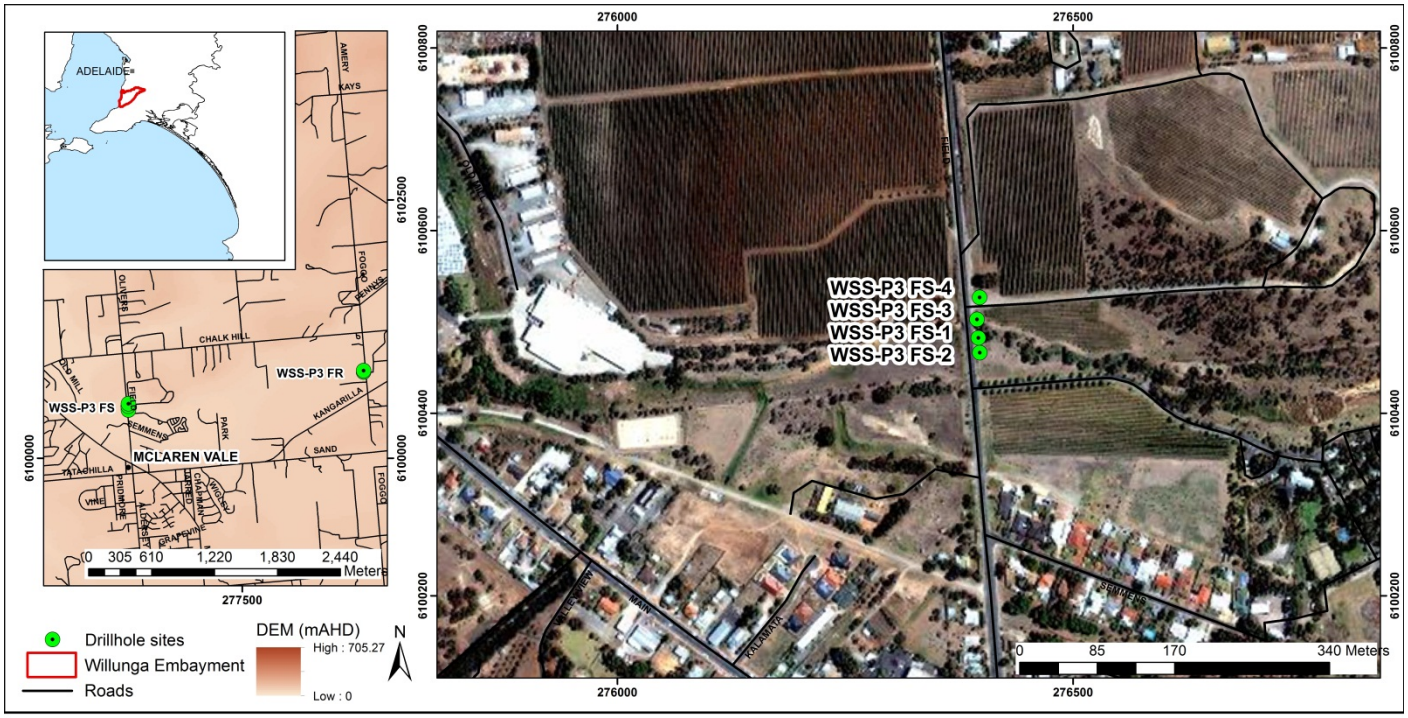
An Australian Government Initiative

Groundwater Education Investment Fund Project

Borehole Infrastructure Report

Borehole Type		Piezometer Monitoring Bore	**Location**	Willunga Super Science Site
Unique Well ID		WSS-P3FS-2	**Installed By**	Town & Country Drilling Services
Completion Date		23/11/2012	**Depth Installed**	5.96 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**	4.96-5.96 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		-0.122 m	**Level of Bentonite**	4-4.5 mBGS
Ground Elevation (mAHD)		47.707	**Casing Size/Type**	50 mm/PVC 18
GPS Easting	(MGA-94 Zone 54)	276398	**SWL after Development**	2.56 mTOC
GPS Northing		6100466	**Development Details**	Submersible pump

