



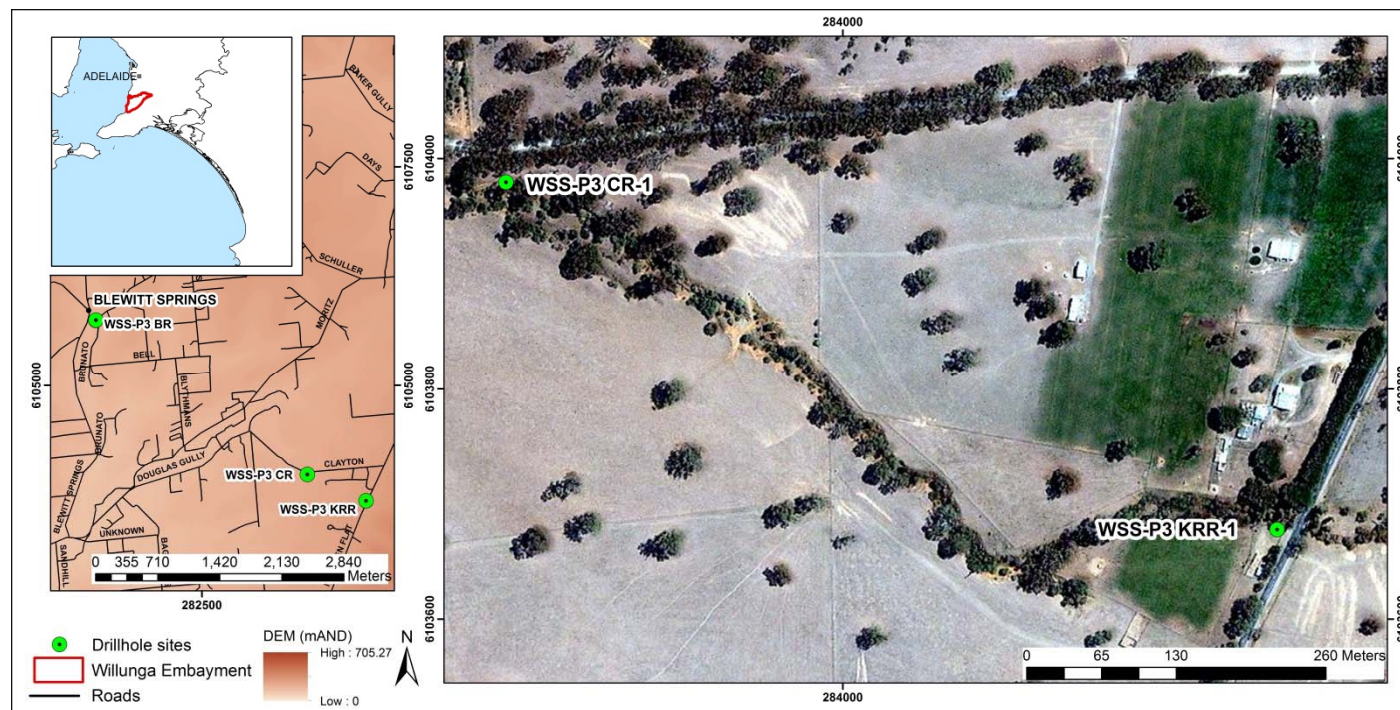
An Australian Government Initiative

# Groundwater Education Investment Fund Project

## Borehole Infrastructure Report

<b>Borehole Type</b>		Piezometer Monitoring Bore	<b>Location</b>	Willunga Super Science Site
<b>Unique Well ID</b>		WSS-P3KRR-1	<b>Installed By</b>	Town & Country Drilling Services
<b>Completion Date</b>		06/12/2012	<b>Depth Installed</b>	5.42 mBGS
<b>Drilled By</b>		Town & Country Drilling Services	<b>Depth Drilled</b>	10 mBGS
<b>Monument Type</b>		Flush mounted	<b>Drilled Diameter/Method</b>	150 mm/Auger, rotary mud
<b>Monument Diameter/Width</b>		165 mm	<b>Screen Depth</b>	3.42-5.42 mBGS
<b>T.O.M. offset from G.L. (Top of Open Monument)</b>		0 m	<b>Screen Size/Aperture/Type</b>	50 mm/slotted/PVC 18
<b>PVC Casing to T.O.M offset</b>		-0.061 m	<b>Level of Bentonite</b>	3-3.4 mBGS
<b>Ground Elevation (mAHD)</b>		191.537	<b>Casing Size/Type</b>	50 mm/PVC 18
<b>GPS Easting</b>	(MGA-94 Zone 54)	284377	<b>SWL after Development</b>	4.02 mBGS
<b>GPS Northing</b>		6103678	<b>Development Details</b>	Air vacuum/submersible pump

