

PALYNOLOGICAL REPORT ON CORE 14, ESSO GIPPSLAND SHELF - 1

Core samples from between 5656 and 5685 feet in Esso Gippsland Shelf - 1 yielded large quantities of carbonaceous matter which chiefly comprises cuticular and woody fragments. Spores and pollen grains are infrequent components and exhibit poor preservation whilst microplankton appear to be absent. The spore and pollen species identified include:

- Baculatisporites comaunensis (Cookson)
- Cingutritetes clavus (Balme)
- Cyathidites minor Couper
- * Dacrydium cf. mawsoni Cookson
- Gleicheniidites cf. cercinidites (Cookson)
- Ginkgocycadophytus nitidus (Balme)
- Laevigatosporites ovatus Wilson & Webster
- Podocarpidites cf. ellipticus Cookson
- Podosporites microsaccatus (Couper)
- * Proteacidites spp.
- * triporate angiosperm grains

The low content of identifiable spores and pollen grains precludes a precise age determination. The majority of forms identified range throughout the Mesozoic and are also known from Tertiary strata. However, species marked * above are unknown from pre-Upper Cretaceous rocks in Australia. Moreover, Dacrydium cf. mawsoni has not yet been recorded from strata older than Senonian. This data coupled with the absence of common Tertiary types may suggest an Upper Cretaceous (Senonian or later) age for the microflora.

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PALYNOLOGICAL REPORT ON CORE Nos. 15, 17, AND 18 FROM ESSO

GIPPSLAND SHELF No.1 WELL

Four samples taken from 6124-26 feet (core 15), 6748 feet (core 17), 7243 feet (core 18), and 7251 feet (core 18) in Esso Gippsland Shelf No.1 well yielded only low concentrations of poorly preserved spores and pollen grains. However, all samples contain angiospermous grains indicating that the sediments are post Lower Cretaceous in age. Further, the presence of Nothofagus and Dacrydium florinii (Cookson & Pike) in the samples from 6124-26 feet and 7243 feet suggests that these sediments are uppermost Cretaceous or Lower Tertiary in age. Eucalyptus-like grains were observed at 7243 feet and this occurrence supports a Tertiary age. The lowest sample examined (7251 feet) yielded only a few poorly preserved plant microfossils including triporate angiospermous grains and Dacrydium mawsonii (Cookson) which are known from both Upper Cretaceous and Tertiary deposits in eastern Australia.

Plant microfossils identified in the samples include:

a) Core 15, 6124-26 feet

Dacrydium mawsonii (Cookson)
D. florinii (Cookson & Pike)
Gleicheniidites cf. G. cercinidites (Cookson)
Lycopodiumsporites spp.
Nothofagus spp.
Podocarpidites cf. P. ellipticus Cookson
Stereisporites antiquasporites (Wilson & Webster)
Trilites cf. T. tuberculiformis Cookson
Tricolpites spp.
triporate angiospermous grains

b) Core 17, 6748 feet

Cyathidites minor Couper
Nothofagus spp.
Stereisporites antiquasporites (Wilson & Webster)
triporate angiospermous grains

c) Core 18, 7243 feet

Dacrydium mawsonii (Cookson)
D. florinii (Cookson & Pike)
Eucalyptus-like grains
Laevigatosporites ovatus Wilson & Webster
Microcachyridites antarcticus Cookson
Nothofagus spp.
Proteacidites spp.
Podocaroidites cf. P. ellipticus Cookson
Stereisporites antiquasporites (Wilson & Webster)
Tricolpites sp.

d) Core 18, 7251 feet

Dacrydium mawsonii (Cookson)
Proteacidites sp.
Podocarpidites cf. P. ellipticus Cookson
Stereisporites antiquasporites (Wilson & Webster)
triporate angiospermous grains

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PALYNOLOGY OF CORE Nos. 16 AND 21 FROM ESSO GIPPSLAND
SHELL No.1 WELL

The two samples examined contain large quantities of carbonaceous material, but the content of spores and pollen grains is low. Moreover, the plant microfossils are extremely poorly preserved such that only relatively few examples can be identified at specific level. The upper sample (core 16, 6451-52 feet) yielded a microflora similar to those obtained from core nos. 15 and 18. Constituent microfossils include Dacrydium florinii, D. mawsonii, and Nothofagus spp. confirming a probable Tertiary age.

The lower sample (core 21, 8695.5 feet) yielded angiospermous grains including Nothofagus spp. and Triorites edwardsi, the latter species of which is the diagnostic element of Cookson's (1954) Microflora B. Microflora B was originally described from Lower Tertiary (Paleocene-Lower Eocene) sediments in western Victoria, but its lower age limit is now known to extend into the uppermost Cretaceous. Thus core 21 incorporates sediments of uppermost Cretaceous or Lower Tertiary age.

Plant microfossils identified in the samples include:

a) Core 16, 6451-52 feet.

Dacrydium mawsonii (Cookson)
Dacrydium florinii (Cookson & Pike)
Gleicheniidites cf. G. cercinidites (Cookson)
Microcachyridites antarcticus Cookson
Nothofagus spp.
Podocarpidites cf. P. ellioticus Cookson
Proteacidites sp.
Stereisporites anticuasporites (Wilson & Webster)
Trilites cf. T. tuberculiformis Cookson
triporate and tricolpate angiosperm grains

b) Core 21, 8695.5 feet.

Araucariacites australis Cookson
Dacrydium mawsonii (Cookson)
Gleicheniidites cf. G. cercinidites (Cookson)
Nothofagus spp.

Podocarpidites cf. P. ellipticus Cookson
Podosporites microsaccatus (Couper)
Triorites edwardsii Cookson & Pike
triporate and tricolpate angiosperm grains

Reference

Cookson, I.C. 1954. A palynological examination of No.1 bore, Birregurra, Victoria. Proc. Roy. Soc. Vict., 66, 119-128.

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