



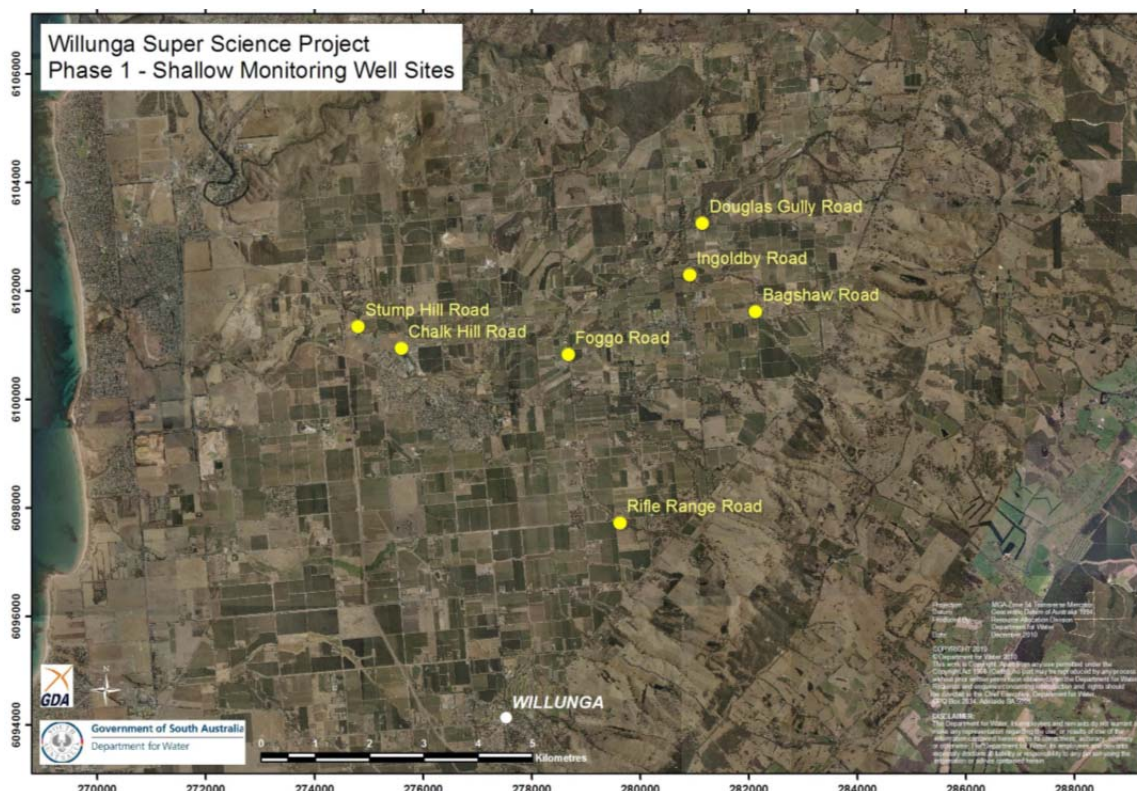
An Australian Government Initiative

Groundwater Education Investment Fund Project

Borehole Infrastructure Report

Borehole Type		Piezometer Monitoring Bore	Location	Willunga Super Science Site
Unique Well ID		WSS-IR-1	Installed By	Geodrill
Completion Date		22/11/2010	Depth Installed	16 mBGL
Drilled By		Geodrill	Depth Drilled	16 mBGL
Monument Type		Lockable standpipe	Drilled Diameter/Method	125 mm, Auger
Monument Diameter/Width		80 mm	Screen Depth	14.0-16.0 mBGL
T.O.M. offset from G.L. (Top of Open Monument)		0.82 m	Screen Size/Aperture/Type	50 mm/0.4 mm/PVC18
PVC Casing to T.O.M offset		-5.0 cm	Level of Bentonite	12.5-13.5 mBGL
Ground Elevation (mAHD)		89.76	Casing Size/Type	50 mm/PVC18
GPS Easting	(MGA-94 Zone 54)	280917	SWL after Development	14.66 mTOC
GPS Northing		6102297	Development Details	Air lifted 2 hours