**Project Comments:** WSS-P3KRR-1 is a single piezometer monitoring bore, located on Kangarilla Road, McLaren Flat.



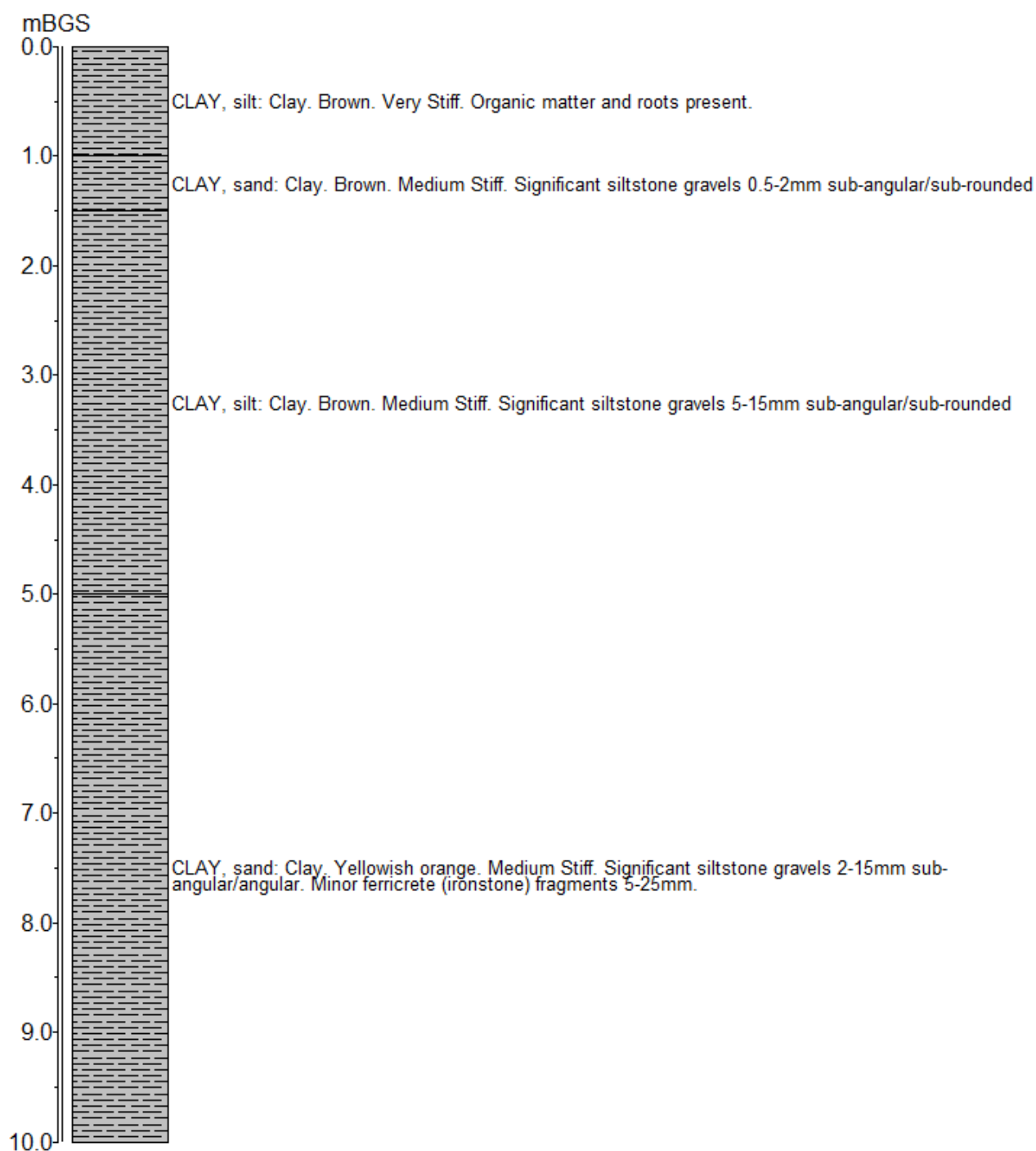
Map of Willunga Super Science Project Shallow Monitoring Well Sites

