



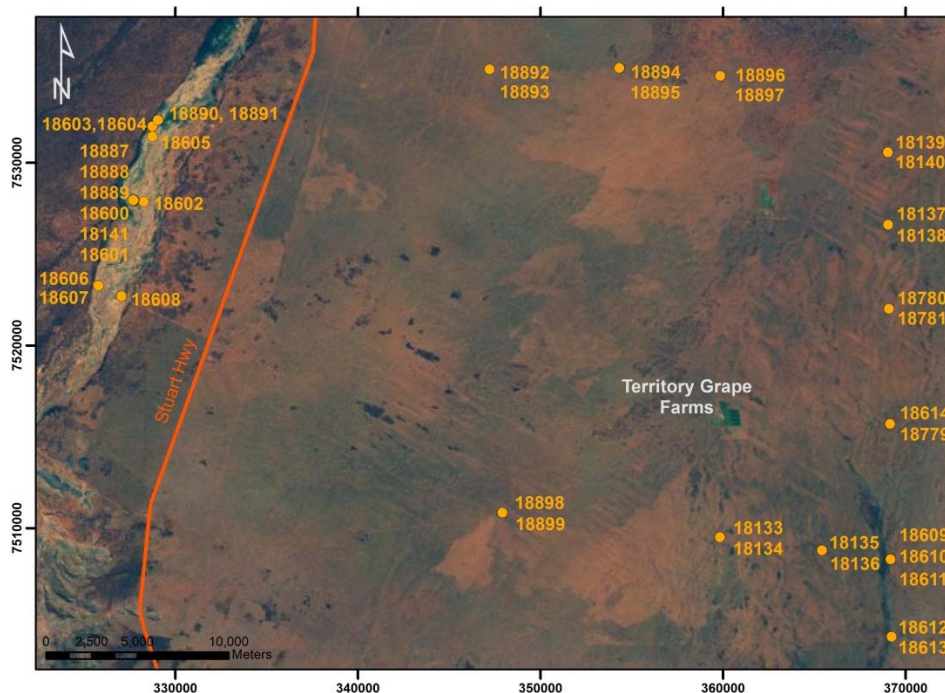
An Australian Government Initiative

Groundwater Education Investment Fund Project

Borehole Infrastructure Report

Borehole Type	Multi-Level Piezometer	GPS Easting	(MGA-94 Zone 53)	328733
Unique Well ID	18603	GPS Northing		7531957
Completion Date	16 May 2011	Location		Pine Hill Station, NT
Drilled By	NRETAS	Installed By		NRETAS
Monument Type	Round-White-Swing Top	Depth Drilled		60.0 m
Monument Diameter/Width	216 mm	Drilled Diameter/Method		200 mm (min), Rotary Air
Development Details	Airlifted 5L/s.			
Project Comments: 18603 is a dual completion nested piezometer, located approximately 20 m south of the Woodforde River channel, Ti Tree Basin, NT.				

Bore ID	Casing Size (mm)/ Type	TOC (mAHD)	Casing Depth (mBGL)		Screen Size (mm)/ Type	Cement (mBGL)		Screen Depth (mBGL)		SWL (mTOC)
	200/Steel		-0.73	5.7	NA	0.0	5.7	NA	NA	NA
18603-2	50/PVC12	589.395	-0.46	43.5	50/1/PVC	0.0	5.0	41.5	42.5	37.27
18603-1	50/PVC12	589.413	-0.49	60.0	50/1/PVC	0.0	5.0	58.5	60.0	37.305

