

BASIN)

PE990726

As part of a review of the Gippsland Basin cores 6 (Latrobe Fm.) and 7 (Strzelecki Fm) of Flathead-1 were sampled for palynology and maturity studies. Of the 10 samples available, 8 were selected for preparation. All gave an acid-insoluble residue of plant remains and palynomorphs. Results were as follows:

1662 - 1696 ft. (6 core samples) : rich and varied assemblages of pollen and spores, well-preserved. The presence of COPTOSPORA PARADOXA, CLAVATIPOLLENITES HUGHESII, CUPULIFEROIDOPOLLENITES cf. PARVULUS, DICTYOTOSPORITES COMPLEX, CRYBELOSPOBITES STRIATUS, LYCOPODIUMSPORITES INTRAVERRUCATUS and L. CIRCOLUMENUS, together with the absence of PROTEACIDITES spp. and NOTHOFAGIDITES spp suggests a base Late Cretaceous (Uppermost Albian (= Vraconian) to ? Turonian) age. Some Triassic reworking was noted.

No dinoflagellates or other marine indicators were present. Acritarchs were found at 1696 ft. and these may indicate brackish conditions. The assemblages as a whole, including the types and sizes of the plantremains suggest a non-marine, fluvial/lacustrine environment of deposition. Sporomorph-colours, both under transmitted white light and using U.V. incident light indicate that the organic matter is immature for hydrocarbon generation. One sample, at 1676 ft. is very organic rich (6 millilitre of O.M per 10 grams of sediment) and is of source rock quality. Type of organic matter : humic.

3487 - 3493 ft. (2 core samples) : assemblages, although rich in specimens, were of very poor diversity and lacked markers.

8/12

Disaccates and MICROCACHRYDITES ANTARCTICUS were most common. Of the spores present BACULATISPORTES COMAUMENSIS, CICATRICOSISPORITES AUSTRALIENSIS, LEPTOLEPIDITES VERRUCATUS, NEORAISTRICKIA TRUNCATA and a single DICTYOTOSPORITES SPECIOSUS were noted. All are longer ranging types, and although the assemblages are definitely not older than Lower Cretaceous it is impossible to be more precise.

No dinoflagellates or other marine indicators were present and in fact the general aspect of assemblages and plant remains is typically that of a freshwater swamp environment.

Sporomorph-colours indicate that the organic matter is early mature for hydrocarbon generation. Both samples are organic rich but especially at 3493 ft. (7 millilitres O.M. per 10 grams of sediment). Type of O.M. : humic.

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Exploration and Production

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