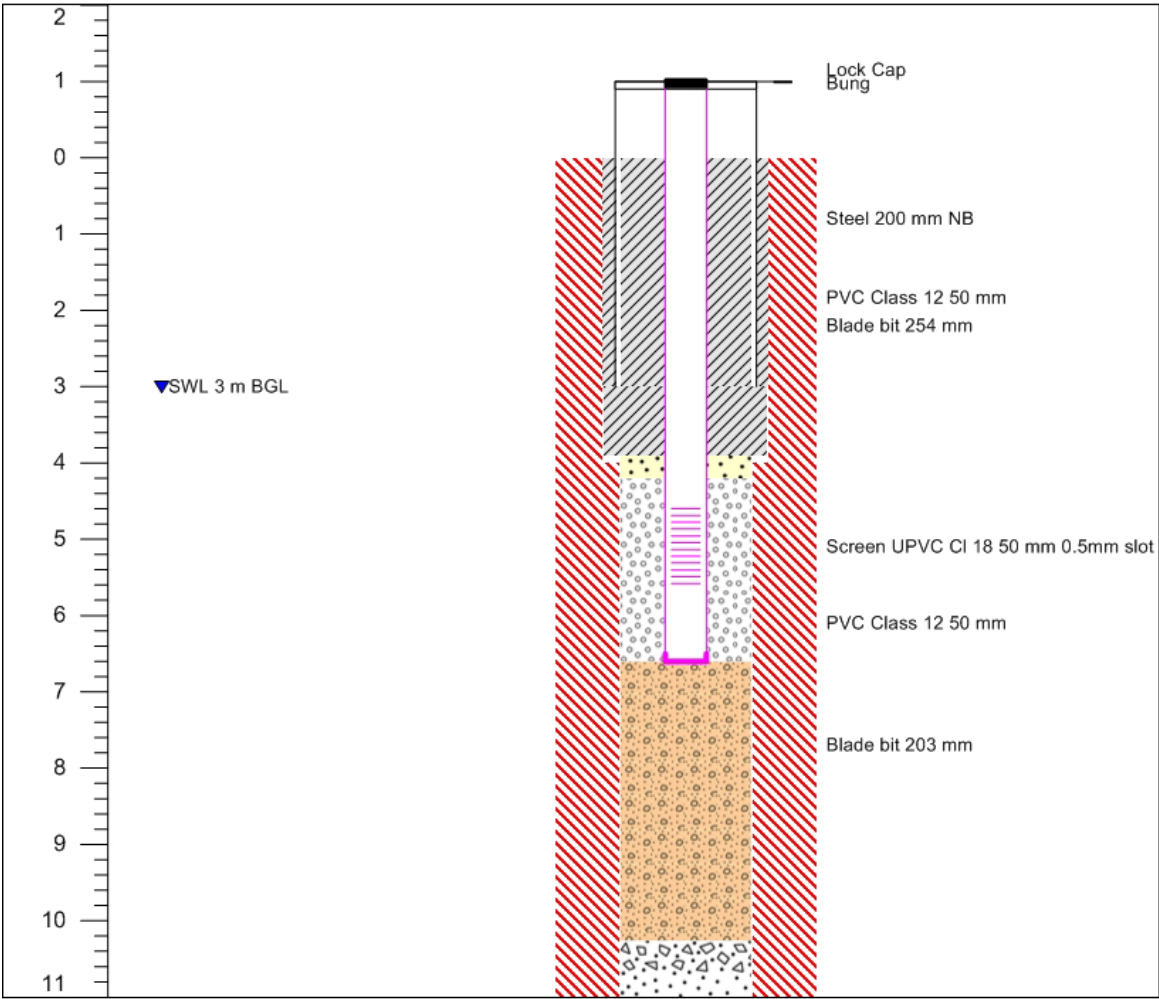


Map of Ti Tree Super Science Piezometer Locations, Pine Hill Station, NT.

