

Coniacian and Santonian sedimentation was influenced by the continuation of the movements initiated by the Tasman rift. Further subsidence occurred along the bounding listric faults to each sub-basin, while the tilted and roll-over structures within the Boobyalla Sub-Basin were emphasised by the rotation of these at their bounding listric faults (Fig 4.)

3.8 THE TASMAN AND OTWAY DRIFT PHASE

Subsidence controlled by the individual sub-basins within the permit area diminished, and a regional subsidence towards the present day depocentre of the Bass Basin began. Campanian and Maastrichtian isopachs thicken from the southern margins towards this depocentre. The numerous relative sea level changes during this period may have created an equivalent number of unconformities but their presence within a thin seismic time interval cannot be detected.

Smith (1986) has written of the depositional history of this period, and concluded that the sand-dominated Lower Eastern View Formation in this area had been sourced from Tasmania.

3.8.1 Top of Cretaceous to Eocene-Oligocene

The Tertiary section of the permit is mainly confined to the northern half of T/15P towards the basin depocentre. In the southern half of T/15P the Tertiary section thins out and is present only as a veneer over a substantial Cretaceous section.

Seismic data quality follows this trend, with good quality Cretaceous data in the south and north east, while only good quality Tertiary data is recorded in the north and north west. On the recently recorded BMR-88 grid, it is possible to correlate Cretaceous events with some confidence in the northeast as well as the south of the permit. However data quality below the Top Palaeocene event deteriorates noticeably to the west of Chat-1 on all data and is very difficult to map with any confidence. The Top of Cretaceous event has only been established in this area from well ties, noticeably Pelican-5 and correlated through the poor data areas to give an idea of the structural picture at this horizon. Unfortunately there is no distinct event or character associated with this horizon and correlation is a best fit attempt only.

Regional mapping of the horizons in the Tertiary tended to confirm existing geological concepts of the area. Deposition of the Palaeocene section was primarily controlled by basin sag. Except for the basin margins and a small area southeast of Chat-1 on the up-side of the major northwest-southeast fault of Otway outcrop, Late Cretaceous sediments are present over most of the permit.

The dramatic thickening of the Early Eocene interval in the Pelican Trough is seen in the western area of the permit, between Chat-1 and Pelican-1. Basin sag continued until the present with deposition of thick Eocene, Oligocene and Miocene sediments towards the Pelican Trough.

Early Eocene volcanism appears not to have been as extensive in T/15P in the northern section to the permit as in areas to the west and northwest of the basin. However the area between Chat-1 and the Pelican discovery wells is considered equivalent to the Pelican Trough where numerous volcanic sills are present in the lower Palaeocene and possibly Cretaceous sections.