



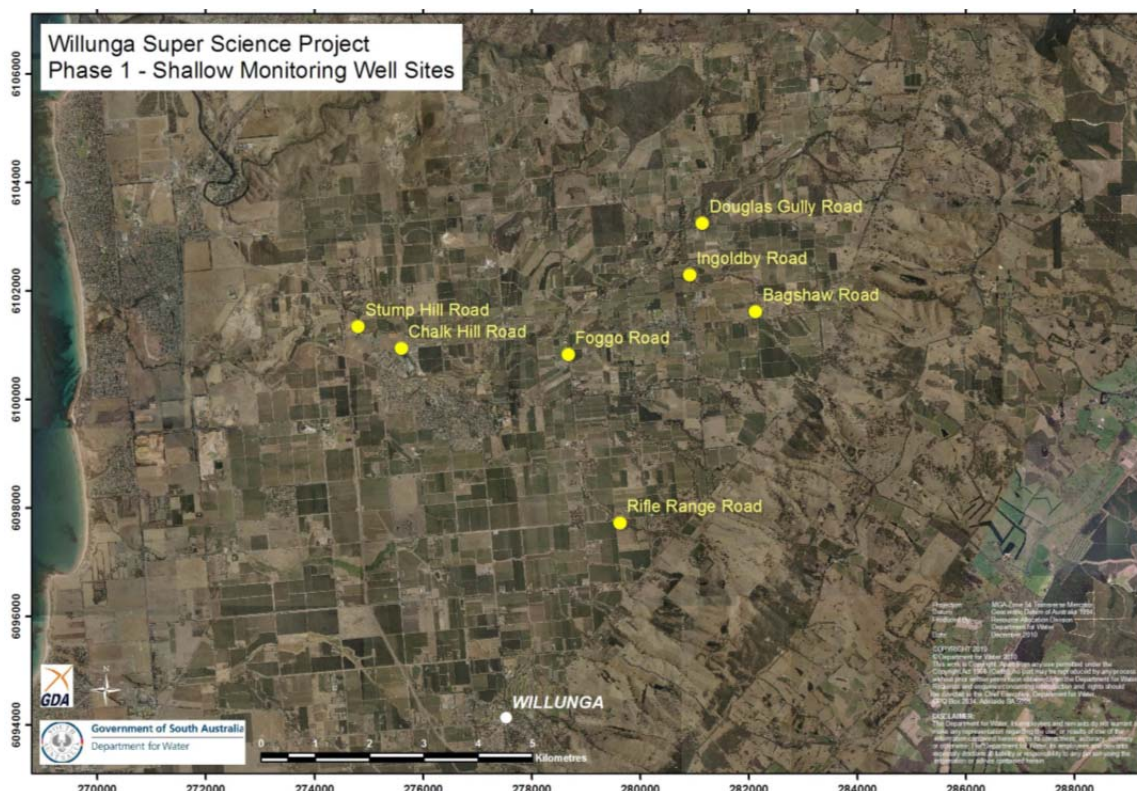
An Australian Government Initiative

# Groundwater Education Investment Fund Project

## Borehole Infrastructure Report

Borehole Type		Piezometer Monitoring Bore	Location	Willunga Super Science Site
Unique Well ID		WSS-FR-2	Installed By	Geodrill
Completion Date		22/11/2010	Depth Installed	10 mBGL
Drilled By		Geodrill	Depth Drilled	10 mBGL
Monument Type		Lockable standpipe	Drilled Diameter/Method	125 mm, Auger
Monument Diameter/Width		80 mm	Screen Depth	9.0-10.0 mBGL
T.O.M. offset from G.L. (Top of Open Monument)		0.885 m	Screen Size/Aperture/Type	50 mm/0.4 mm/PVC18
PVC Casing to T.O.M offset		-10.5 cm	Level of Bentonite	7.5-8.5 mBGL
Ground Elevation (mAHD)		64.156	Casing Size/Type	50 mm/PVC18
GPS Easting	(MGA-94 Zone 54)	278685	SWL after Development	2.52 mTOC
GPS Northing		6100821	Development Details	Air lifted 2 hours

**Project Comments:** WSS-FR-2 is a single piezometer monitoring bore, located on the western side of Foggo Road, south of Pedler Creek.

