

Basement in the Bass Basin is slightly metamorphosed and may be as old as 589my which is Cambrian in age. Bass 2 drilled through low-angled, altered tuffaceous mudstone radiometrically dated as Early Palaeozoic or Cambrian. Bass 3 reached TD in 40 degree dipping, silicified blackshale and quartzite sandstone and siltstone, believed to be Early Palaeozoic in age. The rocks apparently relate to the Palaeozoic geosynclinal sections in the onshore areas of Tasmania (eg Rocky Cape Group), Victoria and Islands of Bass Strait, where complexly folded, intruded and metamorphosed Palaeozoic rocks outcrop (Brown, 1976). This relationship can easily be inferred after studying a geosat bouguer gravity image produced by AGSO (Figure 2.4). The lineaments shown mainly relate to basement structure, and the geology can be extrapolated from northwestern Tasmania (Figure 2.5).

A generalised stratigraphic column for the Bass Basin is shown in Figure 2.6. A 1200m lower Cretaceous section similar to the Otway Group of the Otway Basin and the Strzelecki Group of the Gippsland Basin was seen in Durroon 1 (Brown, 1976), the only Bass Basin well to intersect this Early Cretaceous stratigraphy. The north west extension of the Tertiary Bass Basin overlaps the Otway Basin in the area of the "Torquay Embayment". There the Otway Group was penetrated by Shell's Nerita 1 (thickness 580m) and Haematite's Snail 1 (349m thick). Early Cretaceous sediments are also inferred to be in Konkon 1 due to the lithologies encountered (Brown, 1976).

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 and rugged, linear, mountainous islands. Some of the local sub basins are estimated to contain up to 3000m of lower Cretaceous section. Subsequently the erosion of the faulted island masses 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 it 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,