The principal spore-pollen species on which this breakdown is based is the first appearance of Triorites magnificus, Proteacidites rectomarginis, Anacolosidites sectus, Aglaoreidia qualumis and the extinction of the forms Proteacidites asperopolus, Dryptopollenites semilunatus and Diporites delicatus.

The Upper Nothofagidites asperus Zone is identified from 5400 to 5000 feet. The samples at 5000 and 5200 feet are placed in the Upper N. asperus Zone because they lack the spore Cyatheacidites annulatus which is used to define the base of the P. tuberculatus Zone. Since the base of this zone is correlated with the base of the foraminiferal zone J1, the log correlations between Pelican-1 and 3 that suggest that the sample at 5000 feet and possibly at 5200 feet fall within the zone JI need to be explained. It could be that the base of the P. tuberculatus should be taken as lying within the Zone JI, as there are a few sections in the Gippsland Basin where the spore Cyatheacidites annulatus is not found in samples from the lower part of JI. Alternatively C. annulatus may be too rare to observe in limited material available from the samples at 5000 feet and 5200 feet. The dinoflagellates also favour an Upper N. asperus age for these samples as they lack characteristic dinoflagellates found in the JI zone in the Gippsland Basin.

The Proteacidites tuberculatus Zone is identified in samples at 4600 and 4800 feet. The samples contain Cyatheacidites annulatus and diagnostic Oligocene dinoflagellates. However the sample at 4800 feet also contains the typical Eocene dinoflagellate Deflandrea phosphoritica. Although this species has not previously been recorded within the Oligocene of Australia, its occurrence does not conflict with its range in the northern hemisphere. Reworking of this species is discounted because of the lack of other Eocene dinoflagellates or spore-pollen. The probable reason why it has only been found in Pelican-3 is the very shallow marine environment indicated by the foraminifera, for this sample. Other Oligocene samples examined for dinoflagellates and spore-pollen have all been from deeper marine situations as determined by their foraminiferal assemblages.

Reworked spore-pollen from the Permian, Triassic, Early Cretaceous and species ranging from the N. senectus to L. balmei Zones have been observed in samples from Pelican-3. Samples containing reworking and age of reworked fossils are indicated in the sample list following. The most significant point about the reworking is the restriction of Early Cretaceous and the N. senectus to L. balmei