

Globorotalia increbescens. No new Eocene species are recorded from below this level in either cuttings or side wall cores.

The base of the marl section, at 3020 feet, appears to correspond with the base of the Eocene foraminiferal sequence in Prawn. Well developed, robust Globigerapsis index were not recorded in the sequence, so that the lower part of Zonule L was apparently not present. Therefore marine upper Tertiary sedimentation commenced in the middle of upper Eocene times in the Prawn section.

Depositional History:

Both the planktonic foraminiferal sequence and the distribution of benthonic elements (shown as 4 groups on distribution chart) shows that upper Tertiary sedimentation was neither continuous stratigraphically nor of the same facies throughout.

Event 1 - Marine transgression in the middle part of the upper Eocene with apparently a rich planktonic and uverigerinid fauna (of Group C) at the base of the sequence. Most specimens are of a small size. Such species as Uvigerina canariensis and Trifarina otatara would suggest deep water together with the high planktonic ratio. This fauna directly follows an iron stained unfossiliferous sand (as shown in side wall 3038 feet) which suggests deltaic or near shore conditions. Similar foraminiferal biofacies are noted at the base of this upper Eocene transgressive sequence throughout the Otway Basin. As in Prawn the sediments always contains bryozoa and in surface and sub-surface section, Notostrea and Tuttitella are present. These mollusca are indicative of shallow water and appear to contradict the foraminiferal evidence. Studies of on-shore sections have shown that the same biofacies sequence occurs in different planktonic zones from section to section indicating that the transgression was diachronous. Structural downwarping is indicated by the upper Eocene distribution pattern, with a narrow embayment extending north from Port Campbell to Carpendeit-1. This down-warping was apparently accompanied by a gradual sea level rise. Such a sea level rise could have resulted in marine upwelling bringing in small deep water benthonic