REGIONAL BASS BASIN SETTING

Four wells outside the license area, impact our understanding of the basin. The Durroon-1, Snail-1, Nerita-1 and Anglesea-1 wells are within or adjacent to the Bass Straits. The Snail-1 and Nerita-1 well data were subjected to a palynologic review by Roger Morgan. The Anglesea-1 well samples were subjected to a palynologic investigation by Roger Morgan during this study.

The Snail-1, Nerita-1 and Anglesea-1 wells are northwest of the licenses area. These wells are intersected by or are close to the BMR 12A and BMR 11 seismic lines, shown on Enclosure 20, with the corresponding interpetation illustrated on Enclosure 22. No depth to time conversion is available for any of these wells. The palynologic interval depth to time conversions are approximate because the BMR lines do not tie the newer seismic coverage in the basin. The conversion is based on the Konkon-1 well time to depth conversion, extrapolating along the established time-depth conversion trend of the central basin for deeper sections.

The Nerita-1 and Snail-1 wells are intersected by BMR line 12A, Enclosure 20. The Snail-1 well penetrated a very thin, 300 foot, middle and lower N. asperus section. Below this section is an unconformity overlying a possible 100 foot thick L. balmei section, with only one palynologic sample depth. The well then penetrated a second unconformity and drilled an additional 1100 feet of Otway section (C. paradoxus) before reading T.D. The Nerita-1 well penetrated a middle and lower N. asperus section, approximately 600 feet thick based on R. Morgan's preferred interpretation that the samples at the drilling depth of 2,580 to 2,680 feet are lower N. asperus. The well then penetrated an unconformity into a 1,000 foot plus section of upper and lower L. balmei. Below L. balmei the well found T. longus, T. lillei and N. Senectus, together 800 feet thick. The well penetrated a second unconformity into a 1900 foot thick Otway section, C. paradoxus, C. striatus and F. asymmetricus.

The unconformity between the N. asperus and L. balmei intervals in the Nerita-1 and Snail-1 wells appears to be a disconformity, based on the parallel seismic reflectors above and below the unconformity interval on BMR 12A (Enclosure 20). The same unconformity between N. asperus and L. balmei is seen in the Anglesea-1 well to the northwest and in the Durroon-1 well on the southeastern edge of the basin. The unconformity is widespread outside of the basin center, and its disconformity nature leads to the interpretation that the Torquay Embayment area, and possibly the Durroon basin edge, were stable platforms during P. asperopolus and M. diversus basin deposition and the locale of nondeposition rather than deposition and erosion during that time interval.

The unconformity at the top of the Otway also appears to be a disconformity based on the parallel character of seismic reflectors above and below the unconformity.