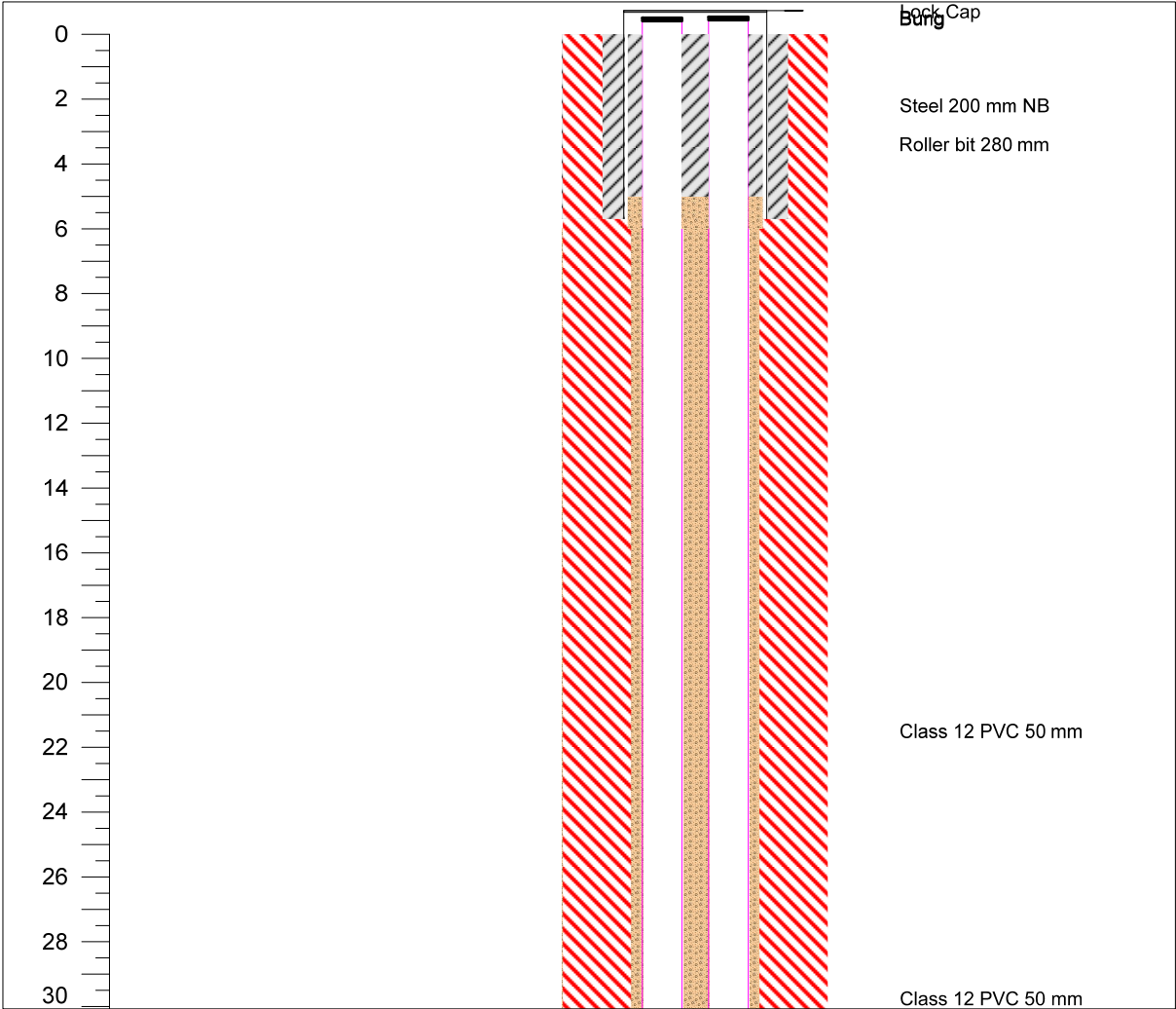


Map of Ti Tree Super Science Piezometer Locations, Pine Hill Station, NT.

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

Infrastructure Report prepared by:	Contact Details:	Checked by:
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Well Completion Log