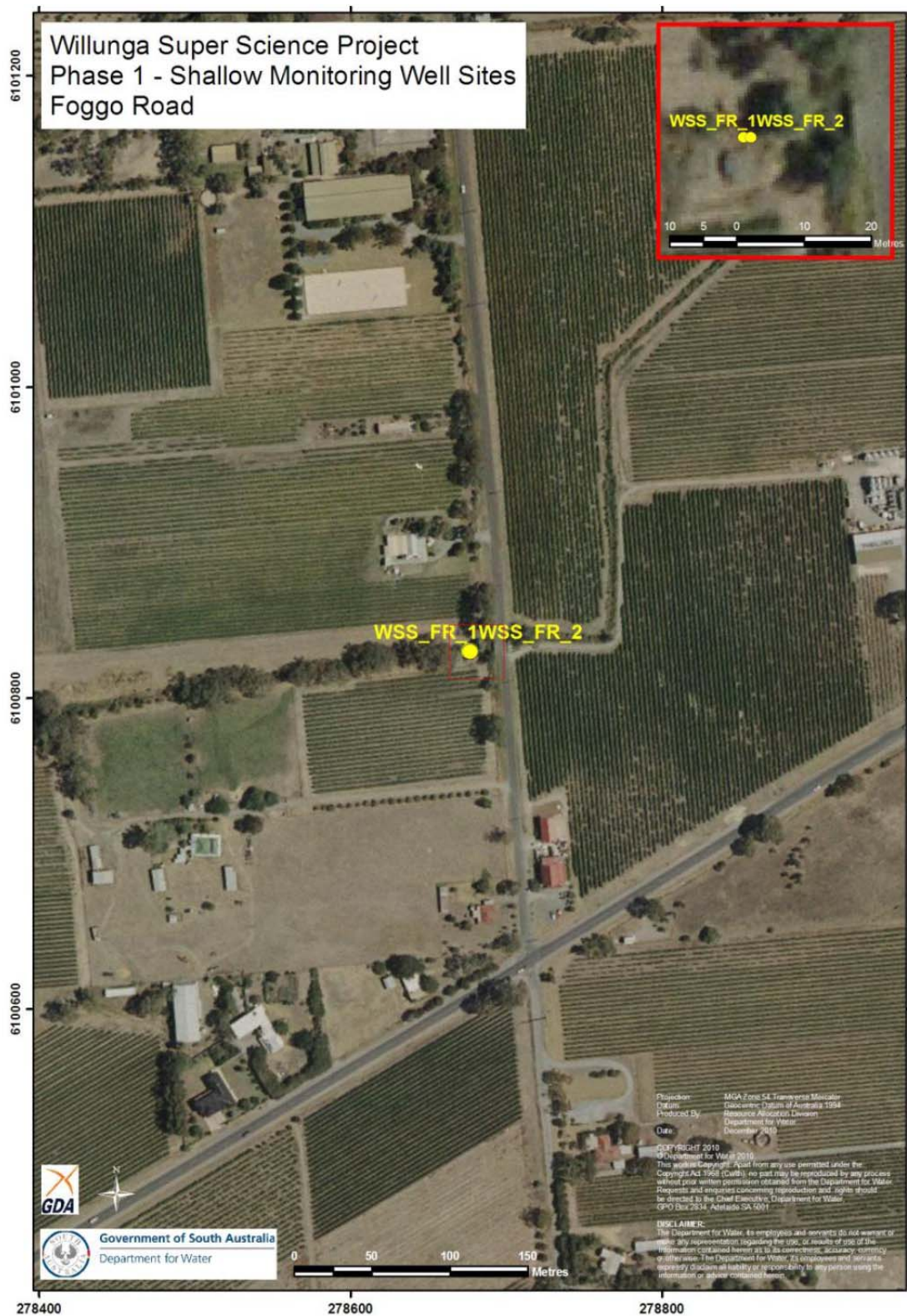


Map of Willunga Super Science Project Shallow Monitoring Well Sites

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