Project Comments: WSS-P3FS-2 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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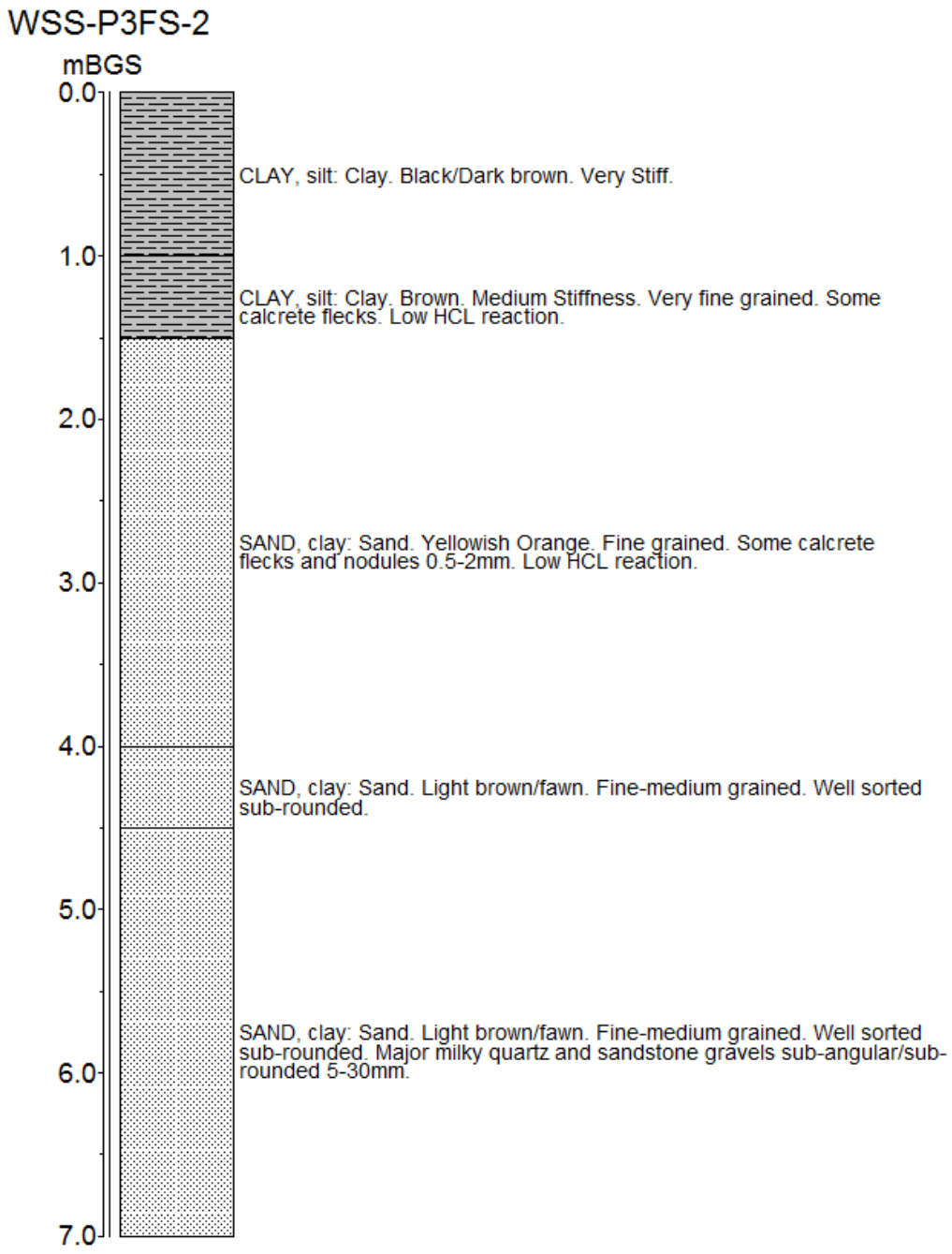
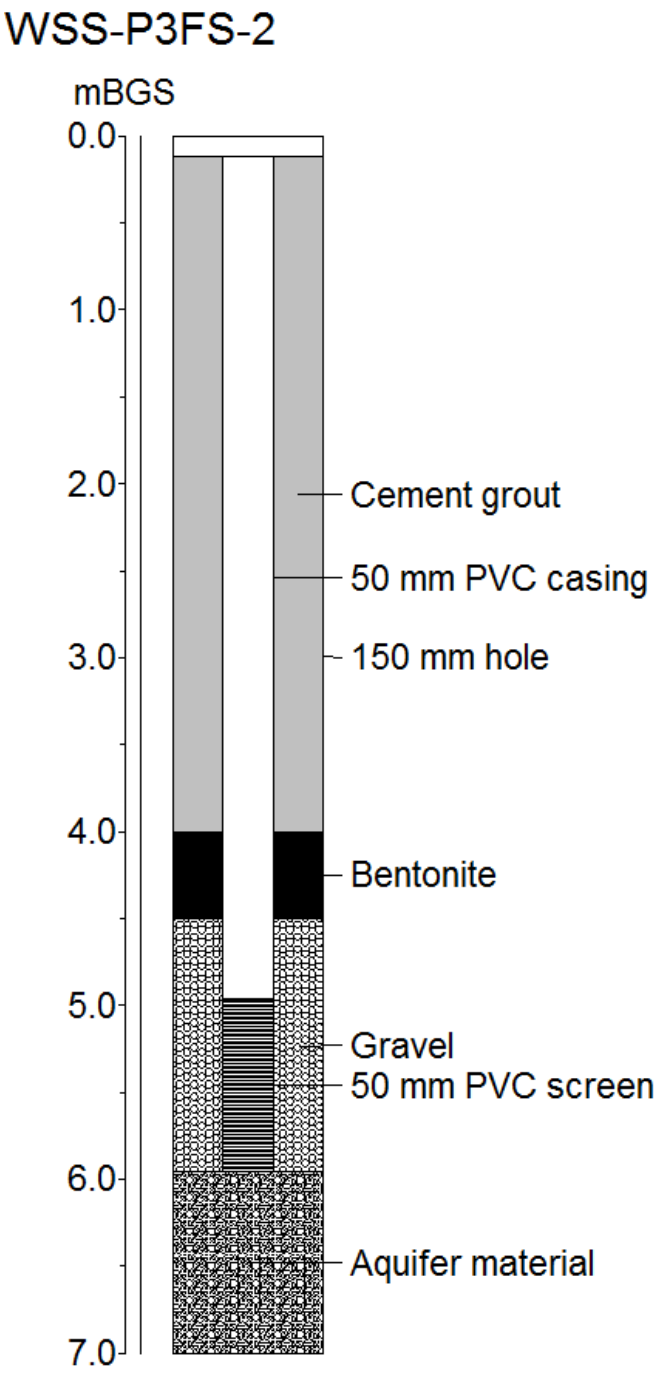
Lithology