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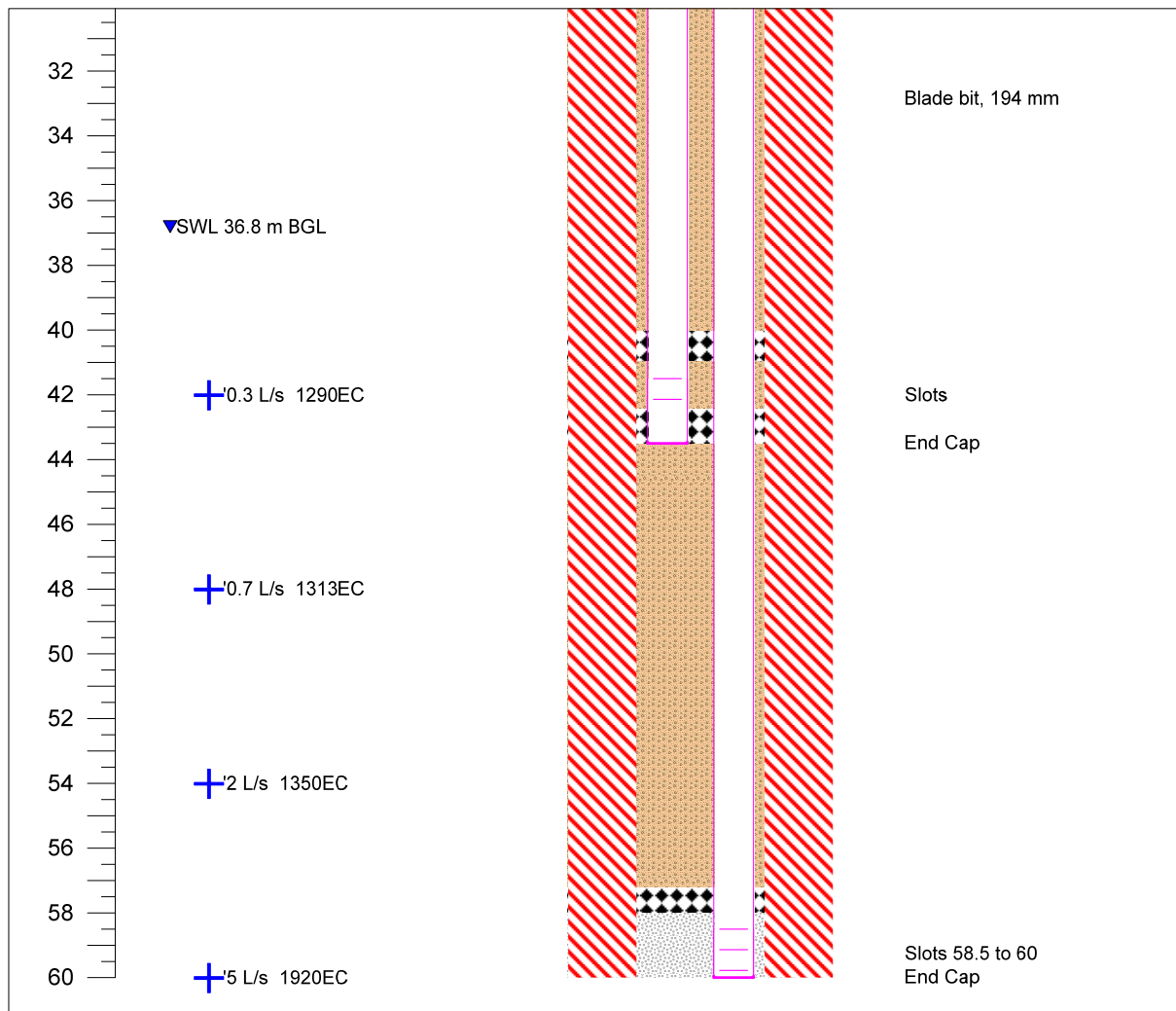
Date Start 13/05/2011

Completed 16/05/2011

Contractor NRETAS

Construction Legend

Steel	Cement	End Cap
PVC	Gravel Pack	Bentonite
Slots	Lock Cap	Creek Sand
Hole	Bung	



