

1.0 Oatlands 2

The temperature profile for Oatlands 2 (Fig.1) illustrates a probable advective influence below the base of this shallow hole that is acting to draw heat away, and thereby disturbing the temperature profile. It is also likely that the hole is being affected by water movement behind the casing providing an erratic and shallow thermal gradient to the temperature log between approximately 70 and 210 m (this has been observed in both the original temperature log and the second log). The well only intersects Jurassic dolerite with thermal conductivities ranging from 1.93 – 2.10 W/mK. A modelled surface heat flow of **43.0 ± 0.2 mW/m²** is calculated when using only the section of the hole that displays the most settled temperature profile and is constrained by sampled conductivities, approximately 220 m – 249 m. Due to the highly disturbed nature of the overall temperature profile, and the very small component of the hole that appears to display a settled temperature profile 1D heat flow modelling can only provide a value with reasonably low levels of confidence.

To enable a 1D heat flow model to be undertaken for this hole it is recommended that it be deepened in an attempt to drill through the source of the advection, somewhere below the base of the current hole's final depth,

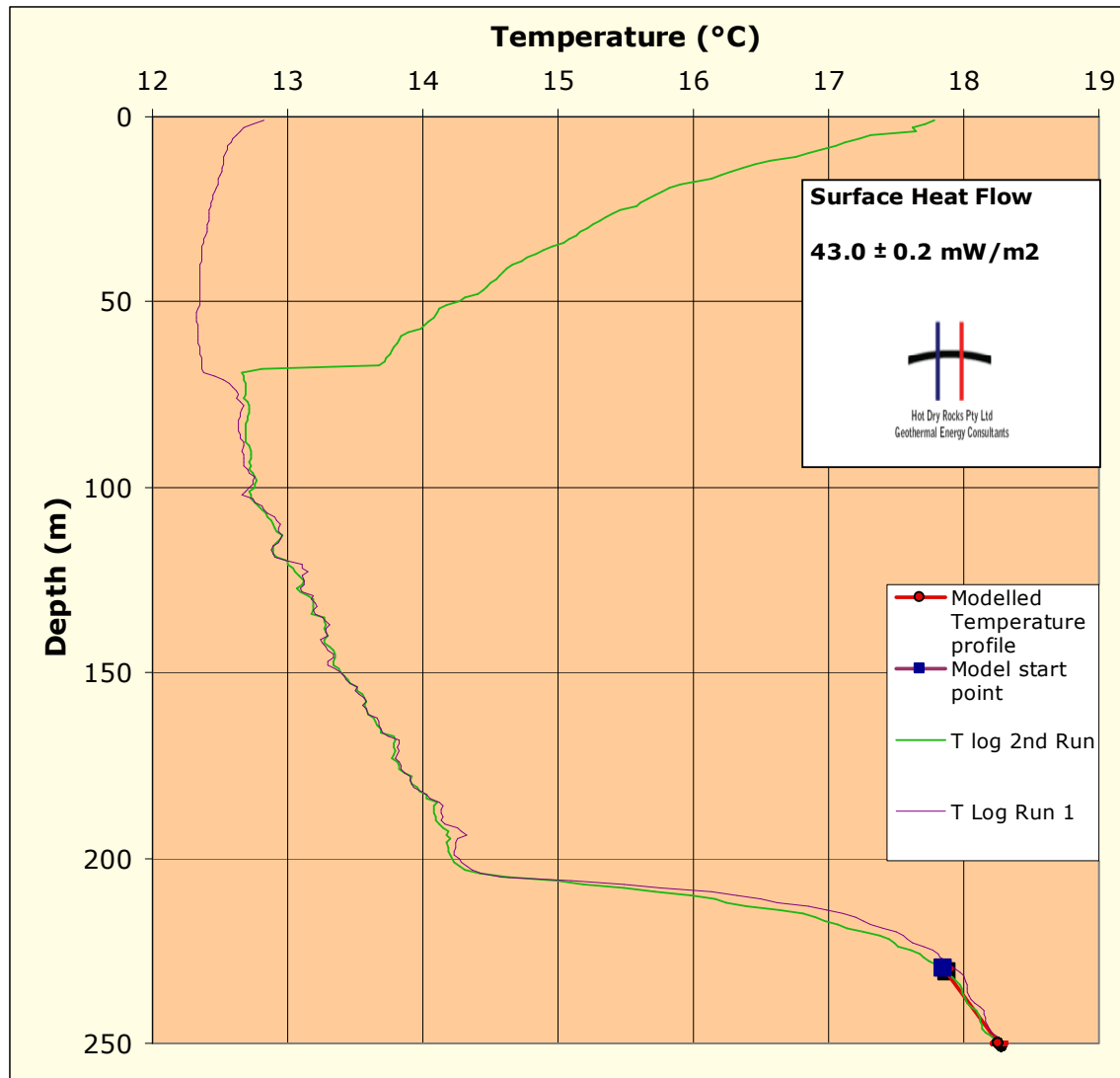


Figure 1. Oatlands 2 – Red line is the modelled temperature profile for the stated heat flow and measured rock thermal conductivity data. Green line is the measured precision temperature log from the second temperature log run, the purple line is the temperature log from the first run.