

extensional to compressional at this time. This is recognised in the Gippsland Basin and a S-SE compression has been suggested (Davidson, 1980). Early Oligocene uplift is seen in the Torquay Basin and the Otway Ranges probably underwent a major compression in the late Early Miocene.

2.3 Method

The seismic interpretation was completed using a GEOQUEST interpretation system. A large reprocessing effort over the past few years has resulted in migrated stacks for most post-1969 seismic lines, contributing approximately 10,000 kilometres of data to the set being interpreted here in conjunction with the Hummock Survey data.

2.3.1 Seismic Data Quality

The Hummock Seismic Survey data is generally of excellent quality and provides very good control over the targeted prospects and leads (eg figure 7).

However, data quality suffers from poor signal to noise in areas of complex faulting or extensive igneous activity. This is particularly a problem on shorter lines of less than 10-15 kilometres in length, as in for example the 1994 Rocky Cape seismic data. The thick coal-dominated sequence of the middle *M.diversus* section of the EVCM also acts as a sink for reflection energy, and consequently interpretation of the deeper seismic events suffers further from the lack of strong continuous reflectors and disruption by shallower features.

2.3.2 Misties

Misties were handled within the GEOQUEST system, prior to mapping using Petrosys. Internally within each vintage of data misties were generally small, although greater variability did exist in the pre-1980's data. During data loading, vintage-consistent bulk shifts were applied to bring the data in line with the basin wide TQH5 data. Following interpretation, a three step mistie correction was applied:

1. A bulk shift was applied to pre-1992 data on a line-by-line basis, to correct to the more modern data.
2. This was followed by a bulk shift correction calculated using all vintages of data.
3. A final round of residual mistie adjustment was applied to reduce all misties to zero.

The raw data mistie distribution for the mapped Top Palaeocene event is shown in Figure 5. A mean value of 7.3 milliseconds is indicated, with approximately 65% of the data with less than a 10 millisecond mistie. This is a very good result considering the variety and quantity of data present. Figure 6 shows a histogram plot of the mistie distribution following the application of the bulk shifts to pre-1992 data. A slight improvement is shown with approximately 75% of the data now with misties of less than 10 milliseconds.