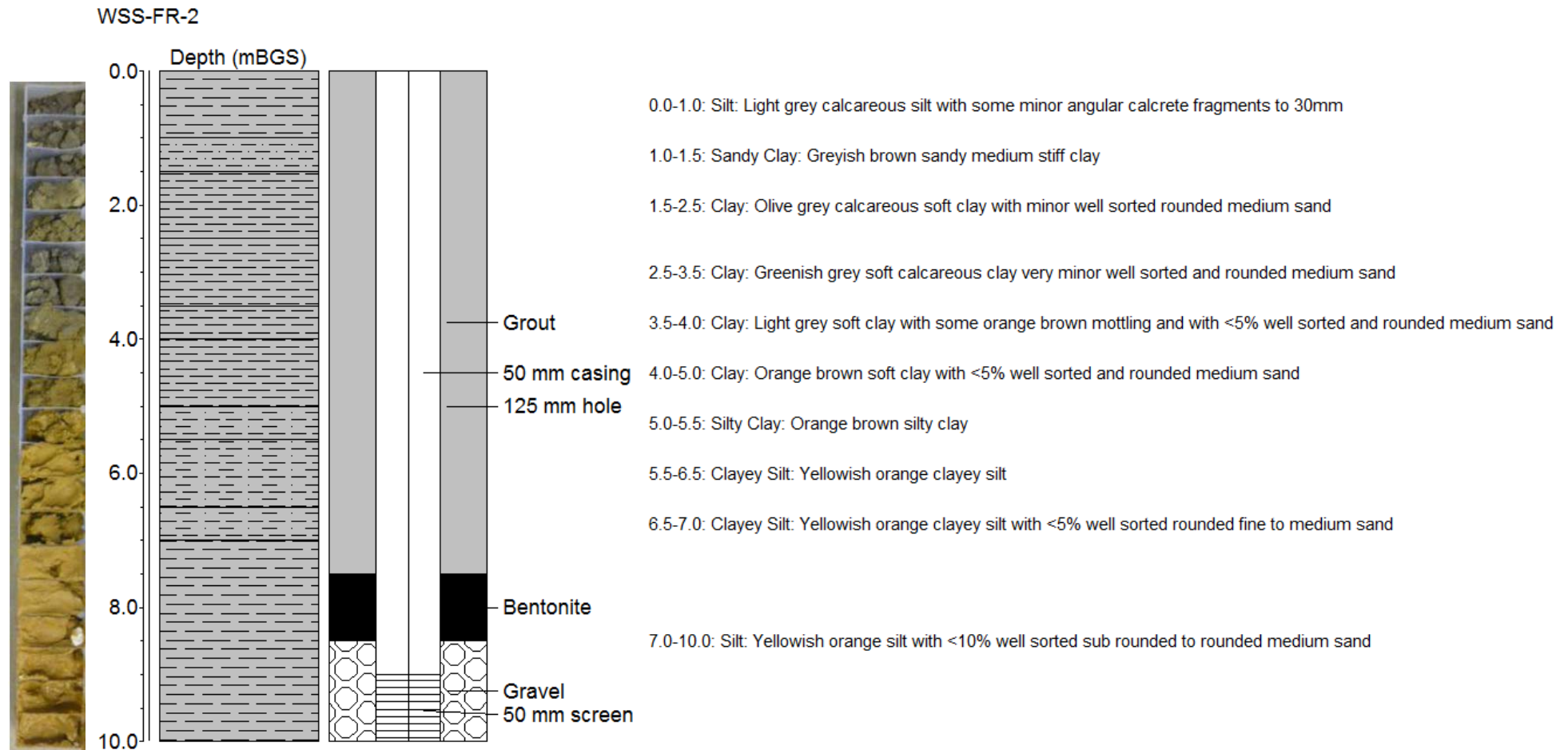
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Location and Well Installation of WSS-FR-1 and WSS-FR-2

