



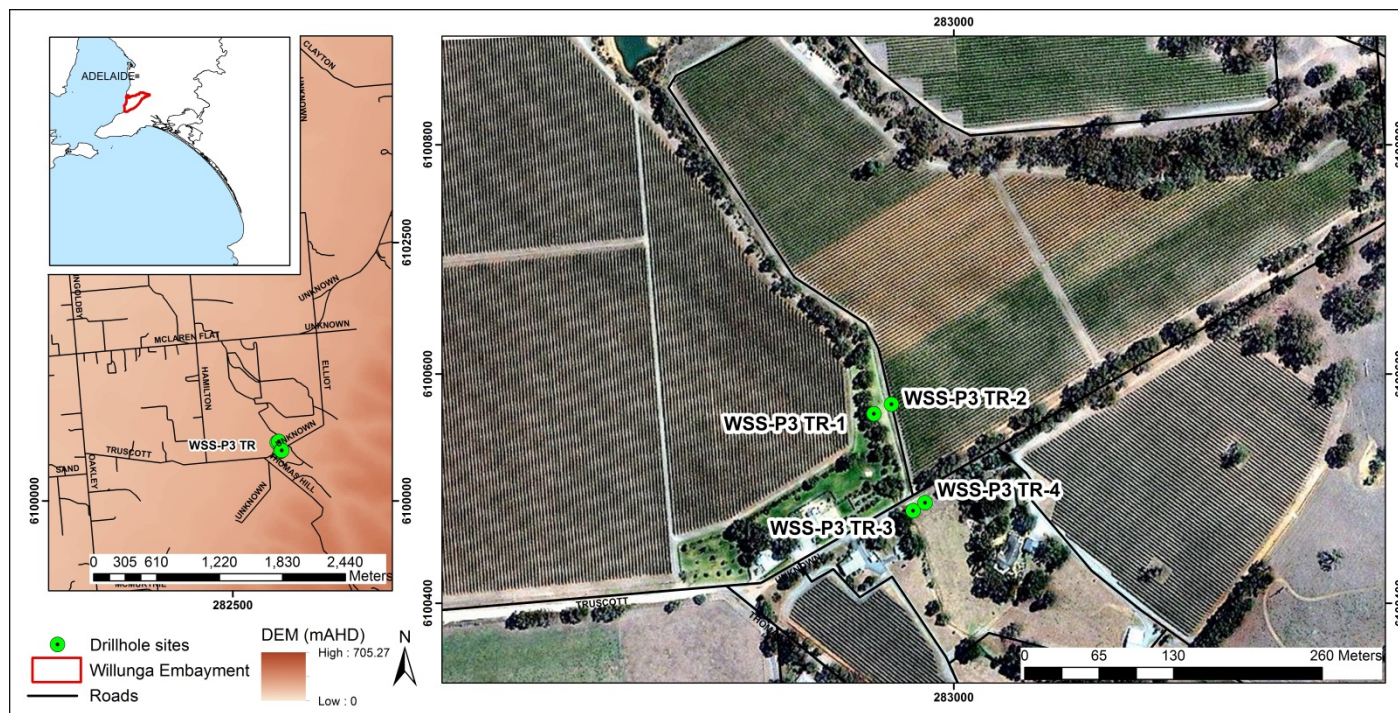
An Australian Government Initiative

Groundwater Education Investment Fund Project

Borehole Infrastructure Report

Borehole Type		Piezometer Monitoring Bore	Location	Willunga Super Science Site
Unique Well ID		WSS-P3TR-3	Installed By	Town & Country Drilling Services
Completion Date		02/08/2012	Depth Installed	13.42 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	11.42-13.42 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		-0.104 m	Level of Bentonite	10.5-11 mBGS
Ground Elevation (mAHD)		166.264	Casing Size/Type	50 mm/PVC 18
GPS Easting	(MGA-94 Zone 54)	282964	SWL after Development	8.06 mTOC
GPS Northing		6100481	Development Details	Air-vacuum/submersible pump

Project Comments: WSS-P3TR-3 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.

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Lithology

WSS-P3TR-3

mBGS

0.0

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

1.0

CLAY, silt: Clay. Brown. Medium Stiff.