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Date Start 13/05/2011

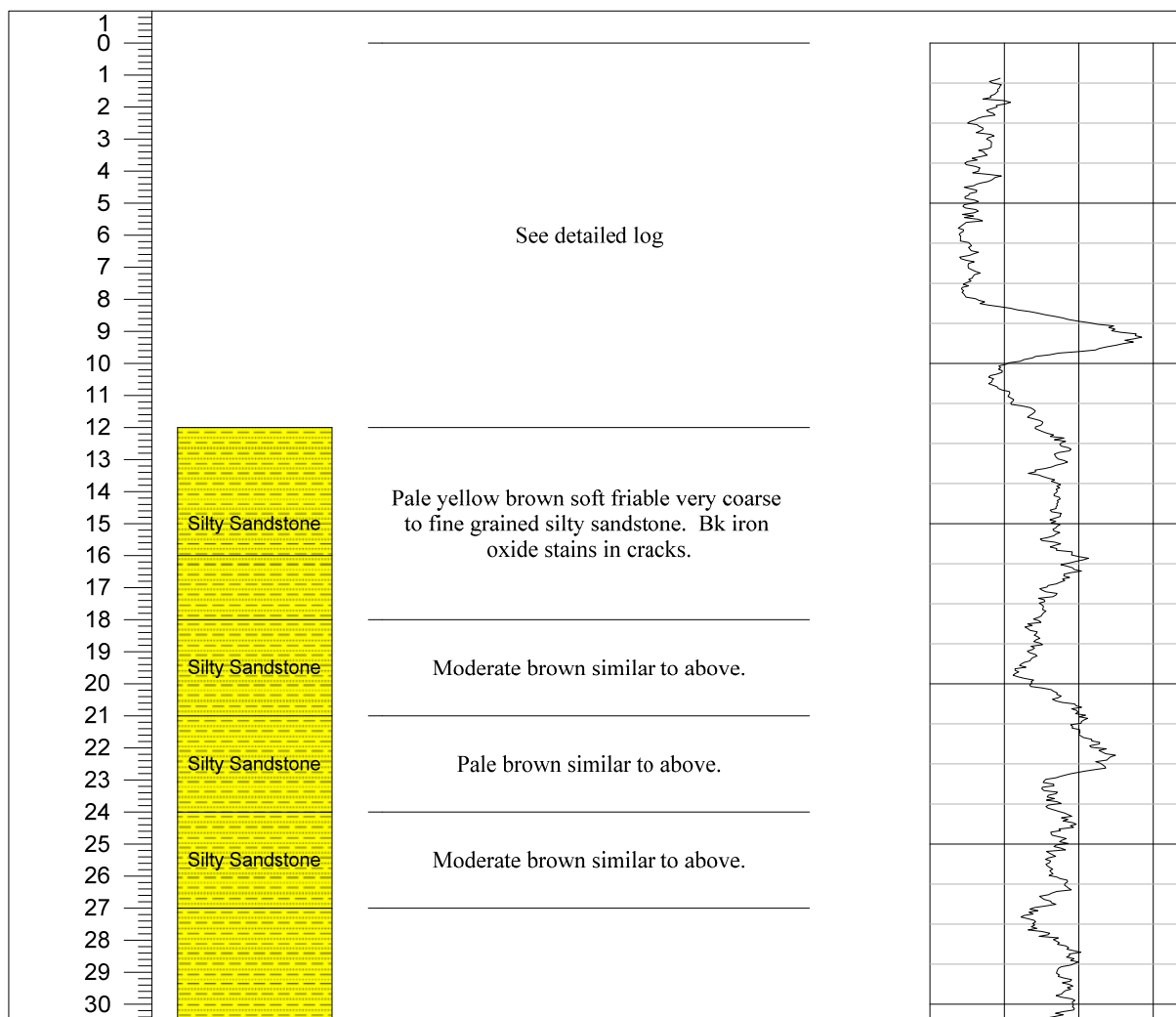
Completed 16/05/2011

Contractor NRETAS

Construction Legend

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Lithology Log



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Air Lift Yield L/s

5

Date Start 13/05/2011 Electrical Conductivity μ Siemens/cm

1920

Completed 16/05/2011 Standing Water Level m BGL

36.8