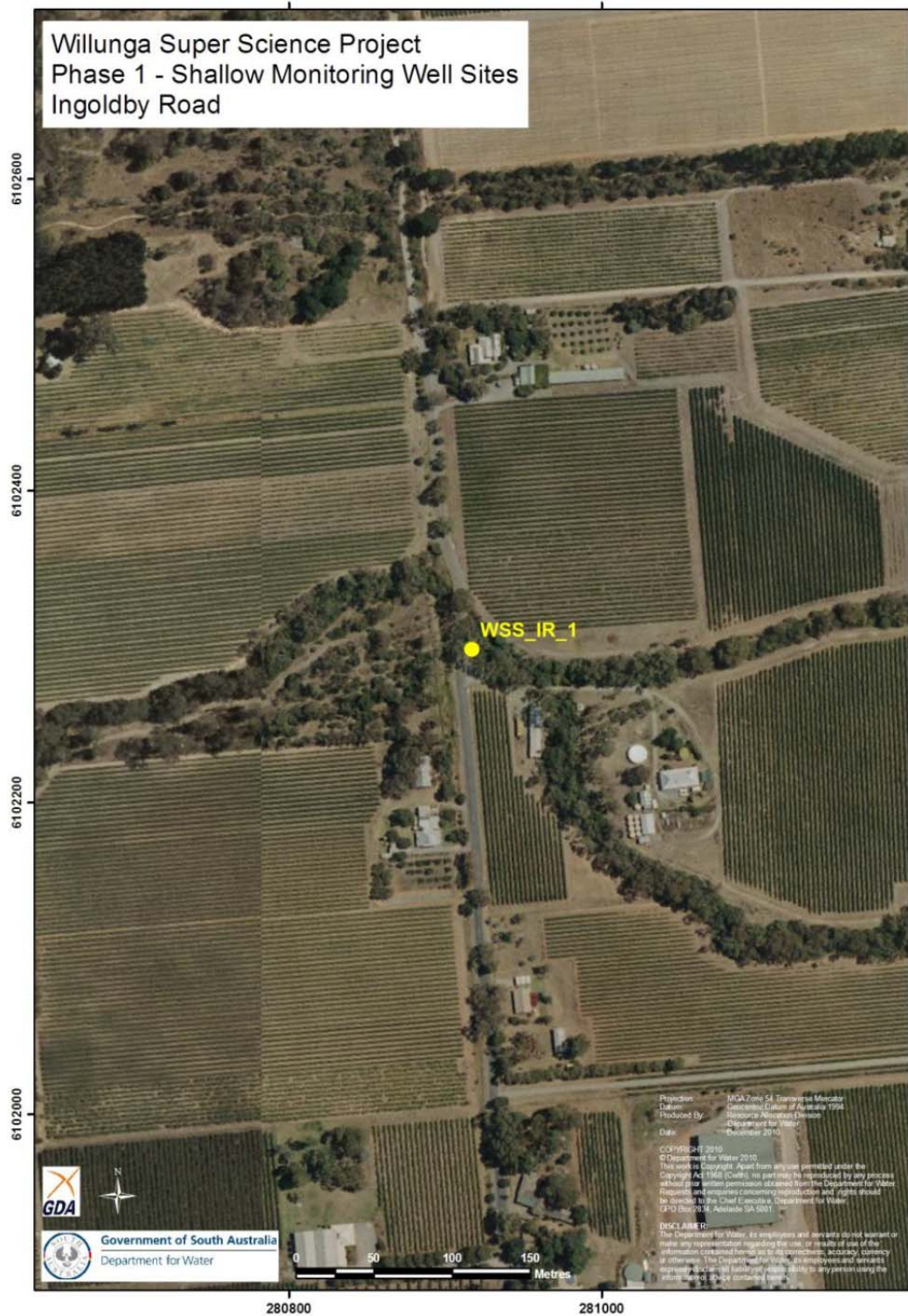
Project Comments: WSS-IR-1 is a single piezometer monitoring bore, located on the eastern side of Ingolby Road, adjacent to Pedler Creek.



