

The L. balmei Zone assemblages are fairly well preserved and consistent with, although somewhat less diverse than assemblages from the same zone in other wells in the Bass and Gippsland Basins. The zone is a minimum of 1,500 feet thick and is distinctly older than anything seen in Pelican-1 or 2. Although documentation of the zone is based on core samples cuttings and sidewall cores, the top of the zone and most of the zone interval is defined on cuttings. This is because the results obtained from some of the sidewall cores in Run-1 are inconsistent with all other data. The samples concerned are SWC 28 at 7152 feet and SWC 24 at 7730 feet, both of which contain good L. balmei Zone assemblages. The other data is log correlations with Pelican-1 and 2, seismic sections and the spore-pollen assemblages seen in the cuttings. The quality of the pick of the top of the L. balmei Zone is high, even though it is based on cuttings. This is because the top of the zone is defined by the extinction of species, and can therefore be reliably determined from cuttings. A false top to the L. balmei Zone could be determined from cuttings if there is reworking of L. balmei Zone fossils into the overlying section. This is not thought to be the case in Pelican-3 based on the examination of the coal fraction separated from the cuttings at 8050-70 feet and 8220-40 feet. These coals plot as distinct peaks on the cutting log and agree remarkably well with coaly intervals determined from the density logs. The assemblages obtained from these coals are dominated by L. balmei Zone species with a minor percentage of species representative of younger zones and obviously derived from coal cavings. It is very unlikely that these coals would be either entirely reworked or contain such a high proportion of reworked spore-pollen.

The Malvacipollis diversus Zone in Pelican-3 has only been recognized in cuttings. An Upper M. diversus age is preferred for the entire section 7320 to 7980 feet immediately overlying the L. balmei Zone. The palynological evidence therefore suggests that the disconformity at the top of the L. balmei Zone represents the entire Lower M. diversus Zone. If the Lower M. diversus Zone is present in Pelican-3 it can only be represented by part or all of the interval from 7630 to 7980 feet. The section above 7630 feet cannot be any older than the Upper M. diversus Zone.

The difficulty in picking on cuttings the boundaries between the Upper M. diversus and P. asperopolus Zones and the Upper and Lower M. diversus Zones