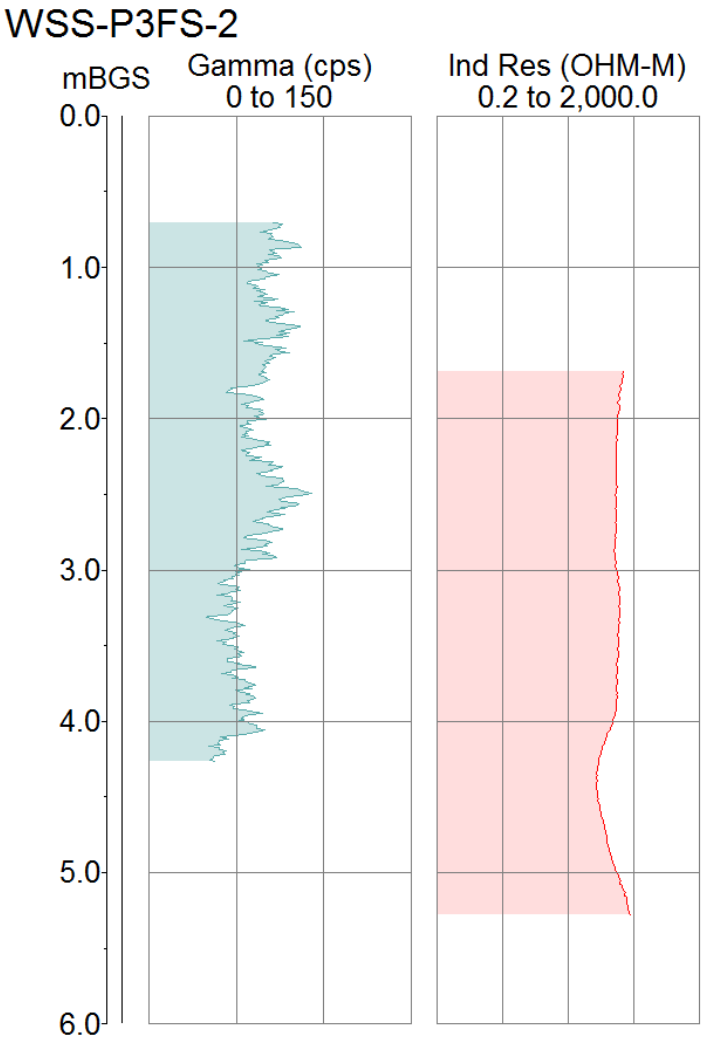

WSS-P3FS-2
mBGS
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
CLAY, silt: Clay. Black/Dark brown. Very Stiff.
CLAY, silt: Clay. Brown. Medium Stiffness. Very fine grained. Some calcrete flecks. Low HCL reaction.
SAND, clay: Sand. Yellowish Orange. Fine grained. Some calcrete flecks and nodules 0.5-2mm. Low HCL reaction.
SAND, clay: Sand. Light brown/fawn. Fine-medium grained. Well sorted sub-rounded.
SAND, clay: Sand. Light brown/fawn. Fine-medium grained. Well sorted sub-rounded. Major milky quartz and sandstone gravels sub-angular/sub-rounded 5-30mm.

Well Completion Log



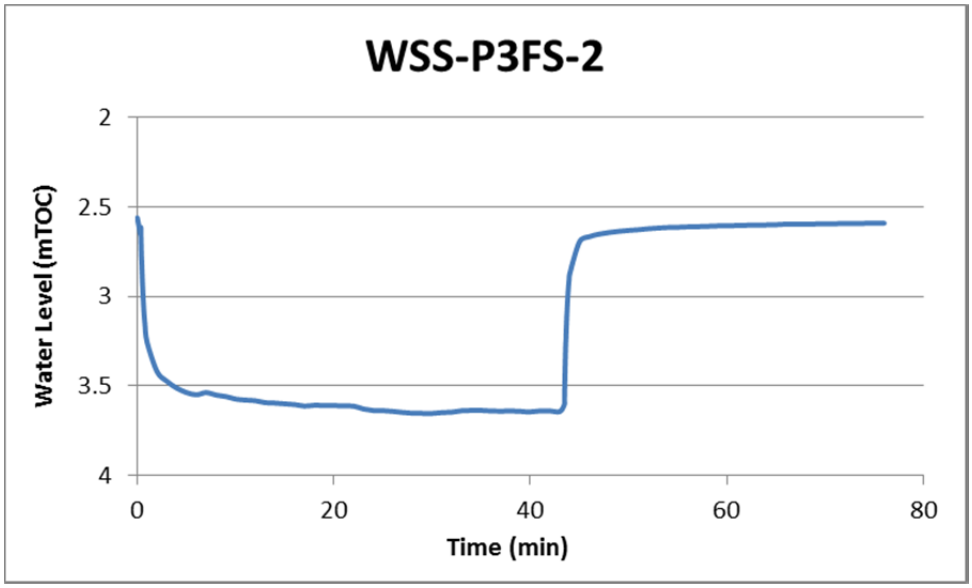
Geophysical Logs

The portable Mount Sopris logging system was used to collect geophysical data from bore WSS-P3FS-2. 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-2 on 17/01/2013 with a water level logger and a submersible pump using a flow rate of 6.8 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-2 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^-	Cl^-	Br^-	NO_3^-	$SO_4^=$	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
WSS-P3FS-2	17/01/2013	2.56	7.65	2938	18.9	5.7	7.6	3613	6.2	0.1	848	2.4	0.2	375	233	12.1	82.6
							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
							394	114	<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	17.1	2.13	<0.05		