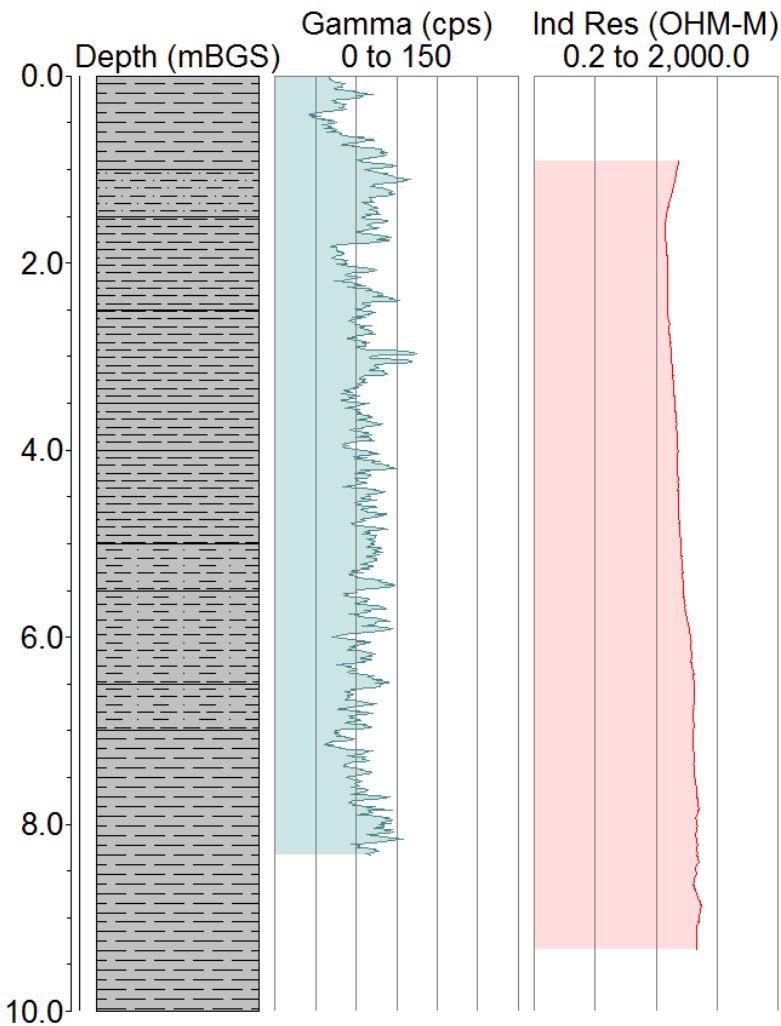
# Lithology and Well Completion Log



# Geophysical Logs

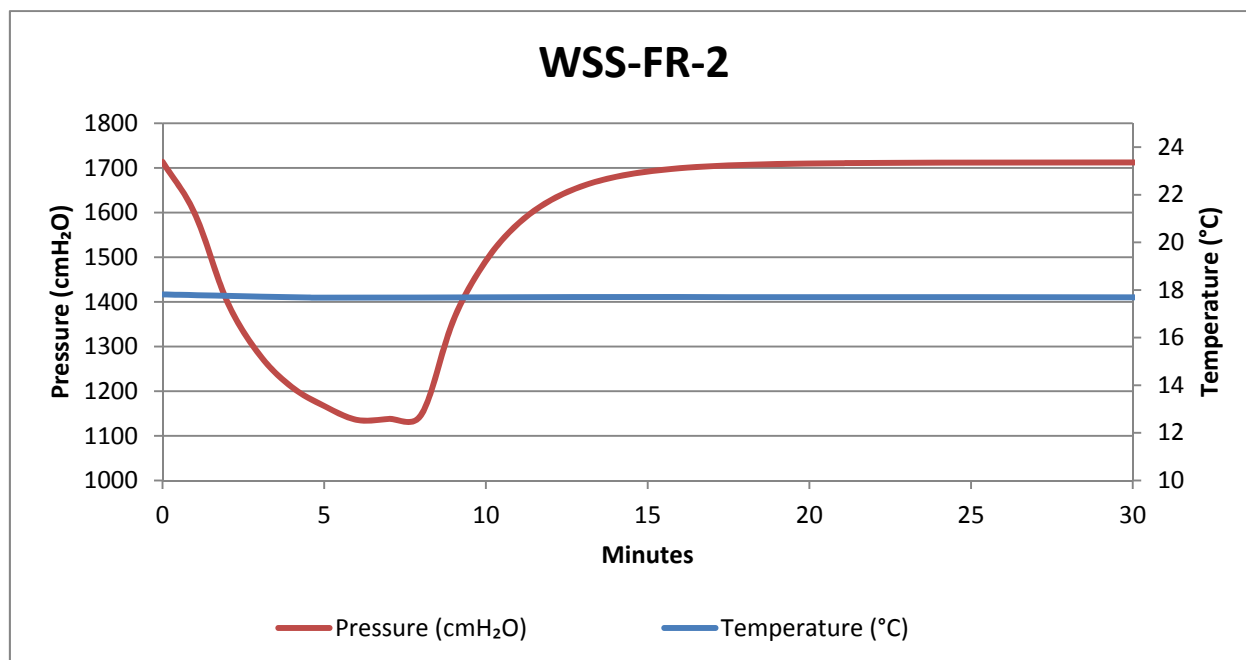
The portable Mount Sopris logging system was used to collect geophysical data from bore WSS-FR-2, the deepest peizometer. The 2PGS probe was used to collect natural gamma measurements, and the 2PIA probe was used to measure conductivity/induced resistivity.

WSS-FR-2



## Slug Test

A slug test was attempted on WSS-FR-2 by placing a level logger at a depth of 10 mTOC and using a pump (9 mTOC) to remove the standing water column above the pump. The fast recovery rate of WSS-FR-2 made it so that it took approximately 9 minutes to draw the water column down to the level of the pump, making this a less ideal slug test. 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-FR-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	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
		mTOC		μS/cm	°C	meq/L	μS/cm	meq/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
WSS-FR-2	13/12/2011	2.86	6.31	3048	19	3.8	3181	4.0	0.2	1000	3.2	17.0	120	135	5.39
							Mg	Na	S	Al	As	B	Cd	Co	Cr
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
							84	352	29.3	<0.05	<0.05	0.12	<0.05	<0.05	<0.05
							Cu	Fe	Mn	Mo	Ni	P	Pb	Sb	Se
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
							<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.1	<0.05
							Si	Sr	Zn						
mg/L	mg/L	mg/L													
12.6	1.34	<0.05													