

Structural movement in Tertiary times has been slight; Shell's Pecten No. 1 recently tested an attractive closure of this age with negative results.

The stratigraphy of the Upper Eocene section is largely unknown in the offshore portion of the Otway Basin. It is expected that most of the seaward thickening of these rocks represents fine grained sediments, however the shoreward equivalent of this unit is known to be sandy from well control. Fluctuations in the shore line may well have developed stratigraphic traps through interbedding of sands with silts and shales in the offshore area.

4. Section D-D', Plate IV

This section extends south from the Otway Ranges approximately along the axis of a prominent reversal in the older rocks. Horizon identification in this area is not reliable below the pre-Tertiary unconformity. Some of the deep rocks that show strong north dip may be Paleozoics within the economic basement.

Some topographic relief is developed on the pre-Tertiary erosional surface along this section. The Tertiary beds show only south dip.

5. Section E-E', Plate V

This section extending west from King Island shows the fault boundary that lies along the western edge of the King Island block. The age of the rocks preserved in the down-thrown block is not clear. Both Upper and Lower Cretaceous are interpreted but older rocks may be present. Strong structures are developed in a zone west of the major fault. At least part of this structural movement appears to be caused by deep seated intrusives that were emplaced at the time the King Island block rose.

The Tertiary sediments show little or no effect of the deep movement. The Lower Eocene-Paleocene rocks onlap the old King Island high from the west and are overlapped by the Upper Eocene. This up-dip wedge of Lower Eocene-Paleocene is a possible trap.

D) MAPPED HORIZONS

All of the contoured maps enclosed with this report are on a scale of 1:250,000. At this scale three base maps cover the entire survey area. Structure contour maps showing reflection times to the following horizons are enclosed.

1. Pre-Tertiary Unconformity - Plates VIa, VIb, VIc.
2. Pre-Cretaceous Unconformity - Plate VII
3. Pre-Upper Cretaceous Unconformity - Plates VIIIa, VIIIb, VIIIc.
4. Top of Lower Eocene-Paleocene - Plates IXa, IXb, IXc
5. Top of Eocene - Plates Xa, Xb.
6. Pre-Tertiary Structural Dip Map - Plates XIa, XIb,

In addition a Water Depth Map - Plates XIIa, XIIb, XIIc and a Shot Point Map - Plates XIIIa, XIIIb, and XIIIc are included.

The reflection times have all been corrected for water travel. Figure 3 is a table showing the amount of correction that was subtracted for varying water depths. Typical time-depth curves for the basin are shown in Figure 4. Curves TD-1 and TD-2 were based on the surveyed wells, Geltwood Beach No. 1 and Flaxman's No. 1 respectively and curves TD-3 and TD-4 were based on velocity