

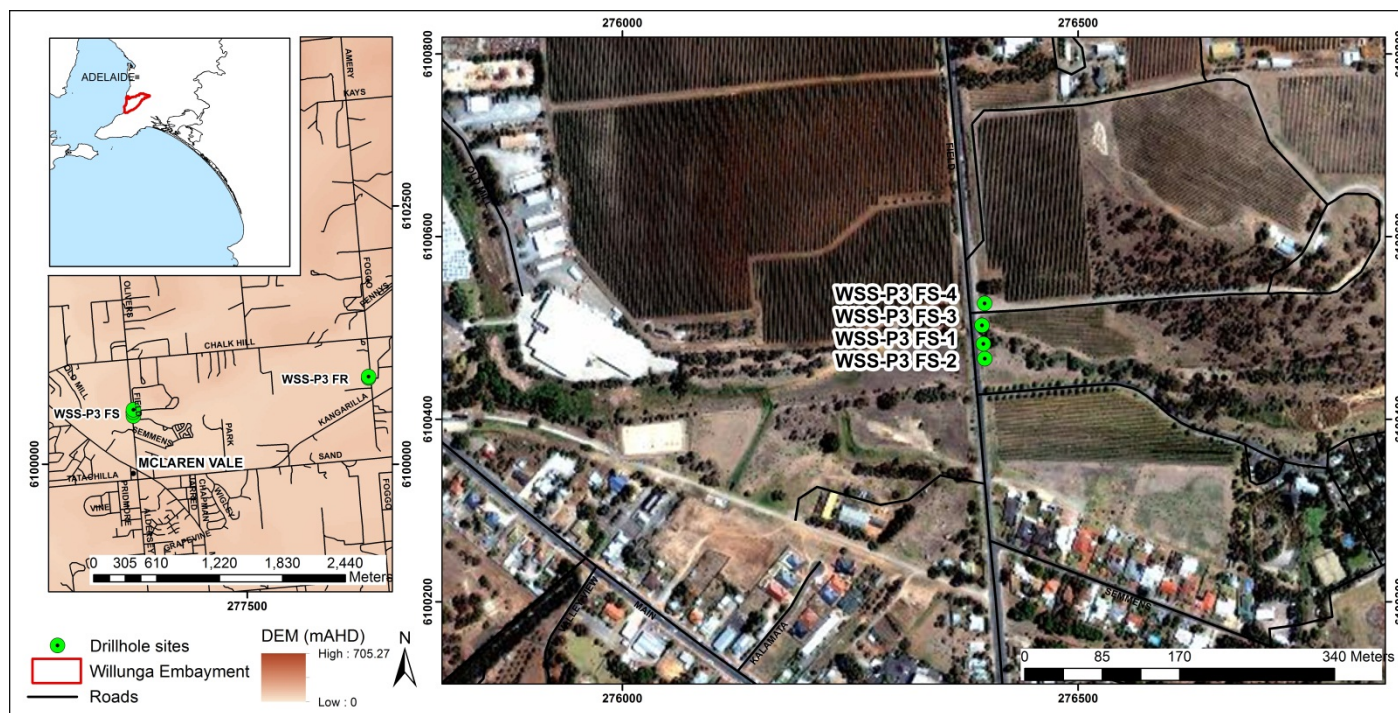


An Australian Government Initiative

# Groundwater Education Investment Fund Project

## Borehole Infrastructure Report

Borehole Type		Piezometer Monitoring Bore	Location	Willunga Super Science Site
Unique Well ID		WSS-P3FS-1	Installed By	Town & Country Drilling Services
Completion Date		23/11/2012	Depth Installed	5.81 mBGS
Drilled By		Town & Country Drilling Services	Depth Drilled	7 mBGS
Monument Type		Flush mounted	Drilled Diameter/Method	150 mm/air-blade
Monument Diameter/Width		165 mm	Screen Depth	4.81-5.81 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		-0.118 m	Level of Bentonite	4-4.5 mBGS
Ground Elevation (mAHD)		47.421	Casing Size/Type	50 mm/PVC 18
GPS Easting	(MGA-94 Zone 54)	276396	SWL after Development	2.27 mTOC
GPS Northing		6100482	Development Details	Submersible pump
Project Comments: WSS-P3FS-1 is a single piezometer monitoring bore, adjacent to Pedler Creek on Field Street, McLaren Vale.				



