

Data Availability and Log Quality

The following services were run on the Flinders-1 well:

High Resolution Induction (HRI)
 Microspherical (MSFL)
 Sonic
 Spectral Density (SDL)
 Dual Spaced Neutron (DSN)
 Compensated Spectral Gamma (CSNG)

Firstly, the data was depth-matched to the HRI curves and then environmental and borehole corrections were applied. Since virtually no borehole correction was required for the HRI data the HRI deep reading curve was taken as R_t and the MSFL as R_{xo} .

Log quality of the pad devices was good due to excellent hole conditions. There was some washout (2" to 3") in the coals.

Parameter Selection - General

Study of the mud log indicated that the principal formation components would be claystones and sandstones interbedded with thin dolomite streaks and siltstones. Also indicated was a certain amount of igneous activity and a massive dolerite sill between 2208m and 2272m.

The Indonesian Saturation Equation was chosen with the following parameters:

$a = 0.81$
 $m = 2.15$
 $n = 2.0$

The ULTRA minimisation technique confirmed these values as reasonable.

Parameter Selection - Formation Water Resistivity (R_w)

An initial value of 0.05 Ohmm at 242 degrees F (approx. 42,000 ppm NaCl equivalent) was estimated from the SP and R_{wa} plots. This value was confirmed by ULTRA's multi-dimensional crossplot technique, giving least error in the minimisation. This value was chosen for the whole of the interpreted interval.