

and the surface temperature is therefore assumed to be zero.

- (b) At least 50 MMY before breakup, thermal doming and rifting occurred. It was under these conditions that the Otway Group was deposited. During this period high heat flows are expected. A high heat flow value of  $65^{\circ}\text{C}/\text{km}$ , estimated from high Cooper Basin gradients, was used to model pre-breakup conditions. This gradient may require refinement in future detailed modelling.

In the Otway Basin at least 11,000' of Otway Group sediments have been deposited locally. Preserved thickness in the Bass Basin is uncertain, but possibly of the same magnitude. Two models of possible Otway Group burial history have been generated to test how tectonic evolution might affect the Otway Group's maturation history. As the boundary between the overlying EVCM and the Otway Group is an unconformity, only the TTI values for the unconformity surface need be calculated. In the first model, at Pelican 1, the break-up unconformity was buried to approximately 2000' at 120 MMYBP then uplifted and eroded between 120 MMYBP and 97.5 MMYBP. In the Narimba 1 model, the depth of burial was increased to 5500' prior to uplift and erosion to provide a contrast to Pelican 1. An examination of the diagrams (see Figures 5.7 & 5.8) shows the effect to be slight