

contours of the top of the depositional units that lie under the Upper Eocene.

Very little structure is present on this horizon. For the most part the top of the unit and the bedding within the unit shows unbroken dip seaward. The Lower Eocene-Paleocene thins and finally onlaps the pre-Tertiary Unconformity surface in a down-dip direction well out on the continental shelf. In a shoreward direction the Lower Eocene-Paleocene also thins and onlaps the old erosional surface in the area west of King Island.

In South Australia, the contoured horizon does represent the top of a sandstone member that was correlated to Geltwood Beach-1 at a depth of -1150 feet. Several anticlinal closures are shown on this horizon in South Australia.

5. Top of Eocene, Plates Xa, Xb.

This horizon is believed to correlate approximately with the top of the Eocene and to tie the Mepunga formation as recognized in the Port Campbell area. The beds overlying this horizon are completely conformable whereas the underlying bedding some times shows minor truncation. Most of the bedding dips seaward at a steeper angle than the surface contoured on this map. Several stream channels (possibly submarine) are cut into the Eocene beds. The age of this channelling is Oligocene or Miocene.

The Upper Eocene sediments are expected to be sands and shales. Several correlatable depositional bedding patterns are recognized on the seismic sections within this unit. Further study and additional well control may suggest important stratigraphic traps.

6. Pre-Tertiary Structural Dip Map, Plates XIa, XIb.

The purpose of this map is to point up structural leads based on strong but discontinuous reflections beneath the Pre-Tertiary Unconformity. Various dip segments have been used but there is little continuity of the reflecting horizons.

Sufficient control is not available either through poor data quality or lack of seismic lines in critical areas to determine with confidence that the closures shown on this map are actually present. Conversely, closures may be present on structures shown as noses.

These strong features are believed to be within the Lower Cretaceous or older rocks. There is much to be learned about the petroleum potential of these rocks in the Otway Basin. One thing is certain, widespread structural deformation is limited to the pre-Tertiary section.

CONCLUSIONS AND RECOMMENDATIONS

This survey has provided substantial information that has been useful in mapping the principal sedimentary units in the offshore Otway Basin. Structural prospects and leads have been defined and possible stratigraphic traps have been recognized. A drilling location has been sited in South Australia (Crayfish No. 1)