Otway Basin

Locality 14612. Shell Development Co. Voluta No. 1
(API 970330101800)

Of the total number of 192 palynomorph taxa in the consultant's reports, 64 had been documented previously in the Amoco Paleo File (Appendix I). An additional 102 pollen and spore taxa were documented from the literature and assigned Amoco unique numbers (41000 series) for computer applications (Appendix II, unique numbers 41026 to 41128).

Because of the provinciality of the southern hemisphere spore/pollen flora and because no high latitude southern hemisphere data were present in the corporate standard, a local Bass Basin Composite Standard was first constructed. Subsequently, data from the ESSO-BHP Veilfin No. 1 well in the Gippsland Basin were acquired. These data included both the Bass Basin flora and marine planktonic taxa already included in the Tulsa Research database, allowing correlations to the Cenozoic Composite Standard. All Bass Basin wells were then correlated through the Veilfin well to the corporate Cenozoic Standard.

DISCUSSION OF RESULTS

Data from each of the ten wells are presented as graphic correlations in Figures 2 through 11. The x-axis represents the Cenozoic Composite Standard, subdivided into Composite Standard Time Equivalents (CSTE) with their approximate relative age equivalents; the y-axis represents the well being graphed and includes the interval studied in either feet or meters. Each graph includes the highest recorded occurrence of each fossil taxon in the well (+) and the lowest occurrence (o) in either sidewall core or core sample. Bases in cuttings samples were not used. Each graph also illustrates the Line of Correlation (LOC - an average rate of rock accumulation) and the calculated A and B values.

Correlations among the eight Bass Basin wells were made only after the LOC was determined for the Esso-BHP Veilfin No. 1 well (Figure 2) using the Cenozoic Composite Standard Reference Section as the x-axis. The Veilfin No. 1 data included enough data residing in the Tulsa Research database to effect correlations and also included the Bass Basin spore/pollen flora, allowing correlations of the Bass Basin wells to the Cenozoic Composite Standard and providing an internally consistent time framework. The horizontal terrace in the LOC for the Veilfin No. 1 indicates the presence of a major Miocene-Eocene unconformity. Horizontal terraces in all other graphs (Figures 3 through 11) indicate the upper limits of data and not unconformities.

The stratigraphic correlation in Figure 12 (in pocket) includes the eight Bass Basin wells from northwest to southeast, using the top of the Eastern View Coal measures as the datum. This figure is taken from "Stratigraphic