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

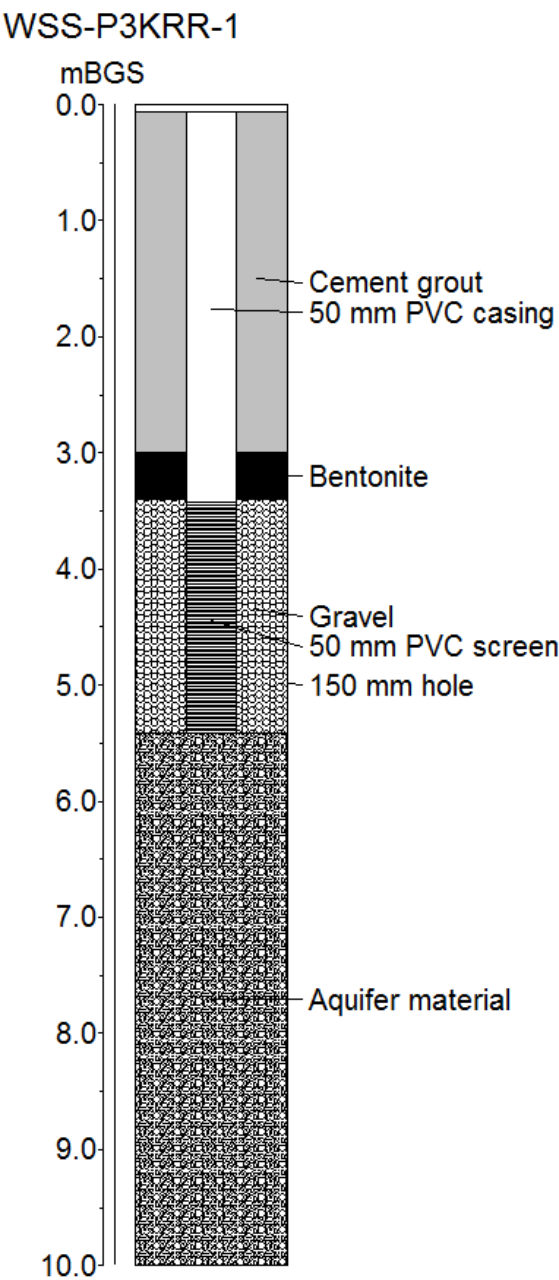
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# Lithology