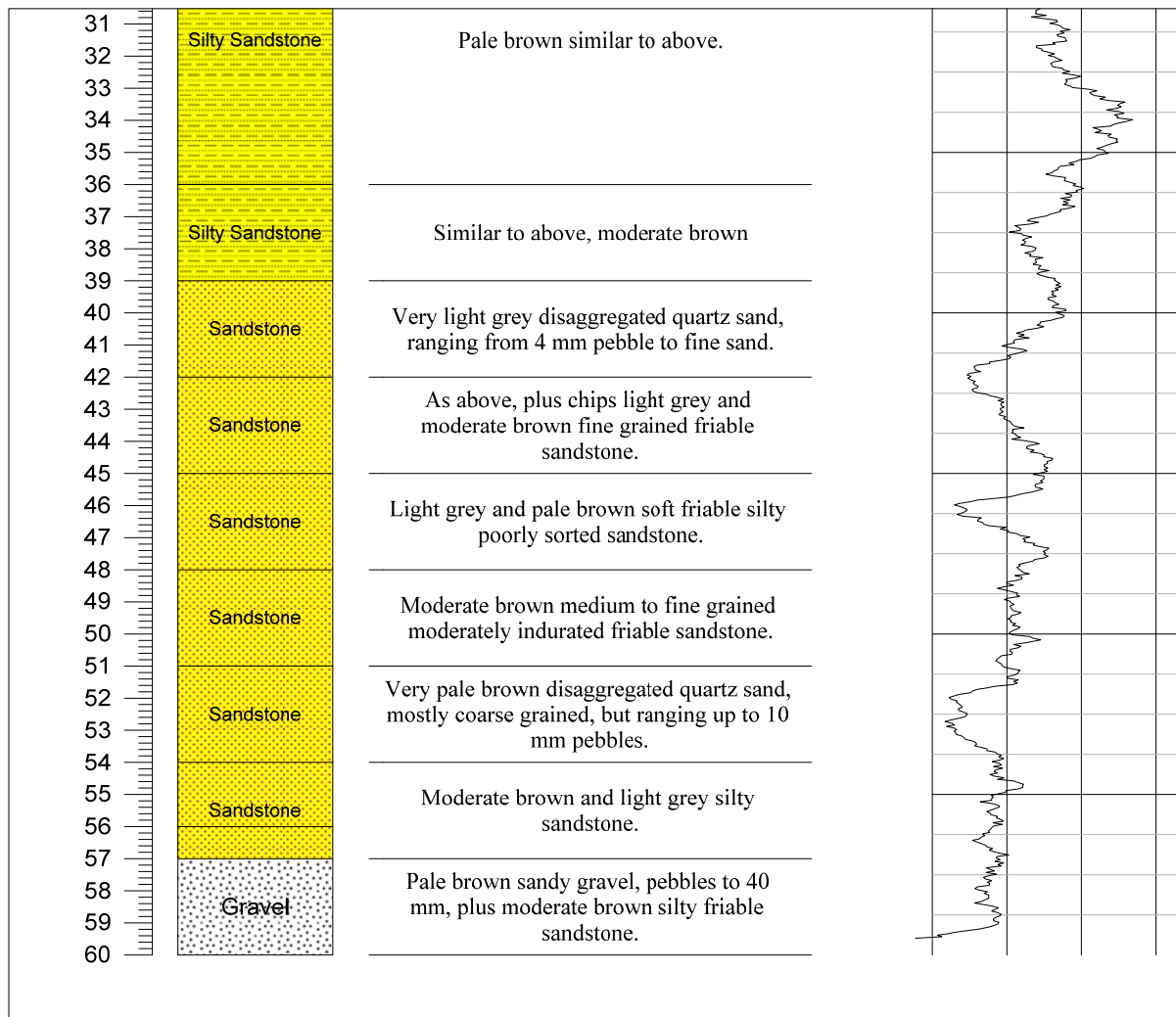
Contractor NRETAS

Status Piezometer

60 110 160 210

Gamma cps

Depth of casing at logging 0 m



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Air Lift Yield L/s

5

Date Start 13/05/2011 Electrical Conductivity μ Siemens/cm 1920

Completed 16/05/2011 Standing Water Level m BGL 36.8

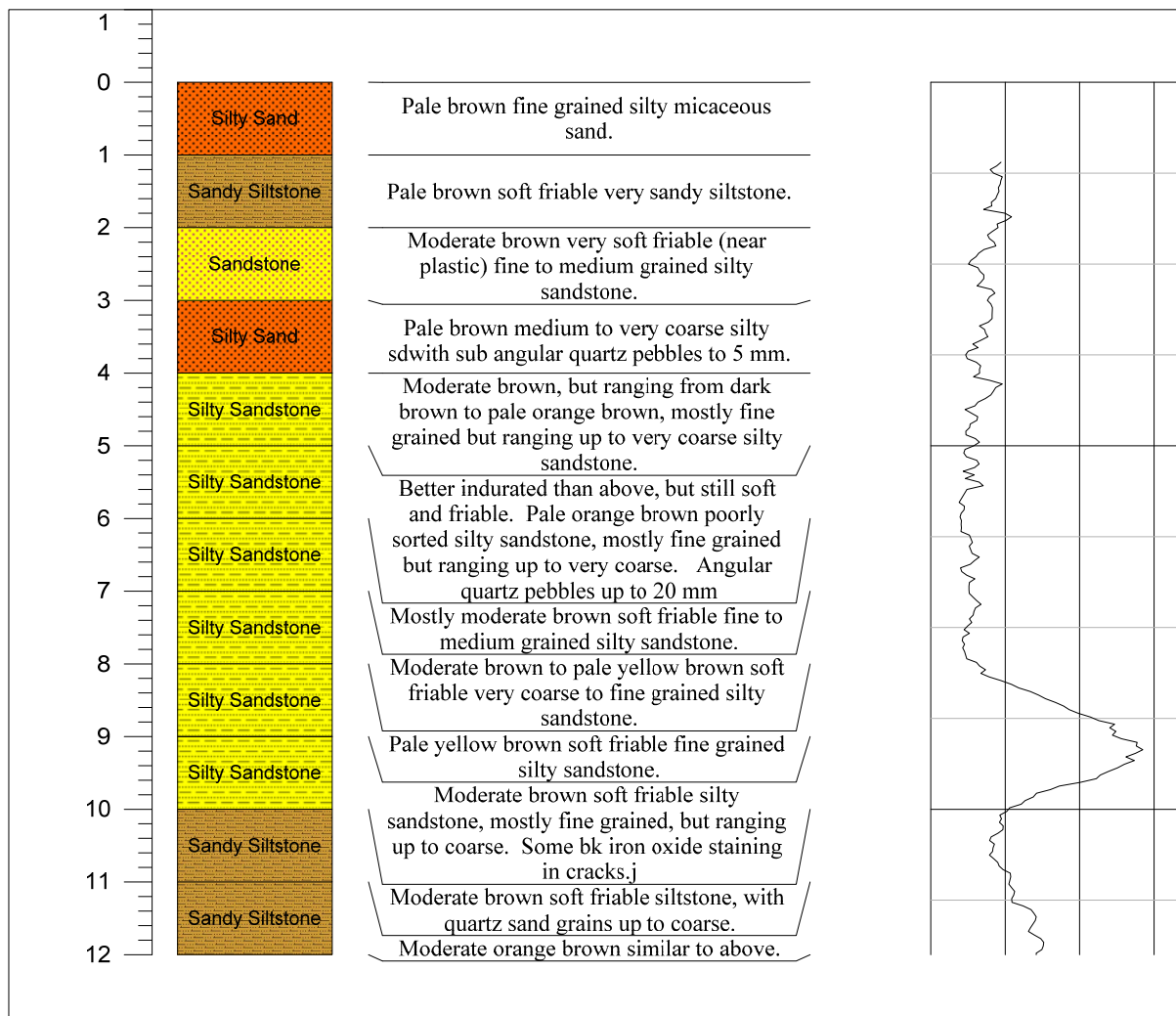
Contractor NRETAS

Status Piezometer

60 110 160 210

Gamma cps

Depth of casing at logging 0 m