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.

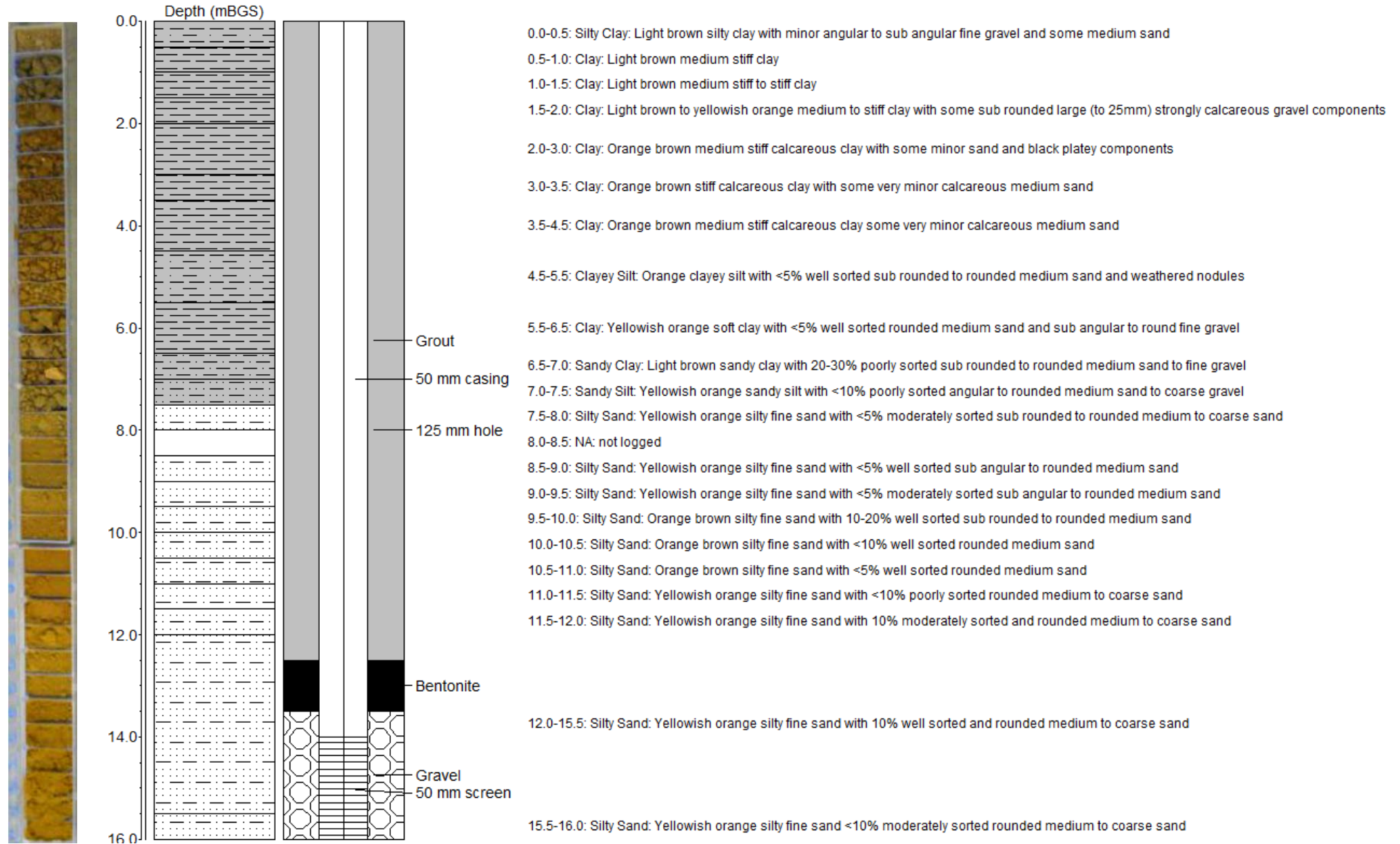
Infrastructure Report prepared by:	Contact Details:	Checked by: Prof Peter Cook
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Location and Well Installation of WSS-IR-1