2.0

CLAY, silt: Clay. Brown. Hard. Minor siltstone fragments 1-5mm

3.0

CLAY, silt: Clay. Brown. Hard. Minor siltstone fragments 1-5mm. Minor sandstone gravels 10-20mm

4.0

CLAY, silt: Clay. Dark brown. Very Stiff

5.0

6.0

7.0

8.0

9.0

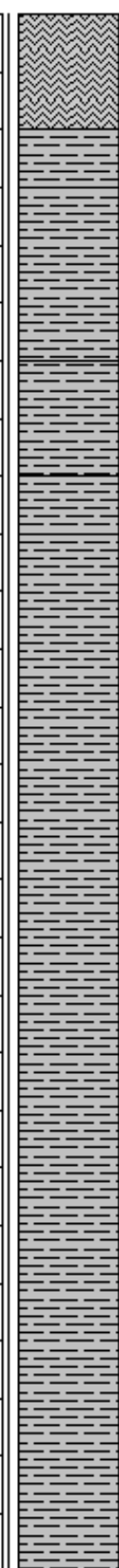
CLAY, gravel: Clay. Brown. Low Stiff. Significant siltstone/mudstone gravels 2-15mm sub-angular/sub-rounded, some quartz fragments.

10.0

11.0

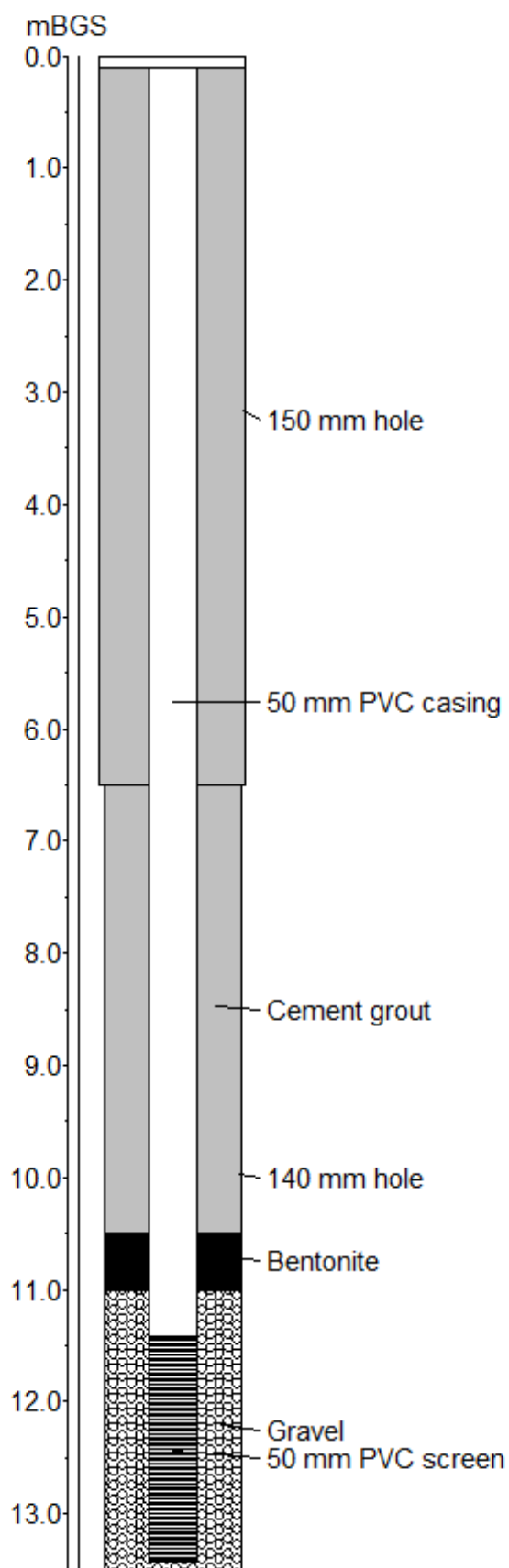
12.0

13.0



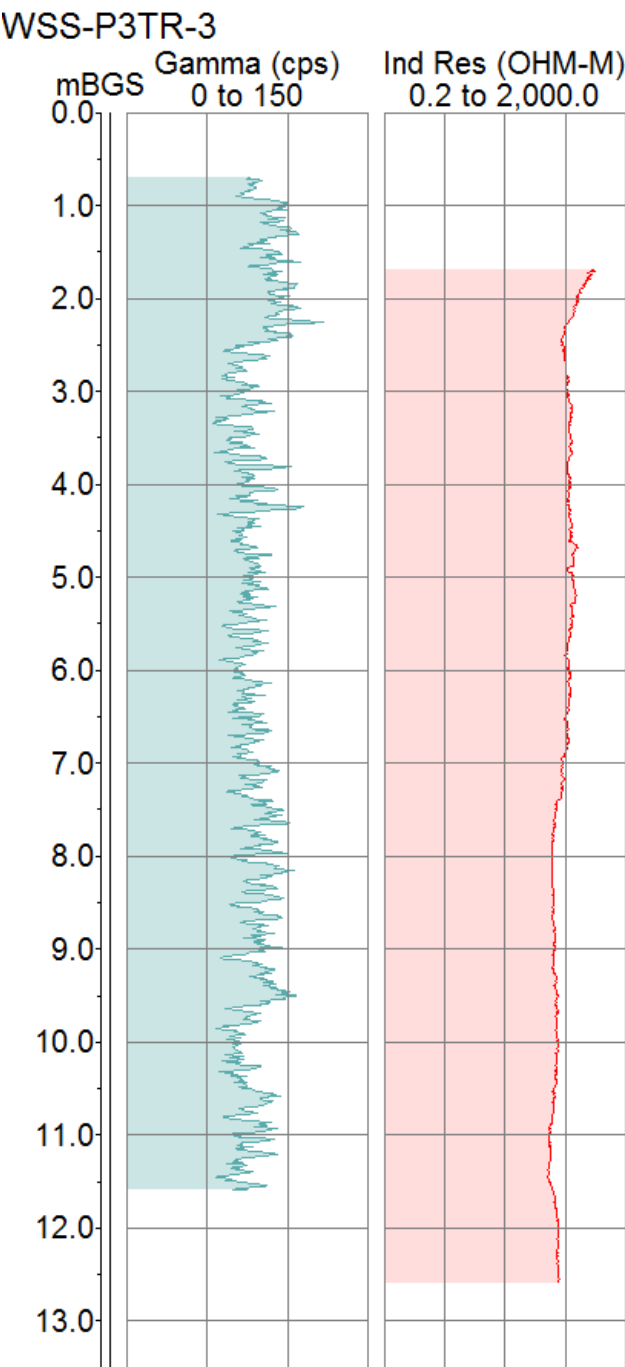
Well Completion Log

WSS-P3TR-3



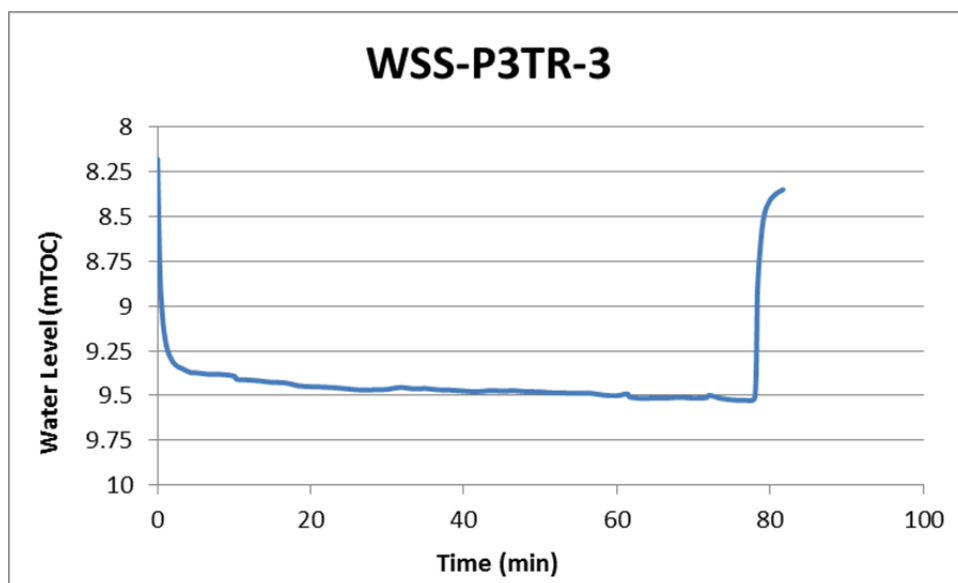
Geophysical Logs

The portable Mount Sopris logging system was used to collect geophysical data from bore WSS-P3TR-3. 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-P3TR-3 on 2/11/2012 with a water level logger and a submersible pump 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

The results of major ion chemistry on WSS-P3TR-3 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-3	2/11/2012	8.06	6.9	2038.0	16.4	6.1	7.5	2091	6.3	0.3	436	1.1	1.3	45	75.8	7.66	63.7	
							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	
							235	14.1	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	
							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	5.26	0.36	<0.05			