



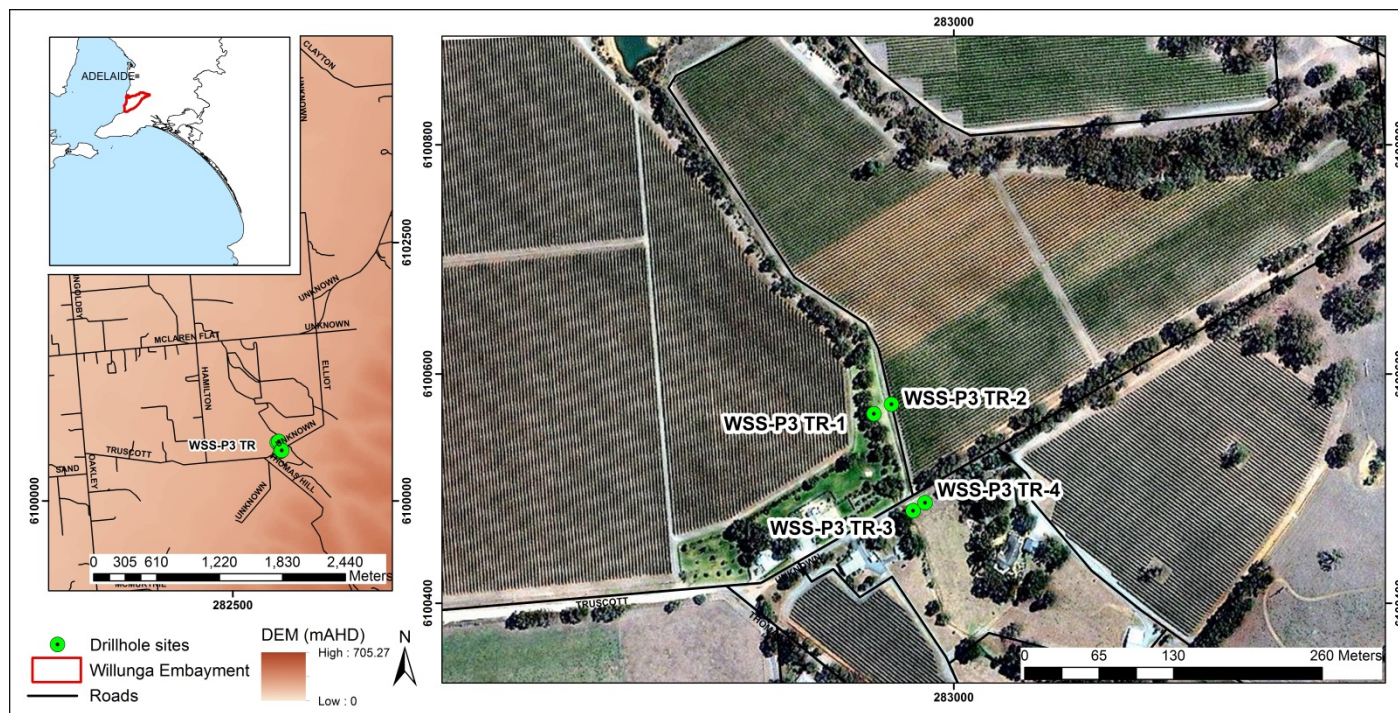
An Australian Government Initiative

Groundwater Education Investment Fund Project

Borehole Infrastructure Report

Borehole Type		Piezometer Monitoring Bore	Location	Willunga Super Science Site
Unique Well ID		WSS-P3TR-4	Installed By	Town & Country Drilling Services
Completion Date		6/08/2012	Depth Installed	13.44 mBGS
Drilled By		Town & Country Drilling Services	Depth Drilled	13.5 mBGS
Monument Type		Flush mounted	Drilled Diameter/Method	140 mm (min)/Auger/air-hammer
Monument Diameter/Width		165 mm	Screen Depth	11.44-13.44 mBGS
T.O.M. offset from G.L. (Top of Open Monument)		0 m	Screen Size/Aperture/Type	50 mm/slotted/PVC 18
PVC Casing to T.O.M offset		-0.112 m	Level of Bentonite	10.5-11 mBGS
Ground Elevation (mAHD)		166.225	Casing Size/Type	50 mm/PVC 18
GPS Easting	(MGA-94 Zone 54)	282975	SWL after Development	8.07 mTOC
GPS Northing		6100488	Development Details	Air vacuum/submersible pump/bailer

Project Comments: WSS-P3TR-4 is a single piezometer monitoring bore, adjacent to Pedler Creek on Truscott 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.

