

'normal' sublitharenites. Many of the poorly sorted sands were probably deposited from debris flows on a series of alluvial fans which formed where drainage channels debouched from the high-relief fault scarp. Further out in the basin the alluvial fan distributaries probably changed into low-sinuosity streams and the sediment was deposited in lower-energy environments, as encountered in the Eastern View Coal Measures drilled at Durroon 1, where 335 m of grey to brown carbonaceous shales are overlain by white coarse-grained sandstones 240 m thick interbedded with thin shale horizons (Brown, 1976).

The section drilled at Boobyalla Plains represents the most proximal facies of the Eastern View Coal Measures and confirms the facies trend noted by both Brown (1976) and Robinson (1974), who noted a coarsening of the Eastern View Coal Measures towards the southeast and suggested that the north coast of Tasmania was the major source of the sediments.

FAULTING AND VULCANISM

Figure 6 is a map of the southeastern margin of the Bass Basin and differentiates areas of shallow or outcropping basement from areas of significant sediment thickness and was constructed using knowledge of onshore geology (Baillie *et al.*, 1979) and the offshore seismic lines of Esso (1969-1972) and Weaver Oil and Gas (1982). A diagrammatic cross-section is shown as Figure 7. The inferred dominant fault direction is NW-SE, but other major faults are inferred in the

NE-SW and N-S directions as determined in general in Tasmania (e.g. Williams, 1969, 1978). Previous structural interpretations in Bass Basin have only recognised NW trending structures, although lineations in other directions (e.g. N, NE) are present on magnetic intensity maps (e.g. Fig. 2 of Brown, 1976).

In the Cape Portland area (Fig. 6), an appinitic intrusive complex and lamprophyre dyke suite are intrusive into Jurassic dolerite and sandstones of the Parmeener Supergroup (Jennings & Sutherland, 1969; McClenaghan *et al.*, 1982). In the same area a small andesite lava occurrence can be shown to be chemically related to the intrusives. Hornblende from both intrusive and extrusive rocks has a K/Ar age of 101-102 Ma (McClenaghan *et al.*, 1982, App. 3).

In Durroon 1 basalt and tuffaceous sandstone occur near the boundary between the *A. discocarinitus* and the *Tri-colpites pannosus* Zones (Dettmann & Playford, 1969) close to the Early/Late Cretaceous biostratigraphic boundary (Esso, 1973). The absolute age of this boundary is 97.5 Ma (Harland *et al.*, 1982).

Tuffaceous sandstones have been described from the bottom of Boobyalla 2 and are tentatively correlated with the volcanics encountered in Durroon 1 (Fig. 5).

It is suggested that a minor volcanic episode affected the southeastern part of the Bass Basin at about 100 Ma and that this is related to the possible tectonic disturbances which produced the unconformity between Early Cretaceous sediments and the Eastern View Coal Measures as seen in Durroon 1 (Brown, 1976).

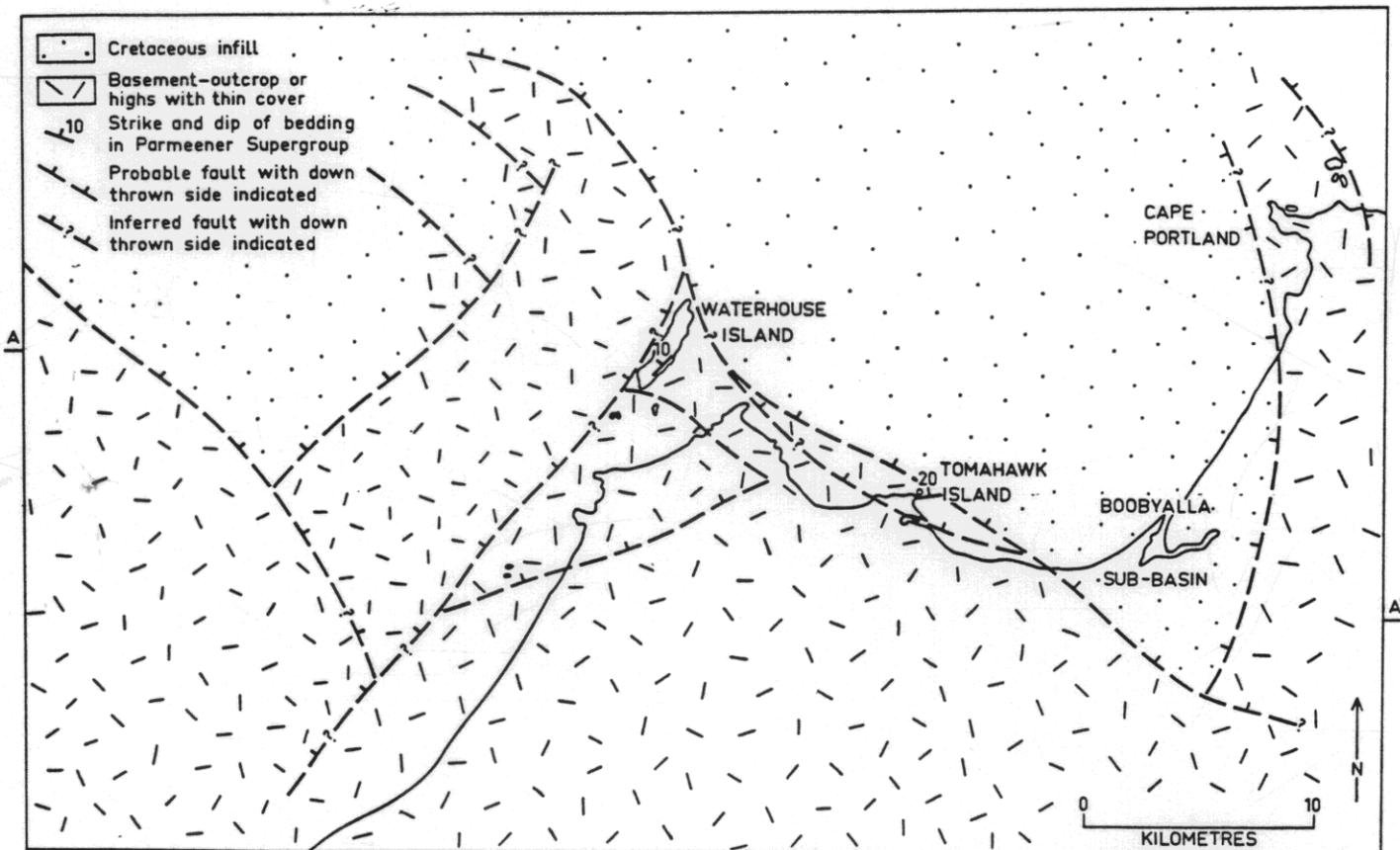


Figure 6 — Map of the southeastern margin of the Bass Basin showing the distribution of major faults which disrupt basement rocks.