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Air Lift Yield L/s

5

Date Start 13/05/2011 Electrical Conductivity μ Siemens/cm

1920

Completed 16/05/2011

Standing Water Level m BGL

36.8

Contractor NRETAS

Status Piezometer

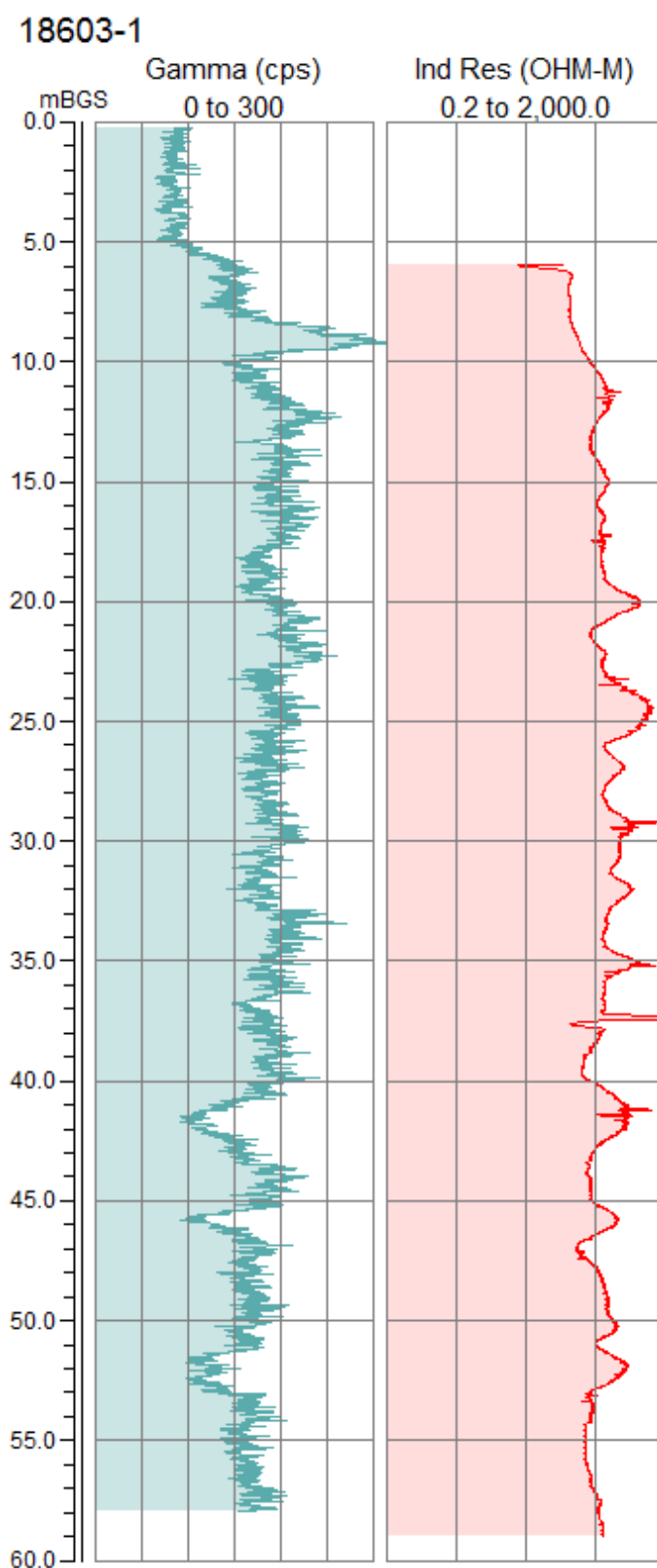
60 110 160 210

Gamma cps

Depth of casing at logging 0 m

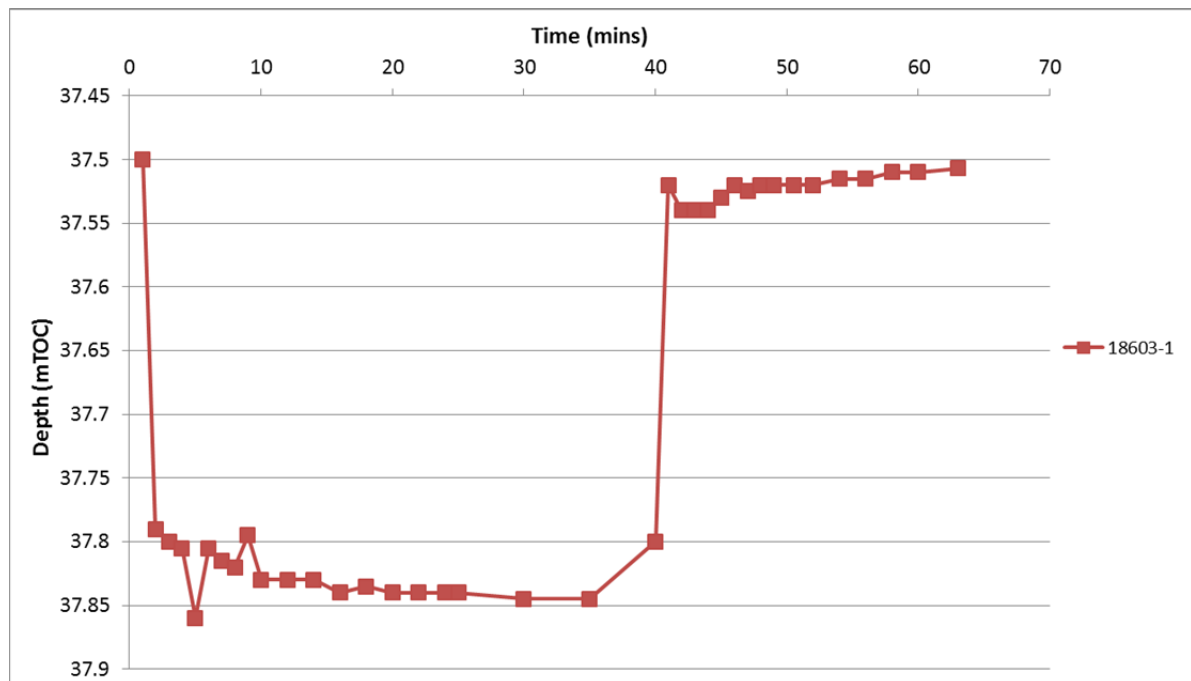
Geophysical Logs