## WSS-P3KRR-1

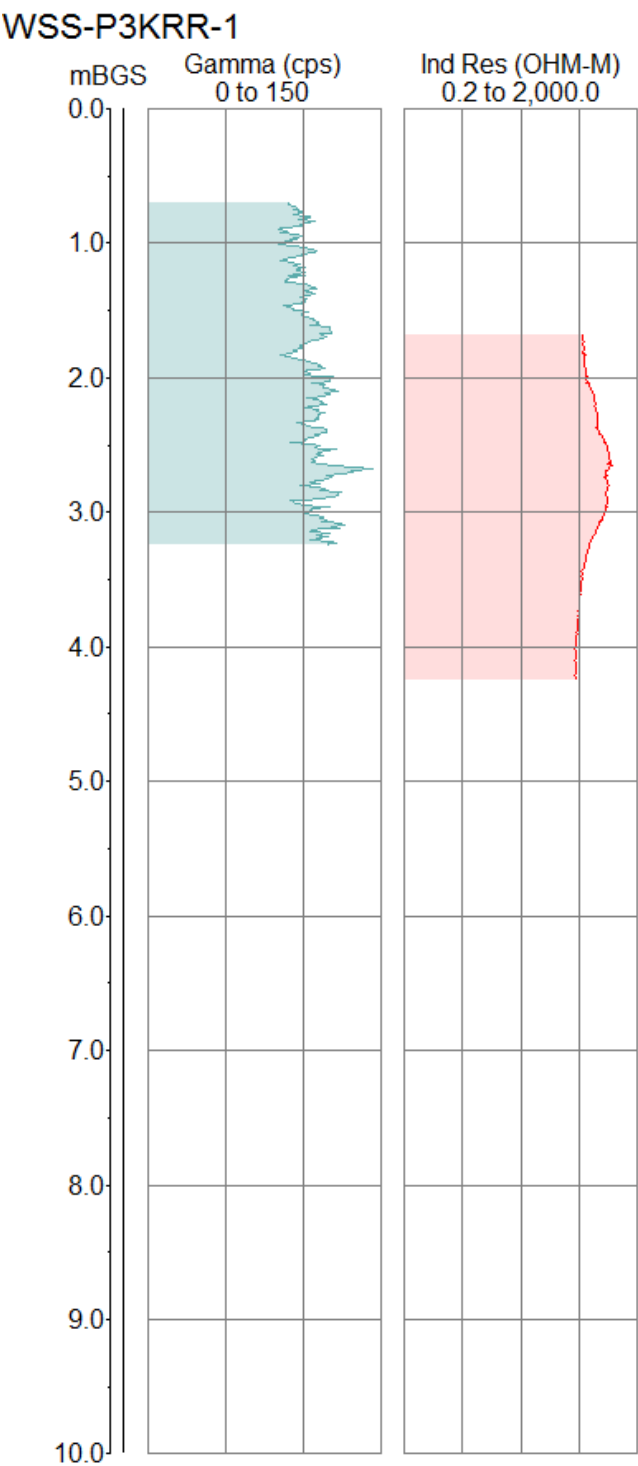


# Well Completion Log



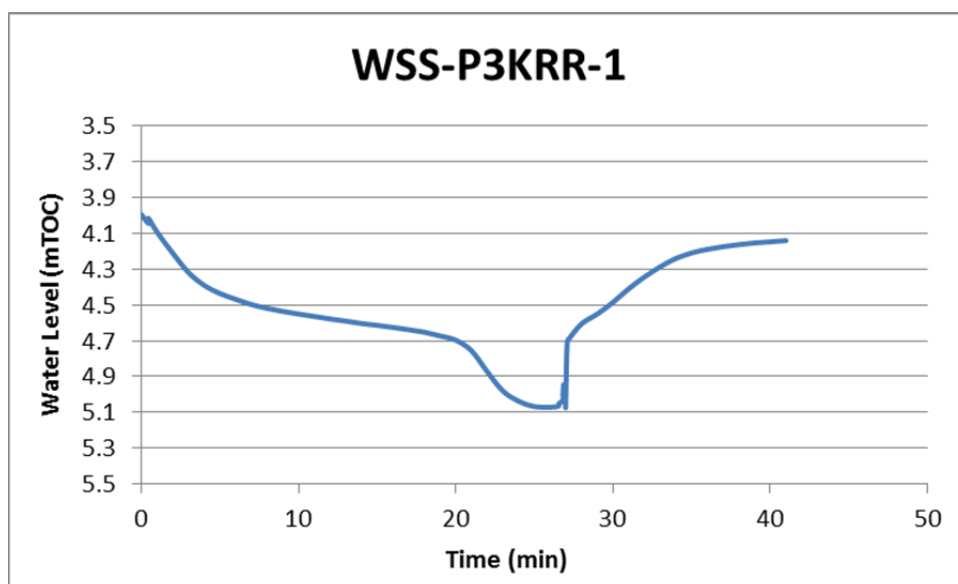
# Geophysical Logs

The portable Mount Sopris logging system was used to collect geophysical data from bore WSS-P3KRR-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 WSS-P3KRR-1 on 21/01/2013 with a water level logger and a submersible pump using a flow rate of 4.5 L/min. The results of the test are presented below. The drop in water level at 20 min coincides with the water quality going from relatively clean to dirty (sediment loaded). The report author may be contacted for the full data set.



## Chemical Analysis

The results of major ion chemistry on WSS-P3KRR-1 are presented below, along with chemical parameters measured in the field.

Well ID	Date Sampled	SWL	Field Parameters				Laboratory Analyses @ CSIRO ASU											
			pH	EC	Temp	Alkalinity	pH	E.C.	Total Alkalinity	F <sup>-</sup>	Cl <sup>-</sup>	Br <sup>-</sup>	NO <sub>3</sub> <sup>-</sup>	SO <sub>4</sub> <sup>=</sup>	Ca	K	Mg	
		mTOC		μS/cm	°C	meq/L		μS/cm	meq/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
WSS-P3KRR-1	21/01/2013	4.02	7.11	2780	17.7	7.6	7.5	2707	7.7	0.4	659	1.9	0.3	68	116	9.08	114	
							Na	S	Al	As	B	Cd	Co	Cr	Cu	Fe	Mn	
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
							260	20.2	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	0.21	0.9	
							Mo	Ni	P	Pb	Sb	Se	Si	Sr	Zn			
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
							<0.05	<0.05	<0.1	<0.05	<0.1	<0.05	5.97	0.66	<0.05			