

level, indicating that it is of relatively recent age, perhaps being a manifestation of the Kiosciusko uplift which culminated during the late Pliocene to early Pleistocene and has gently folded Tertiary aged strata in the adjacent Torquay Basin (C Abele, 1976).

The isochron of the Early to Late Miocene shows an east-west trough centred south of Poonboon 1, but north of Pelican 3. A distinct thin occurs at Flinders-Pipipa giving a firm indication that the intrusive emplacement in the *M.diversus* occurred either in the uppermost Late Oligocene or Early Miocene. Quite a strong nose, located from Pelican 3 to Hunter, is an interesting feature seen on this map.

## 6.11 Exploration Implications from the Structural Analysis

### Structural Timing

Migration timing is discussed in Chapter 10 so it is useful to summarise the structural timing in the Bass Basin as a prelude to that.

Structures started forming in the Bass Basin in the Early Cretaceous but few of these have been preserved unmodified because of later tectonics. These structures are mostly deep and ill defined due to the poor quality (at depth) and often sparse seismic data. It is likely that Cretaceous trapping geometries may exist in all structural provinces presented (Figure 2.2), but structures in the Pelican Trough are likely to be too deep and have little reservoir quality preserved. The shallowest Cretaceous aged trap probably exists on the Southwest Ramp as a stratigraphic play.

From the Palaeocene to the upper *M.diversus* a spectrum of trap development possibilities exists due to the relatively continuous period of normal faulting associated with rifting. Most traps in T/25P are therefore no younger than upper *M.diversus* in age (but mostly middle *M.diversus*) as this extensional period was followed by a structurally quiescent time which persisted until the end of the Oligocene. At this time gentle folding and igneous activities occurred associated with a mild compressional event. Most structures were enhanced during these tectonics and some culminations were created after plutonic bodies were wedged into the country rock.