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

Lithology

WSS-P3TR-4

mBGS

0.0

1.0

2.0

3.0

4.0

5.0

6.0

7.0

8.0

9.0

10.0

11.0

12.0

13.0

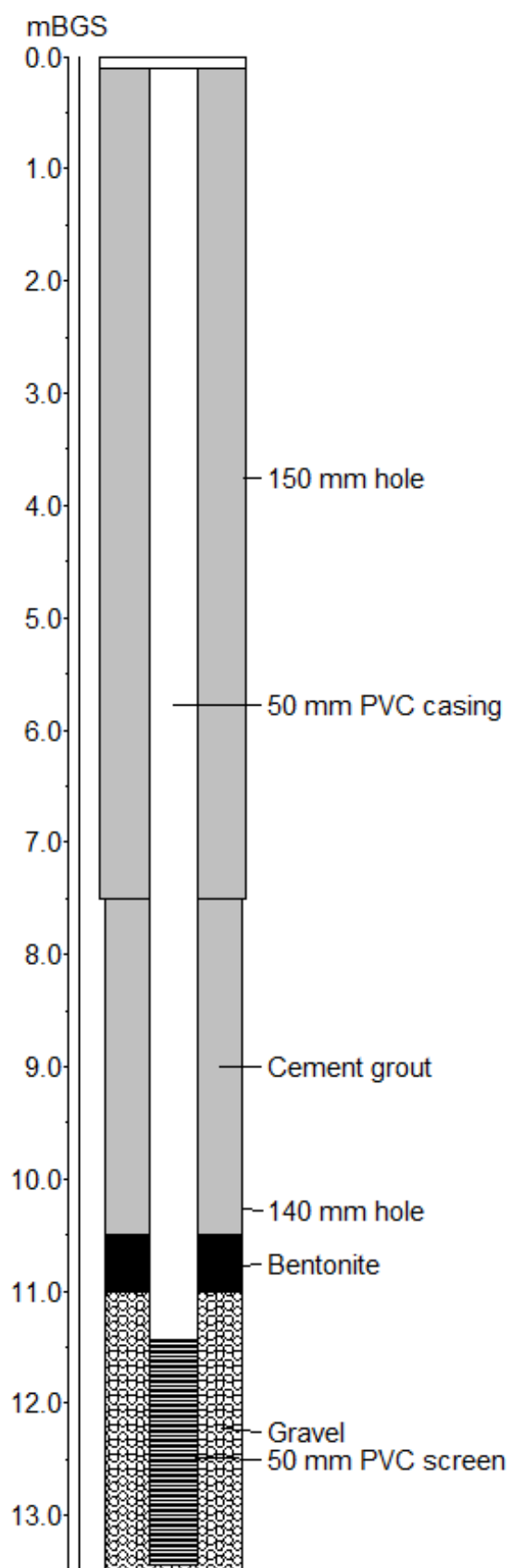
TOPSOIL, clay: Topsoil. Dark brown. Friable . Roots and organic matter present

CLAY, silt: Clay. Brown. Very Stiff. Minor siltstone gravels 1-3mm.

CLAY, gravel: Clay. Yellowish orange. Low Stiff. Significant siltstone/mudstone gravels 1-10mm sub-angular/sub-rounded, some quartz fragments 1-5mm.

