

Aroo No. 1, the sixteenth well in the Bass Basin, was drilled in T/3P (see Fig. 1) by the permit holder Hematite Petroleum Pty. Ltd. The costs of the operation were subsidised by the Commonwealth Government under the Petroleum Search Subsidy Act 1959-1969.

The well was located over a major basement ridge above which closure had been mapped at three levels interpreted to lie within the Eastern View Coal Measures. The lowest, and largest, of these mapped closures, that of the Blue horizon, believed to be an unconformity, was the primary target of the Aroo-1 well. The nature of the rocks below the horizon was unknown but amplitude character at this level was considered indicative of sandstone, possibly correlates of M. diversus and L. balmei zone sands which are hydrocarbon bearing elsewhere in the basin. However, Aroo-1 showed that the Blue horizon lies within a thick sequence of basaltic flows and minor interbedded sediments which occur between 10,327 and 12,112 feet (K.B.).

The Aroo-1 well was drilled outside of the highest mapped closure (Red horizon) but within the intermediate Brown horizon closure. The minor fluorescence and wet gas in the mud which were logged in the well between the Red and Brown horizons were not therefore expected. These indications were in M. diversus to N. asperus zone correlates of the Cormorant-1 gas and condensate bearing sands. The more important hydrocarbon indications were in sands of the lower L. balmei zone near the Brown horizon. Two cores cut in the best sand in the well showed fluorescence and fair to good porosity and low permeability, however a plug at 9530 feet had a permeability of 113 md. Formation interval tests of this and other sands containing hydrocarbon indications suggest very low permeabilities. Wet gas was logged in a sandstone within the volcanic sequence.

Apart from the volcanic sequence in the lower part of the well, the succession penetrated in Aroo-1 was as expected and the key horizons above the volcanics were close to their predicted positions. The well was spudded in and drilled through calcirudite, marl and siltstone of the Torquay Group underlain by siltstone of the Demons Bluff Formation. More than three and a half thousand feet of sandstone, siltstone, shale and coal of the Eastern View Coal Measures were penetrated in Aroo-1 above the volcanic sequence, which, in the absence of dating cannot either be included in or excluded from the formation. The volcanics are interpreted as a Paleocene or Pre-Paleocene succession of partially weathered basaltic flows and interbedded sandstone and siltstone. The well was plugged and abandoned in volcanics at 12,112 feet (K.B.).