

The secondary objective sandstones in the upper *M.diversus* zone which contained shows at Pipipa 1 also contained shows in Flinders 1 but were generally less well developed. It is now interpreted that these shows are probably due to local sourcing associated with the elevated maturity profile associated with the igneous intrusion, rather than being indicative of migration from the Pelican Trough as was proposed prior to drilling. However the deeper shows in Palaeocene sandstones are either evidence of local sourcing due to the regional maturity gradient or are evidence of hydrocarbon migration from the Pelican Trough.

The absence of hydrocarbons in Flinders 1 is therefore due to inadequate sourcing and migration of hydrocarbons into the structure and/or to failure of the cross fault seals bounding the structure. The presence of minor shows in Palaeocene sandstones towards total depth is indicative of either local sourcing as the sequence is in the early oil mature window or migration of hydrocarbons from down dip in the Pelican Trough. There is therefore a possibility of untested hydrocarbons being trapped in deeper Palaeocene and late Cretaceous sandstones.

Maturity data (TMax and Vitrinite reflectance data) show unusually constant high values throughout the upper Eastern View Coal Measures down to the top of the igneous intrusion (a thickness in excess of 500m). Normally it would be expected that the high maturity profile above the intrusive would be quite small similar to that observed below it (approximately 50m). The reason for this unusual profile is not clear but it is considered most likely to be associated with igneous activity along the nearby NW-SE trending fault bounding the structure. Seismic data shows evidence of a possible (? Miocene) sequence of extrusive igneous rocks to the SW of the fault, this igneous activity may have caused the high heat flow which matured the upper Eastern View Coal Measures. The extrusives are probably the same age as the intrusion penetrated in Flinders 1. Below the intrusion the regional maturity gradient (as observed at Pelican 5) is re-established so that at total the depth the sequence is in the early oil maturity window.

Wireline interpretation showed that all zones in Flinders 1 were water wet and consequently no testing was undertaken and the well was plugged and abandoned.