

### 3.8.2 Near Top of Cretaceous Unconformity (Enclosure 3)

The map constructed at this horizon is based on poor data and tied mainly to Chat-1 and Pelican-5, the only wells in the northern map area to drill through the top of the Cretaceous.

As significant gas shows were encountered in the Eastern View Coal Measures (EVCM) to T.D. in Pelican-5, the structure at this level is considered to be important in defining additional new leads in the Lower Tertiary, Palaeocene section of the EVCM.

Gas shows in Pelican-5 were present in stacked sands, though unfortunately the permeability was too low. The extent of poor permeability in the Palaeocene in the vicinity of the Pelican wells is unknown, however it can be expected to improve in the shallow section on the flanks of the Pelican Trough in T/15P. Thus, Near Top of Cretaceous structure in this area can be considered highly prospective. Unfortunately little structural deformation is seen at this horizon in T/15P, but it must be noted that this is more a function of data quality than geology.

### 3.8.3 Near Top of Palaeocene Unconformity (Enclosure 4)

This is the deepest horizon that can be correlated with some confidence over the northern half of the permit. It is the most important horizon in the Tertiary, defining all existing fields drilled in the basin to date.

The horizon has been tied into all surrounding wells except Durroon-1. The miscorrelation with Durroon-1 is still unresolved and it was decided to leave the problem for future detailed mapping, as time did not permit resolution of the correlation to the well. The new BMR regional grid prevents correlation of the horizon to Durroon-1 with the existing well top, whereas the horizon has been successfully tied to wells in and to the north of the permit. Correlation through the BMR grid places the Near Top of Palaeocene Unconformity at a lower depth than currently picked.

Mapping at this horizon has shown up some attractive structures to the west of Chat-1. The Chat structure is confirmed, though only the regional lines through the structure were interpreted. No structure could be mapped around Squid-1, but the main lines through the well were not available for the interpretation.

To the west of Chat-1 the structural configuration is relatively simple as the formation dips gently towards the Pelican Trough. Two attractive structures are noted in the area, sited to the north and southwest of Squid-1. The most prominent structure is located between lines WB81-6 and WB81-8 immediately north of line WB81-2. The structure is poorly defined to the north but has a potential area of up to 50 sq kms.

The areas to the east of Chat-1 show a fairly steeping dipping section as the formation onlaps the basin margin. Structure is quite minor and the area must be regarded as having limited hydrocarbon potential in the Tertiary section.

### 3.8.4 Base Torquay/Top Demons Bluff Formation (Enclosure 5)

The Bass Basin was inundated by the sea in late Eocene - early Oligocene times. This incursion is considered to have begun in the west and northwest, and did not reach the Durroon area until the Early Miocene. The Demons Bluff Formation changes from interbedded shales and siltstones, which provide the