Lithology and Well Completion Log

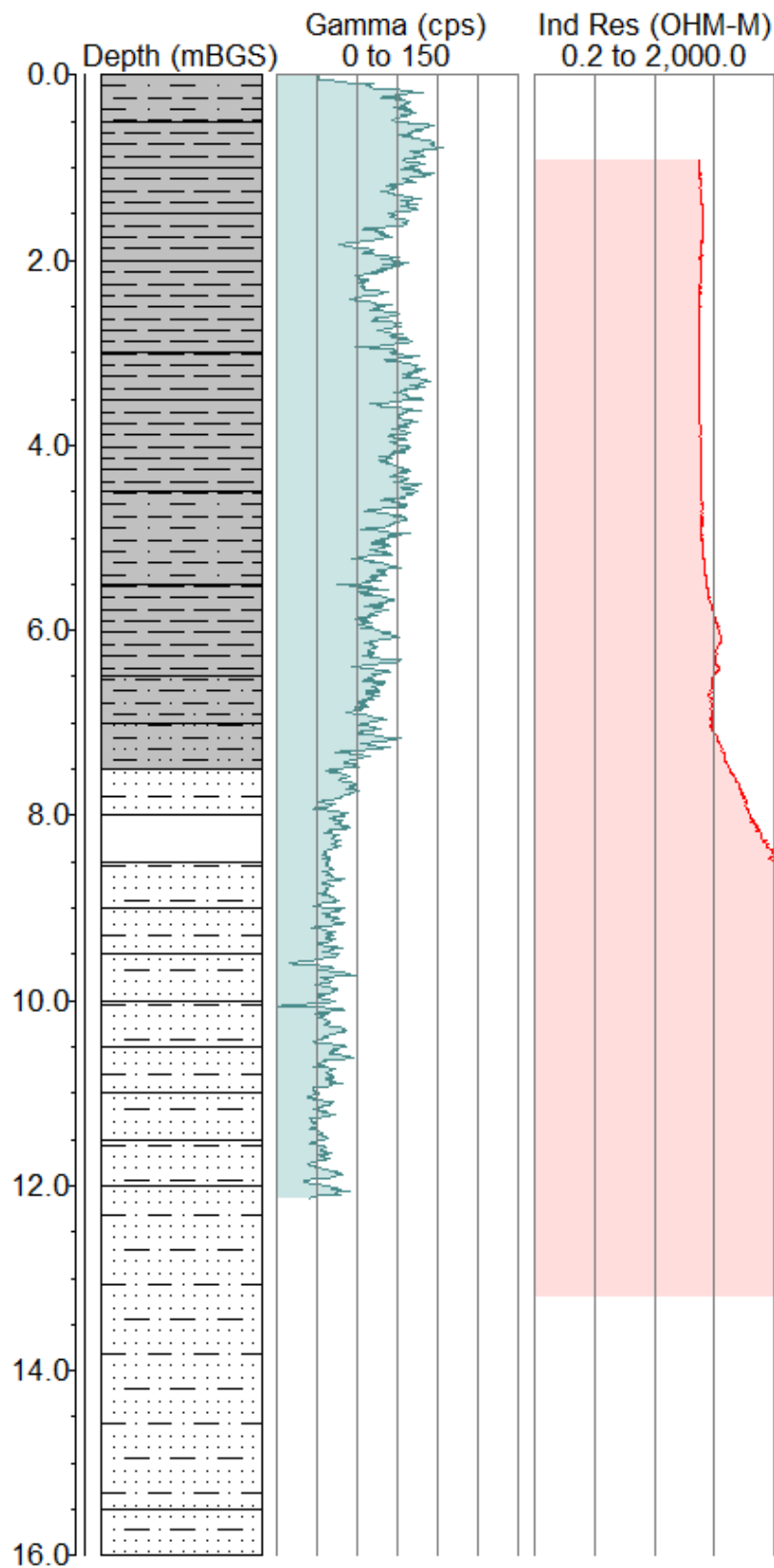
WSS-IR-1



Geophysical Logs

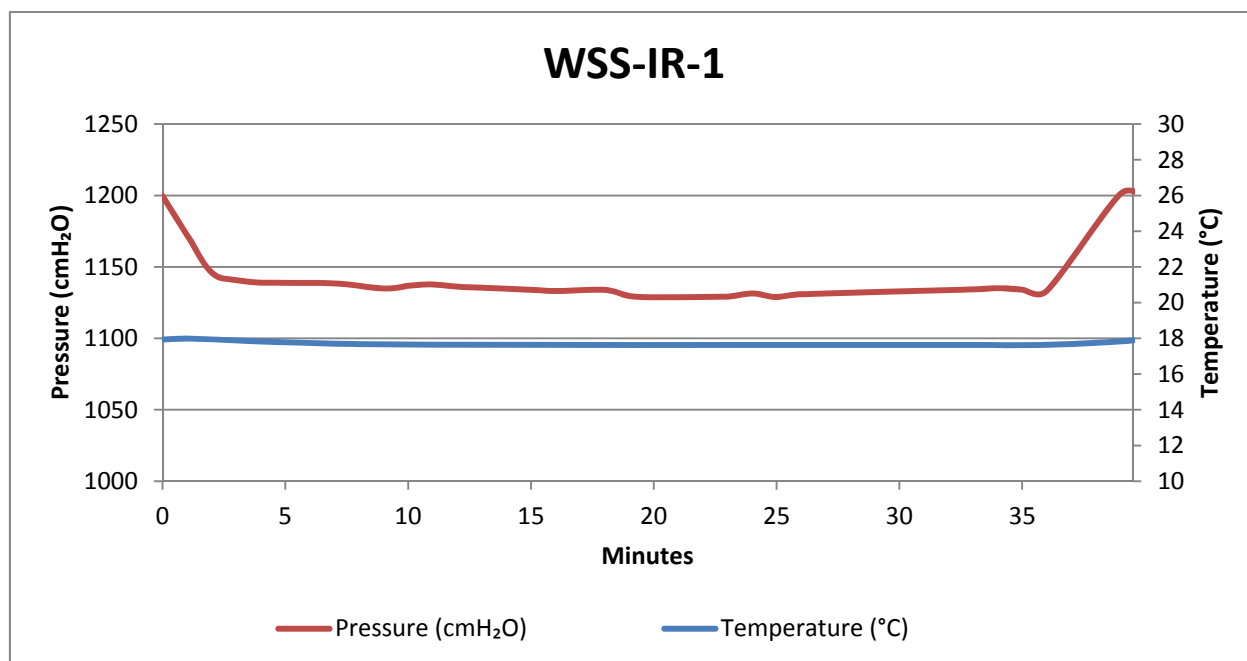
The portable Mount Sopris logging system was used to collect geophysical data from bore WSS-IR-1, the deepest peizometer. The 2PGS probe was used to collect natural gamma measurements, and the 2PIA probe was used to measure conductivity/induced resistivity.

WSS-IR-1



Pumping Test

A pumping test was performed on WSS-IR-1 by placing a level logger at a depth of 16.6 mTOC and a pump at 16 mTOC and pumping at a rate of 3.3 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-IR-1 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 ⁻	Cl ⁻	Br ⁻	NO ₃ ⁻	SO ₄ ⁼	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	mg/L
WSS-IR-1	18/10/2011	14.73	6.50	1704	19.2	1.6		4.8	0.8	430	1.2	0.3	57	38.9	8.21
							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
							37.1	252	17.2	<0.05	<0.05	0.41	<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	<0.05	<0.1
							Si	Sr	Zn						
							mg/L	mg/L	mg/L						
12.2	0.643	<0.05													