

area of the "Torquay Embayment". There the Otway Group was penetrated by Shell's Nerita 1 (thickness 580m) and Haematite's Snail 1 (349 thick).

The Early Cretaceous Basin received rapidly deposited and generally poorly sorted argillaceous and arenaceous terrigenous detritus from the Tasmanian provenance to the south. Major fault movements produced rapidly subsiding depressions, some of which are estimated to contain up to 3000m of lower Cretaceous section. Subsequent erosion produced an unconformity which apparently marks the boundary between the Upper and Lower Cretaceous (Brown, 1976). This also marks the base of the Eastern View Coal Measures. The Late Cretaceous section is almost unknown as few wells have penetrated it, but should infill linear deep basins present by the end of the Early Cretaceous. The uppermost part of the Late Cretaceous section has been penetrated by Aroo 1, Bass 3, Poonboon 1, Pelican 5 and Konkon 1 while at Durroon 1 a condensed sequence was encountered before the well drilled through to the Early Cretaceous section. The lithologies of the Late Cretaceous were sand, silt, shale and coal typical of the rest of the EVCM. These sediments were mainly sourced from the south (Tasmania) but subsidiary provenance areas were the "Bassian Rise" (Wilson's Promotory to Flinders Island) as well as the Australian Continent to the north (Brown, 1976).

The Palaeocene provenance was still to the south as evidenced by coarse sandstone development at Durroon 1. The Palaeocene basin was a land locked wave-dominated deltaic plain extending into an extensive lacustrine environment which occupied the northern part of the basin (Suttill, 1995). The lacustrine and strand plain deposits in the north (T/18P) result in mappable seismic packages in that area which contrast with the less resolvable seismic signature of the lower delta plain sequences in the south (T/25P). Structurally the Palaeocene was quiescent with relatively uniform thicknesses of sediments observed away from the Basin margins. Thick coals developed in the Eocene, particularly in the Pelican area, but by the end of the Early Eocene structural movements intensified with extensive normal faulting aligned with and reactivating the basin forming NW-SE Cretaceous faults. Relief at any one time was not great so depositional patterns of environment remained generally constant with a similar distribution of facies to that described for the Palaeocene.

Extensive erosion occurred at the end of middle *M.diversus* time peneplaning the faulted topography and marking an end of the "Lower EVCM" (Brown, 1976; Baillie & Bacon, 1989). Up to 2000 m of Lower EVCM may have been deposited. The basin depocentres became independent from the Cretaceous synrift basins at this time and the basin axis is longitudinally focussed in the Poonboon 1 area and trending NW-SE until the present day. The "Upper EVCM" commenced deposition in this new sag basin with the coaly upper *M.diversus*. Sometime after deposition of the upper *M.diversus* and possibly as late as middle *P.asperopolus* time, another regional unconformity occurred. This did not result in any change in the basin framework and probably is more accurately described as a sequence boundary resulting from a relative eustatic lowstand. The effect of this is minor subcrop of the upper *M.diversus* sediments over many of the older highs and at the basin margins. Some growth faulting persisted after this time but almost all fault movement had ceased by the time of the Demon's Bluff flooding event. The upper EVCM below the Demon's Bluff may be up to 1000m thick in parts.

The Demon's Bluff Formation was deposited at the conclusion of the Eocene and was transgressive over a vast area. The basin thereafter continued to subside and mostly fine-grained marine sediments of the Torquay Group were deposited in the low relief topography. Thinning of Oligocene sediments, apparently due to subcrop at the Oligocene/Miocene boundary, suggests a reversal of the stress regime from