



Groundwater Education Investment Fund Project Borehole Infrastructure Report


An Australian Government Initiative

Funding	SuperScience	Project	RM07768
Borehole Type	Piezometer/Monitoring BH	Location	Wellington Research Station
Unique Well ID	WRS27 (GW273228)	Installed By	NSW Office of Water
Completion Date	14.11.2011	Depth Installed [m]	34.62
Drilled By	NSW Office of Water	Depth Drilled [m]	35
Monument Type	Round Blue Swing Top	Drilled Diameter/Method	219/173 Rotary hammer
Monument Diameter/Width [mm]	170	Screen Depth [m]	20-23, 27-33
Top of Monument from GL [m]	0.98	Screen Type	Slotted PVC Class 18
PVC Casing to TOM [mm]	-198	Level of Bentonite [m]	25.5-26.5
Elevation (AHD71)	300.368	Casing Size/Type	50mm PVC Class 18
Easting	686298.869	SWL After Development [m]	18.9
Northing	6394284.988	Development Details	Air lifted 6 hours




Comments

This borehole is situated along a specific transect within the upper groundwater investigation site, and is located inside the zone of influence from the extraction well.

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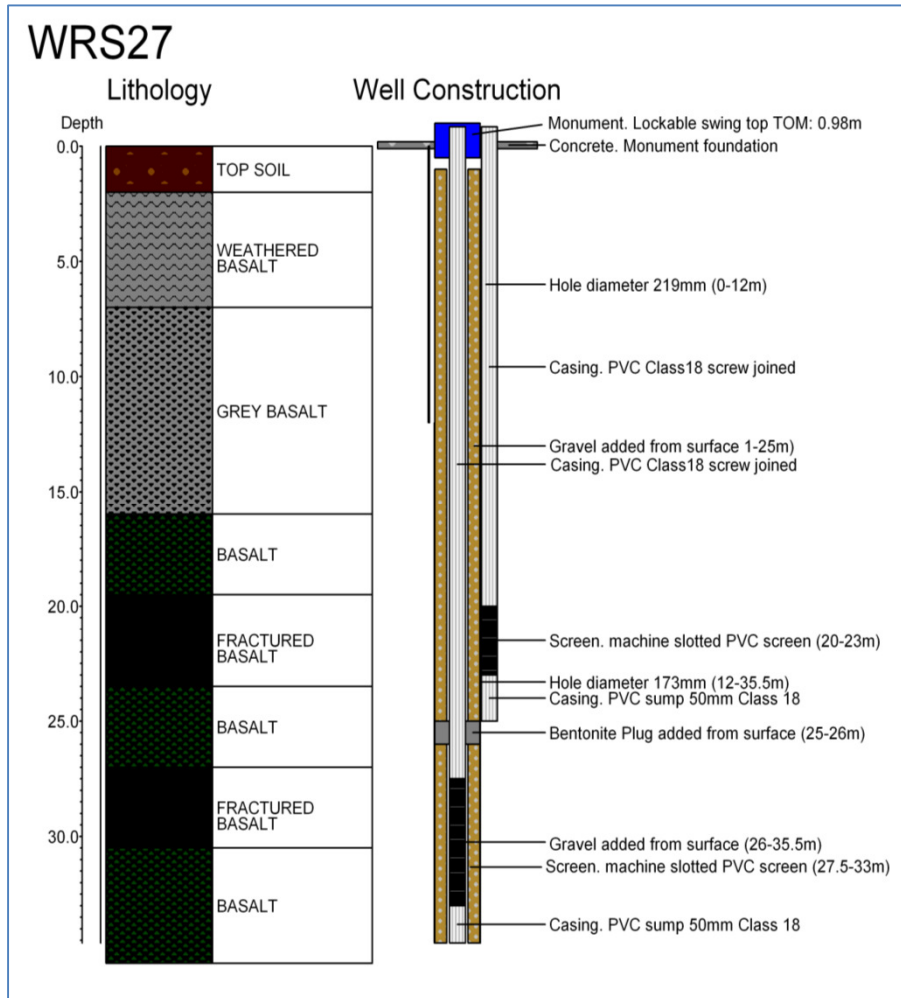


