

- 2 -

Environments grade from marginal marine at the base (where trace very low diversity dinoflagellates occur) to marine shelf at the top (where dinoflagellates comprise 15% of palynomorphs, and are of moderate diversity).

Yellow spore colours indicate immaturity for hydrocarbon generation.

B. 1655 (swc)-1834m (cutts (1779m swc): lower N. asperus Zone.

The top of the lower Nothofagidites asperus Zone is defined by the absence of younger indicators seen above, and the zone base is defined by the base of Nothofagidites dominated assemblages. Oldest occurrences supporting the zone base include Periporopollenites vesicus (1825-34m cutts, although it occurs rarely as caved specimens beneath), Nothofagidites falcatus (1798-1870m cutts) and Gemmatricolporites gestus (1779.0m swc).

Dinoflagellates are extremely scarce to absent, but Phthanoperidinium comatum (1699-1708m cutts and above) and Aerosphaeridium arcuatum (1663-72m cutts and above) indicate the lower N. asperus Zone or younger, and confirm the spore pollen assignment.

Marginally marine to non-marine environments are indicated by the very scarce to absent dinoflagellates, common and diverse spores and pollen, and common cuticle fragments.

Yellow to yellow-brown spore colours indicate immaturity to near marginal maturity for hydrocarbons.

C. 1861-1942m (cutts): P. asperopolus Zone

Assignment to the Proteacidites asperopolus Zone is indicated at the top by the youngest Haloragacidites harrisii dominated assemblages, in contrast to the Nothofagidites dominated assemblages above. Supporting data include the absence of younger indicators, and the youngest occurrences of consistent Intratripopollenites notabilis, Proteacidites obesolabrus, P. grandis (1861-70m cutts) and Myrtacidites tenuis (1933-42m cutts). The zone base is defined by the oldest occurrence of Proteacidites asperopolus and relatively common P. pachypolus. Considerable caving of the overlying N. asperus Zone has occurred and makes difficult the picking of these boundaries from cuttings.

Non-marine environments are most likely, on the basis of the abundant spores, pollen and plant cuticle. The very rare dinoflagellates seen include some obvious caving (Phthanoperidinium comatum) and on the basis of regional knowledge, are all considered caved. No sidewall cores were available in this interval.