

The middle sequence of the EVCM is bounded by the basal *T.longus* unconformity at its base and an unconformity at the base of the upper *M.diversus* zone (Early Eocene). Deposition during the *T.longus* and *L.balmei* zones appears to have been controlled by tectonic subsidence, induced by sediment compaction. This middle sequence has been penetrated by all wells in T/25P with the exception of Pipipa 1, and is considered to contain the most prospective reservoirs for gas and condensate. Known accumulations in this sequence occur in Yolla to the north and in the Pelican Field. Reservoirs within this zone formed the primary target for Flinders 1.

The uppermost sequence of the EVCM lies between the base of the upper *M.diversus* unconformity and the top of the formation. Basin sag was the dominant control on deposition. Oil shows were recorded at the base of this zone in Pipipa 1, but log analysis indicates only residual hydrocarbon saturations. There are no other significant shows in T/25P at this level, however a small oil and gas accumulation was discovered at the top of the zone at Yolla Field in T/RL1 and significant oil and gas shows were recorded in Cormorant 1 in T/18P.

Conformably overlying the EVCM is the Late Eocene Demon's Bluff Formation. Lithologically this unit consists of a sequence of fine grained shale and siltstone deposited in a marine environment. The unit has an average thickness over the basin of approximately 120m, but thins towards the basin margins. The Demon's Bluff Formation provides a regional top seal to hydrocarbons reservoided in the uppermost sandstones of the EVCM as demonstrated by the accumulation at Yolla 1.

The Demon's Bluff Formation is overlain by the Oligocene to Pliocene age Torquay Group which consists of a basal sequence of marl and calcareous shale grading upwards into a sequence of bioclastic limestone. The Torquay Group ranges in thickness from approximately 450m around the basin margins to about 1700m in the Pelican area. In addition to extrusive igneous rocks associated with the basal and intra-EVCM unconformities, intrusive and extrusive igneous rocks of Oligocene to Miocene age have been intersected in a number of wells drilled within the Bass Basin. Seismic data allow the mapping of the extrusive igneous rocks with a high level of confidence, whereas the intrusive igneous rocks are difficult to image and identify.

4.3 Regional Exploration Results

Prior to Flinders 1 eight petroleum exploration wells had been drilled in T/25P (Figure 1, Table 1). The closest well is Pipipa 1 which is located downdip and 2km from Flinders 1. Pipipa 1 terminated at a shallower stratigraphic level than the objective for Flinders 1. The nearest control for the primary target middle *M.diversus* and lower *M.diversus* reservoirs is the Pelican Field and Narimba 1. There are no wells on structural trend with Flinders 1 at the primary objective level.

The Flinders/Pipipa structure was previously evaluated by Pipipa 1 which was drilled in 1982 by Hematite to a total depth of 2115m KB (near to top middle *M.diversus*). The well was plugged and abandoned without testing despite encountering encouraging shows. Fluorescence shows were encountered between 1940m KB and total depth in sandstones which can be correlated, with wells logs and seismic, to the upper *M.diversus* zone sandstone of the Pelican Field. The bet show occurred in a sandstone over the interval 1045-1954m KB where 20-40% yellow to green milky