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-P3FS-1

mBGS

0.0

SAND, silt: Top soil. Brown. Sandy Loam. Organic matter. Roots present. Some ferricrete (ironstone) gravels 5-10mm.

1.0

2.0

SAND, silt: Sand. Brown. Fine-medium grained. Poorly cemented.

3.0

4.0

SAND, clay: Sand. Light brown. Fine-medium grained. Some calcrete flecks and nodules 0.5-2mm. Low HCL reaction.

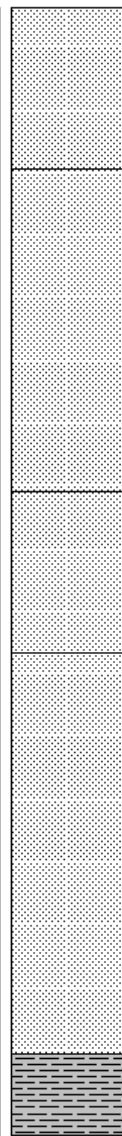
5.0

6.0

SAND, clay: Sand. Light brown. Fine-medium grained. Significant siltstone and sandstone gravels 2-15mm sub-angular/sub-rounded. Some calcrete flecks and nodules 0.5-2mm. Low HCL reaction

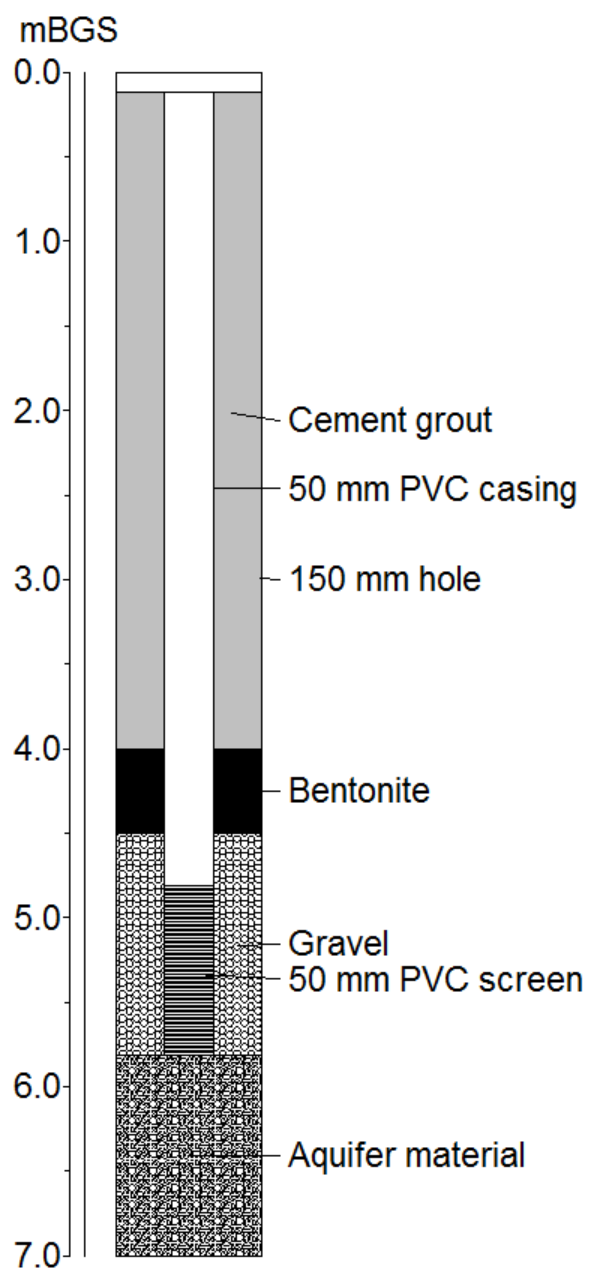
7.0

CLAY, sand: Clay. White/grey. Very Stiff. Medium grained.