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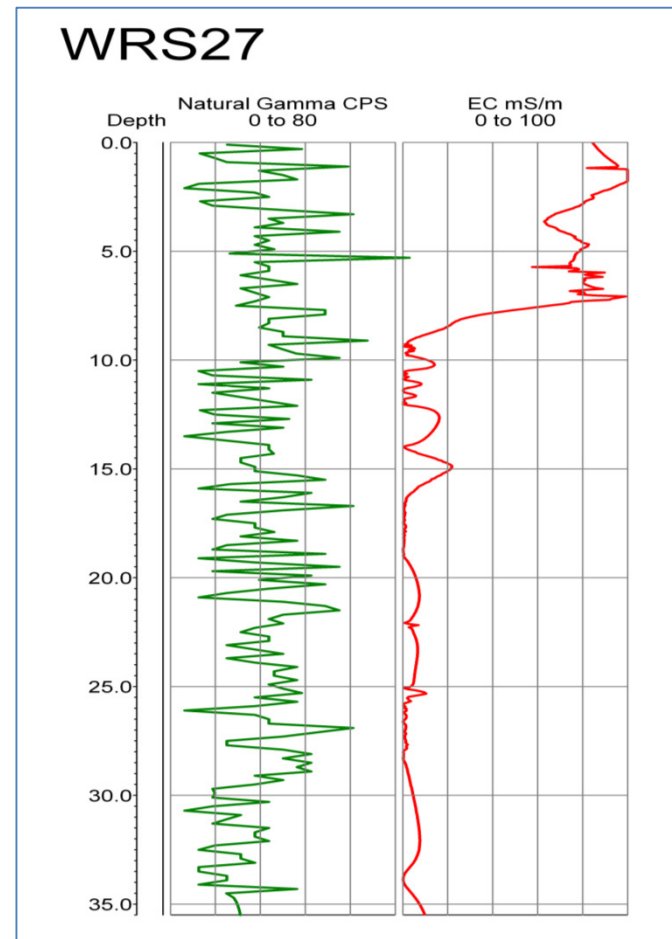
Stratigraphic Bore Log

Samples of the drill cuttings were obtained during drilling of the borehole and stored for future reference. Standard borehole information is documented in the bore log below.



Geophysics Log

The portable Geovista logging system was used to collect geophysical data from 34.6m to surface. The Electrical Conductivity sonde (EM39) is used to obtain quantitative information on dissolved salts and apparent bulk conductivity information. The natural gamma sonde (NGRS) is predominantly used for qualitative evaluations of stratigraphic characteristics, argillaceous sediments and clay minerals.





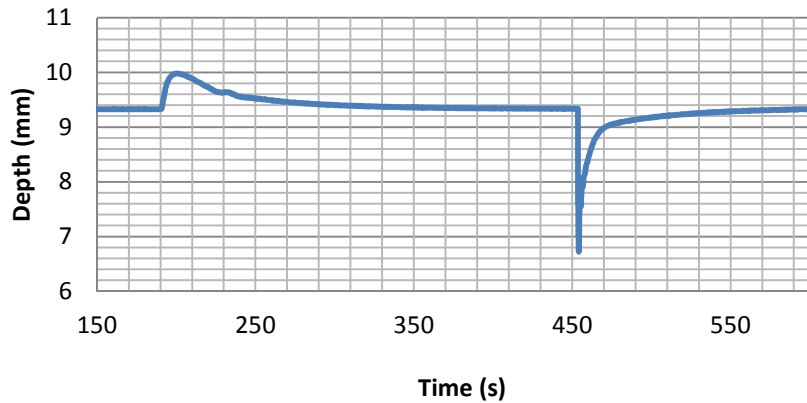
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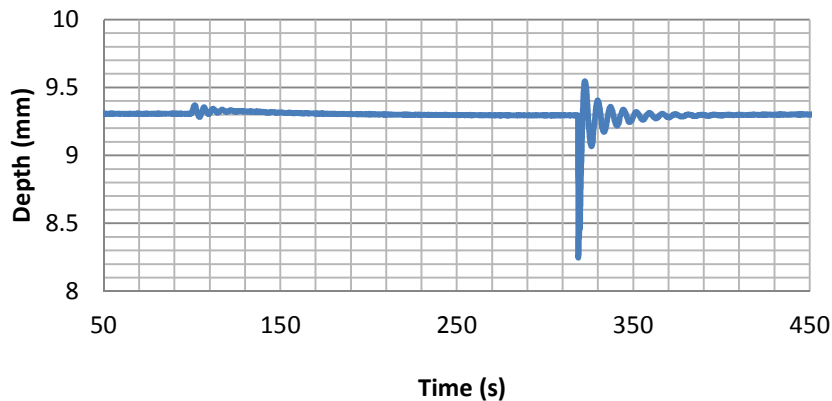
Slug Test

Standard slug tests were performed using a real-time water level logger and nitrogen to pressurize the borehole. The results of the slug tests are shown graphically below. Full data sets are available from the report author.

Slug Test Data WRS27_S



Slug Test Data WRS27_D



Groundwater Quality

Basic chemical analysis of the dissolved solutes and concentration of ions in the borehole was performed. The testing also included hydrogen ion activity (pH) and fluid electrical conductivity (EC). Data from the chemical analysis is shown below.

Date	17.04.2012		Ca ²⁺	81.30	[mg/L]
Time	15:20		K ⁺	0.67	[mg/L]
SWL	15.05	[m]	Mg ²⁺	51.80	[mg/L]
Field pH	6.9		Na ⁺	45.30	[mg/L]
EC	835	[µS/cm]	Si	23.00	[mg/L]
Temp	20.7	[°C]	Cl ⁻	50.00	[mg/L]
Alkalinity	7.48	[meq/L]	NO ₃ ⁻	34.00	[mg/L]
O ₂	6.62	[mg/L]	SO ₄ ²⁻	15.00	[mg/L]