

species suspended with the plankton. This marine transgression reached the Prawn site at least 2 zones later than it did in some sections of the Port Campbell Embayment or along the Aire Coast to Apollo Bay (sea floor outcrops). Upper Eocene marine sedimentation was never properly established at Princetown, so that a high must have existed between Port Campbell and the Aire coast, with a sea way between the present coast line and the Prawn site. Structural control of upper Eocene sedimentation is evident.

Event 2 - A similar biofacies persisted from upper Eocene into earliest Oligocene as is discussed above. In the Prawn section there is a hiatus within the Oligocene (top of Zonule J and Zonule I-2 are missing). Above the hiatus the orange limonitic calcarenite (i.e. the Clifton Formation) contains a sparse benthonic fauna with very few planktonic species. The benthonic species Victoriella conoidea is characteristic of this facies throughout the basin. Like other members of the Victoriellidae (included in Group B on chart), this species was apparently adherent on sea weed. Other species in this biofacies support a very shallow water origin for the sediment. Evidently at the beginning of Oligocene times there was structural activity in the eastern part of the Otway Basin which resulted in exposure of some areas leading to a sudden regression. The regressive intensity varies from area to area, as there is no indication of a hiatus in some sections (e.g. Narrawaturk-2). However, in all sections examined both the biofacies and lithofacies are identical, suggesting very shallow water conditions and sudden break up of a laterized land surface resulting in the limonitic rich sediment. To the west of Warrnambool, an identical facies is present (i.e. the Nelson Formation), but is slightly older as it contains Zonule K or J faunas. Thus the facies was diachronous moving west to east across the Basin, suggesting that the structural activity moved in the same direction.

Event 3 - Marl sedimentation followed the shallow water conditions, although several lenses of limonitic calcarenite were noted within the base of the marl. The benthonic fauna is mainly of Group A with some arenaceous species. Inner shelf sediment-