The portable Mount Sopris logging system was used to collect geophysical data from bore 18603-1. The 2PGS probe was used to collect natural gamma measurements, and the 2PIA probe was used to measure conductivity/induced resistivity.

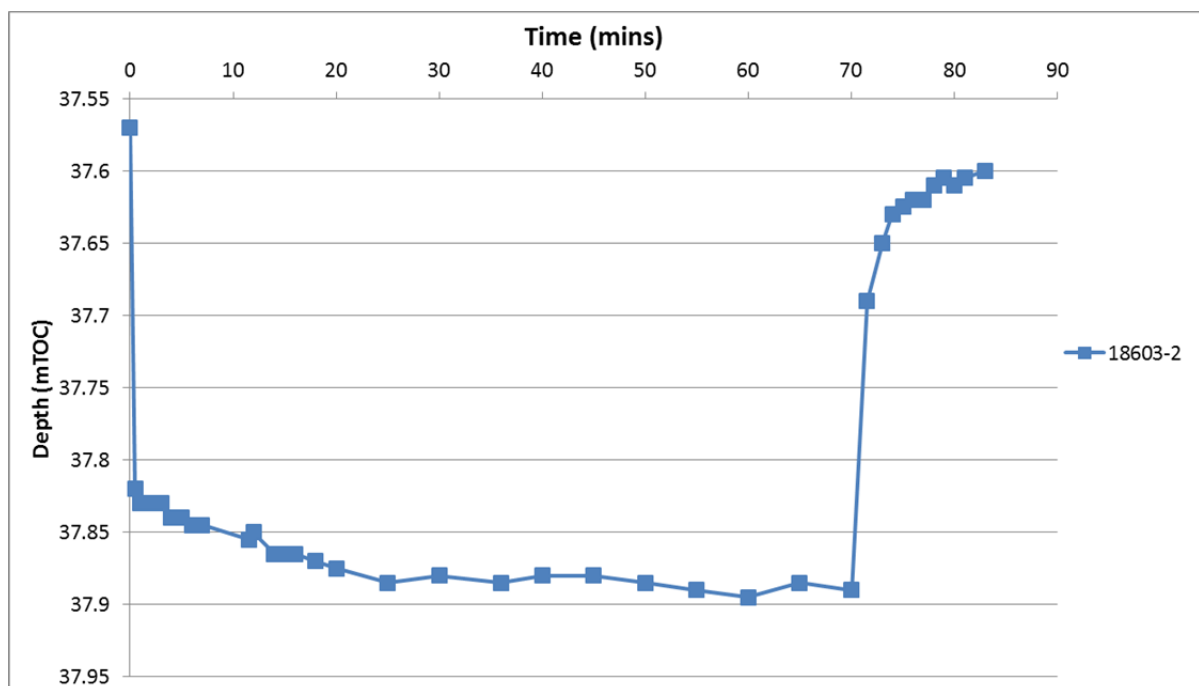


Pumping Test

A pumping test was performed on piezometer 18603-1 on 31/08/2011 by pumping at a flow rate of 9 L/min and taking manual readings with a water level meter. The results of the test are presented below. The report author may be contacted for the full data set.



A pumping test was performed on piezometer 18603-2 on 31/08/2011 by pumping at a flow rate of 9.6 L/min and taking manual readings with a water level meter. 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.

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
18603-2	31/08/2011	37.27	7.4	1347	28	572	35.5	26.6	29.6	190	31.3	47	12	59
18603-1	31/08/2011	37.31	7.2	2058	28	460	66.1	20.9	49.9	221	31.5	300	30	180