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

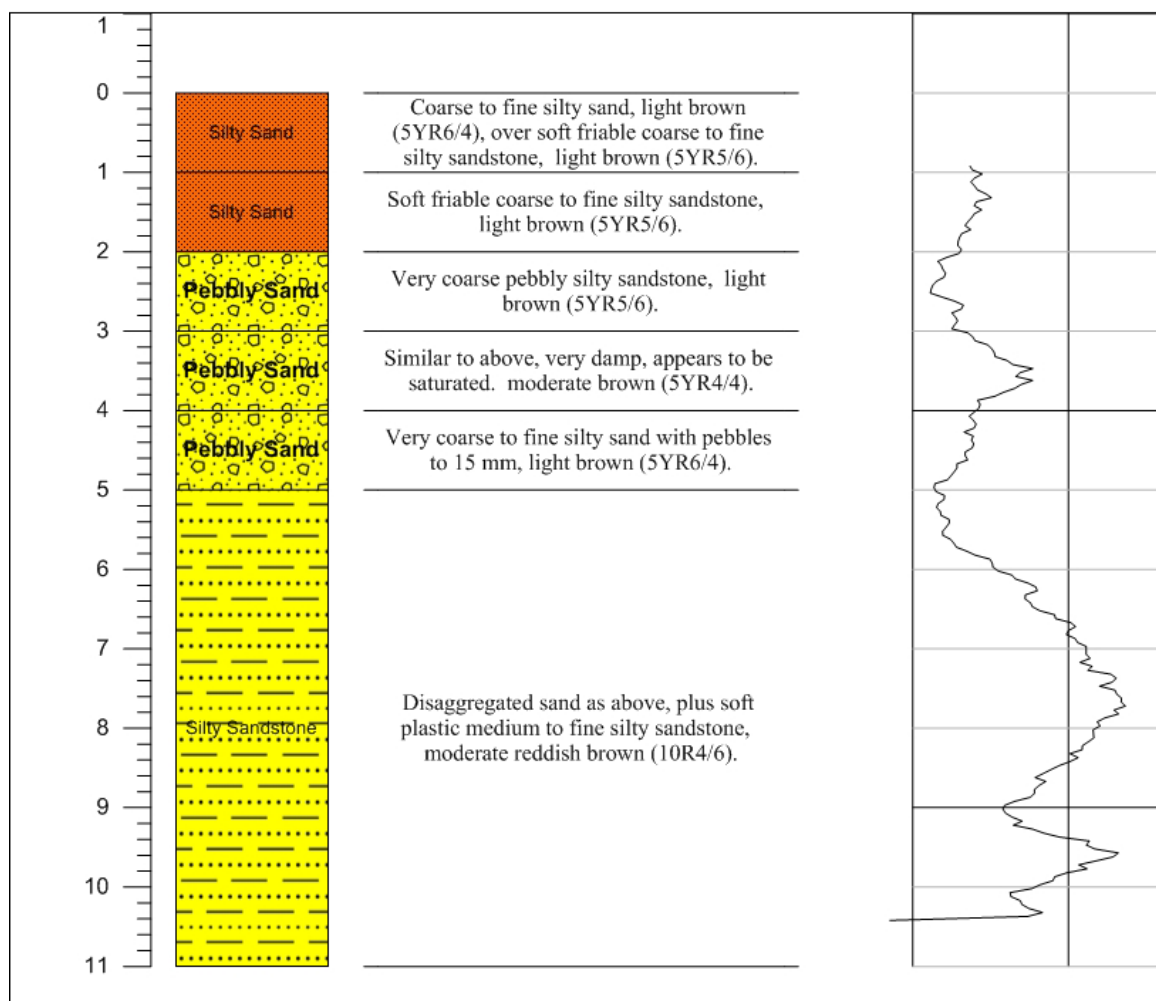
Infrastructure Report prepared by:	Contact Details:	Checked by:
	stephanie.villeneuve@flinders.edu.au Office: 08 8201 2724	Prof Peter Cook 

Well Completion Log



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Date Start 21/06/2012	Steel	Gravel Pack	Creek Sand
Completed 22/06/2012	PVC	Lock Cap	Fall Back
Contractor NRETAS	Slots	Bung	Soil
	Hole	End Cap	Cuttings
	Cement	Bentonite	Screen