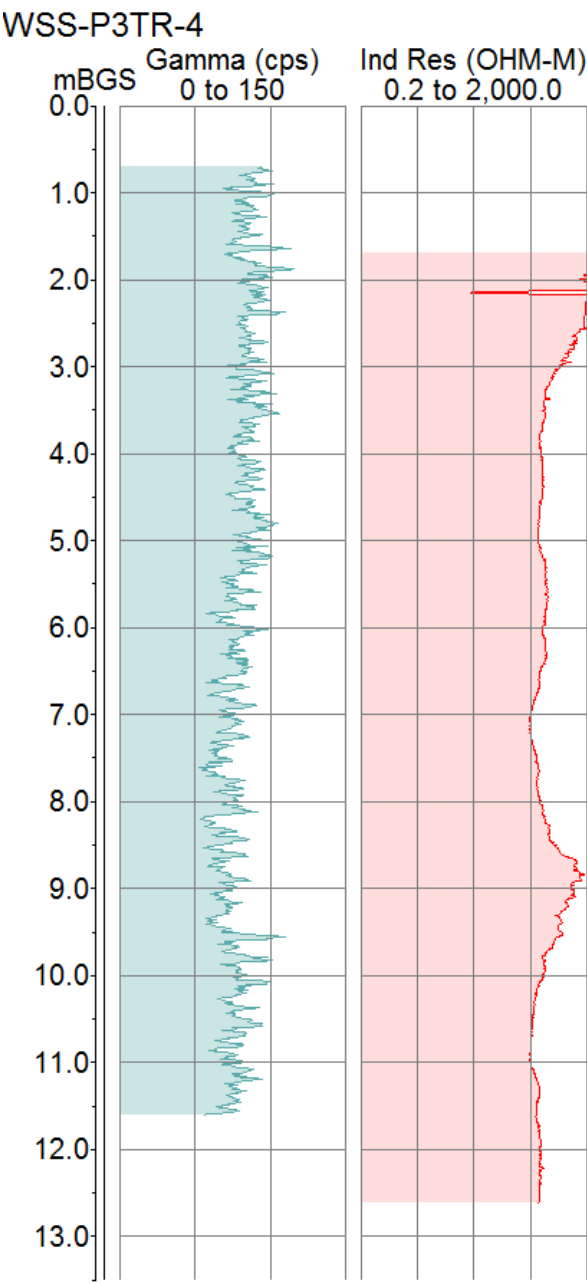
Well Completion Log

WSS-P3TR-4



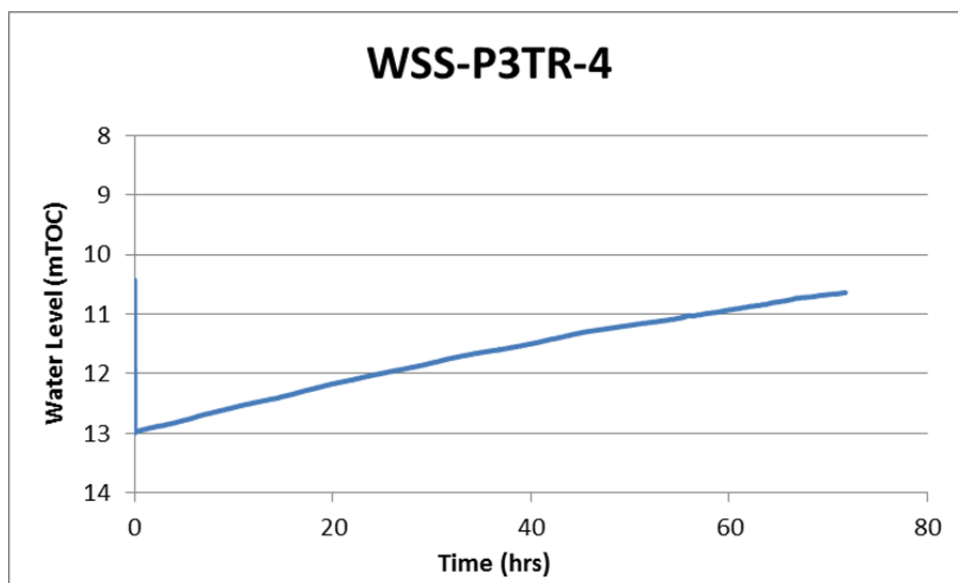
Geophysical Logs

The portable Mount Sopris logging system was used to collect geophysical data from bore WSS-P3TR-4. The 2PGS probe was used to collect natural gamma measurements, and the 2PIA probe was used to measure conductivity/induced resistivity.



Slug Test

A slug test was performed on piezometer WSS-P3TR-4 on 2/11/2012 with a water level logger and a submersible pump used to remove the rapidly standing water column. The results of the test are presented below. The report author may be contacted for the full data set.



Chemical Analysis

The results of major ion chemistry on WSS-P3TR-4 are presented below, along with chemical parameters measured in the field.

Well ID	Date Sampled	SWL mTOC	Field Parameters				Laboratory Analyses @ CSIRO ASU											
			pH	EC	Temp	Alkalinity	pH	E.C.	Total Alkalinity	F ⁻	Cl ⁻	Br ⁻	NO ₃ ⁻	SO ₄ ⁼	Ca	K	Mg	
				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-P3TR-4	23/11/2012	8.07	7.01	2030	19.1	5.6	7.7	2085	5.9	0.4	491	1.2	0.9	44	83.8	8.74	67.9	
							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	
							261	14.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.1	0.067	
							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	6.72	0.403	<0.05			