

The data set encompassed by this report includes 300 km of new seismic data recorded by the Halliburton Geophysical Services seismic vessel M/V Magnificent Creek in November, 1990 and the existing data set. The interpretation done in conjunction with the work reported by Edgerley in Appendix V of this report.

Enclosures 2 and 3 are Two Way Time Structure Contour Maps of the Eocene Demon's Bluff Formation and the Paleocene. The maps clearly suggest that these horizons, in this area, are shallow, featureless, gently dipping planes and as such are of limited exploration interest.

#### IVA THE OTWAY FORMATION:

The Otway Formation of the Durroon Basin was deposited in a linear depression that thickens from the central area of T/15P (Fig 4) toward the south (Edgerley and Taylor, 1990). As this formation has not been fully penetrated in any of the Bass Strait basins its seismic thickness is indeterminate. On seismic data the Otway Formation is interpreted to consist of a relatively thick series of parallel to sub-parallel seismic events that provide an unconformity or depositional surface. Volcanic rocks were encountered at the base of the Durroon Mudstone/top Otway Formation at Durroon-1 (Fig 5). The seismic signature of these rocks appear as laterally discontinuous high amplitude events. Thus the seismic interpretation criteria for the top Otway Formation has been taken as follows:

- depositional surface (ie onlap/offlap of seismic events).
- relatively thick series of parallel to sub-parallel moderate amplitude events.
- laterally discontinuous high amplitude events located immediately above a relatively thick series of parallel to sub-parallel moderate amplitude events.
- where the volcanics signature is absent the top of the Otway Formation is assumed to be the first onlap event.

The Strezelecki Formation (age equivalent to the Durroon Basin Otway Formation) has proven to be hydrocarbon bearing in the Otway Basin and is thus considered to be a viable reservoir target in the Durroon Basin. The Two Way Time Structure Contour Map of the Otway Formation (Encl 4) indicates a regional northwesterly dip. This map also shows the fault systems that created the three structural blocks of this sub-basin.

A portion of the Strathroy Block has been mapped in detail (ie 10 ms contour interval). These contours are included in the map of Enclosure 4. The detailed mapping was done to identify a drillable prospect on the Strathroy Block. It is noticeable that, for the most part, the contour trends of the detailed portion honour the trends of the more coarsely mapped areas.