Lithology Log



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Air Lift Yield L/s 0.01

Date Start 21/06/2012 Electrical Conductivity μ Siemens/cm

Completed 22/06/2012 Standing Water Level m BGL

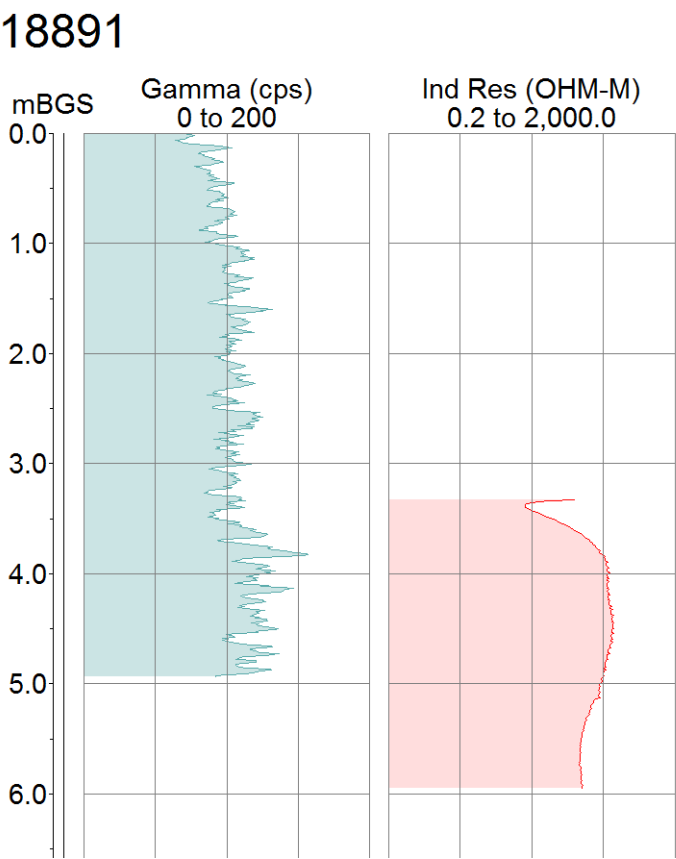
Contractor NRETAS Status Piezometer

Gamma cps

Depth of casing at logging 3 m

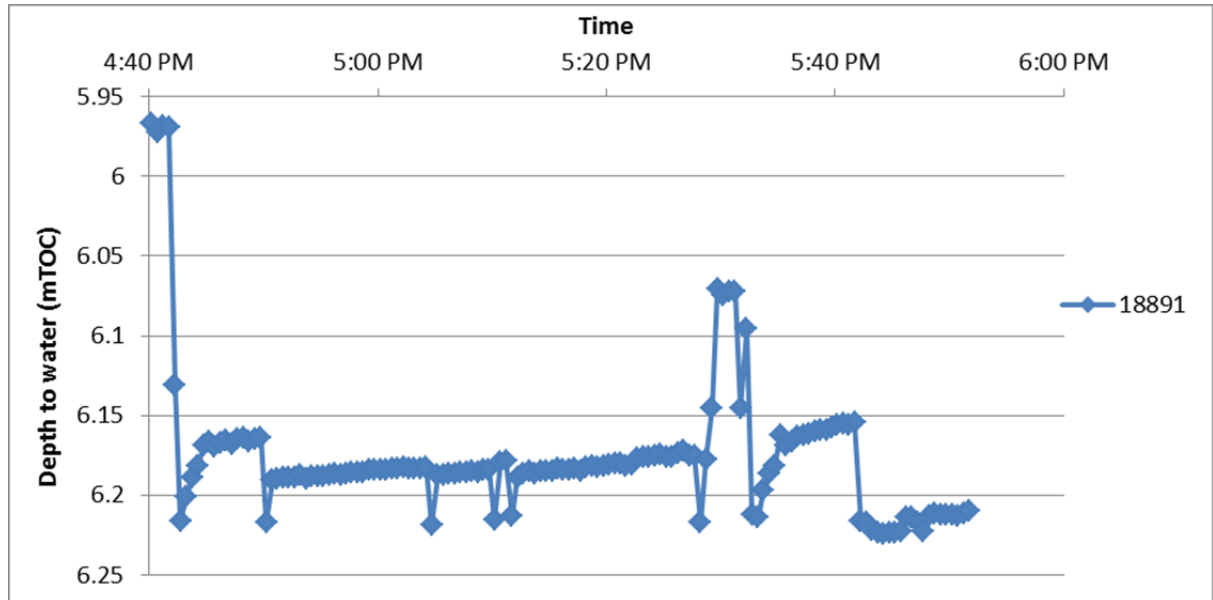
Geophysical Logs

The portable Mount Sopris logging system was used to collect geophysical data from bore 18891. 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 18891 on 30/06/2012 by attaching a level logger to a submersible Whale pump and lowering the pump to a depth of 6.25 mTOC. This bore pumped dry almost immediately and the flow rate was not measured. This test was performed during sampling so the level was allowed to recover somewhat before pumping again, and repeated until the required purge volume for sampling was reached. The results of the test are presented below. The initial recovery following each drawdown is likely from water draining back into the borehole from the tubing. 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.

Well ID	Date Sampled	SWL	Field Parameters				Laboratory Analyses							
		m	pH	EC	Temp	Alkalinity	Ca ²⁺	K ⁺	Mg ²⁺	Na ⁺	Si	Cl ⁻	NO ₃ ⁻	SO ₄ ²⁻
		TOC		μS/cm	°C	mg/L CaCo ³	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18891	30/06/2012	5.97	6.29	537	19	-	32.8	11.4	10.8	65.9	8.83	50	0.78	80