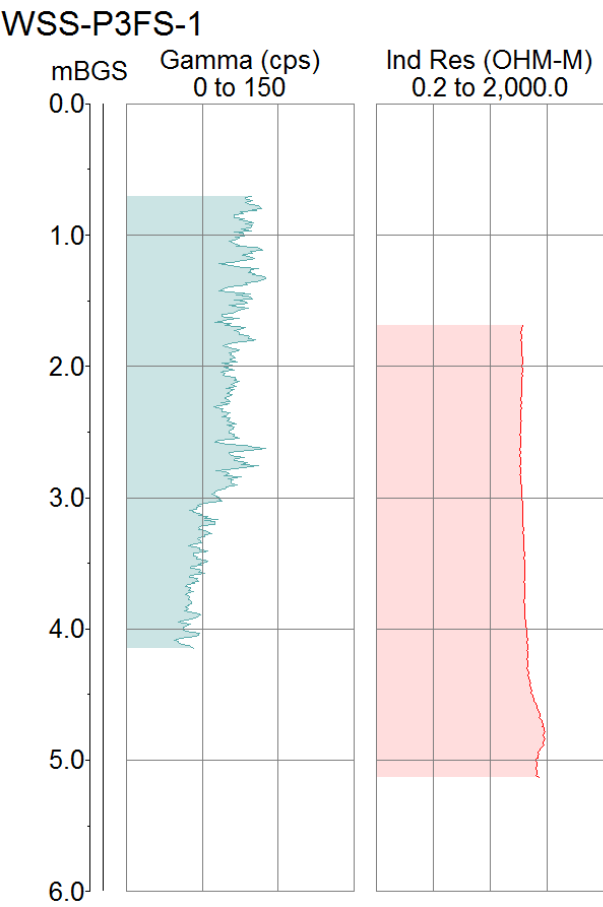
# Well Completion Log

## WSS-P3FS-1



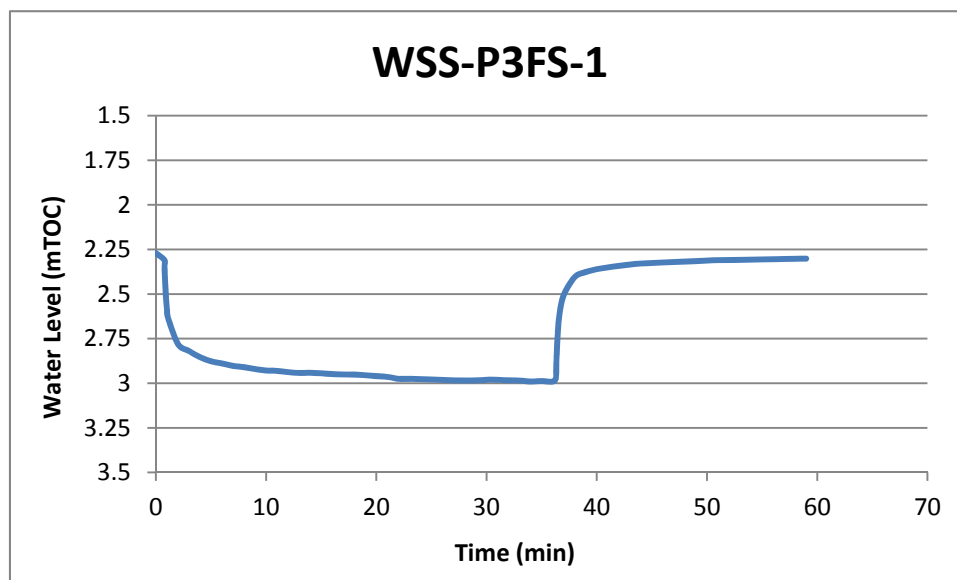
# Geophysical Logs

The portable Mount Sopris logging system was used to collect geophysical data from bore WSS-P3FS-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-P3FS-1 on 17/01/2013 with a water level logger and a submersible pump using a flow rate of 6.4 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-P3FS-1 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 <sup>-</sup>	Cl <sup>-</sup>	Br <sup>-</sup>	NO <sub>3</sub> <sup>-</sup>	SO <sub>4</sub> <sup>=</sup>	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-P3FS-1	17/01/2013	2.27	7.39	3206	18.2	6.1	7.4	4027	6.7	0.3	986	2.6	0.5	349	250	11.3	89.8	
							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
							447	107	<0.05	<0.05	0.14	<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	19.7	2.61	<0.05			