



PE990212

PALYNOLOGICAL REPORT ON ODNL ANGLESEA NO.1 WELL

Twenty eight core samples from between 1506 feet and 10,065 feet in ODNL Anglesea No.1 well were submitted for palynological examination by Frome-Broken Hill Company Pty. Ltd. The majority of the samples yielded plant matter which in the lower part of the sequence (5161 feet and below) has been subjected to carbonization such that the spores and pollen grains are preserved as generically unidentifiable remnants. No microplanktonic organisms were observed in any of the samples. The spores and pollen grains identified in horizons between 1506-4829 feet indicate that this interval includes sediments of Lower Tertiary and Cretaceous age. Details of the microfloras obtained from the sequence are presented below (see also Table 1).

Microfloral Assemblages and Correlations

As mentioned previously no spores or pollen grains could be identified in samples from between 5161 feet and 10,065 feet.

The sample from 4819-29 feet yielded an extremely poorly preserved microflora in which Dictyosporites speciosus Cookson & Dettmann was identified. This species diagnoses the presence of the Valanginian-Aptian Speciosus Assemblage. Succeeding samples (from between 3460-4527 feet) yielded only a few identifiable plant microfossils, the majority of which have little stratigraphical value. A more diverse and better preserved microflora was obtained from core 12 (3158-68 feet) which includes Dictyosporites speciosus and Crybelosporites striatus (Cookson & Dettmann). The combined occurrence of these species indicates the presence of the younger (Aptian) category of the Speciosus Assemblage. This assemblage is known

5,

ity

from sequences elsewhere in the Otway Basin including Flaxmans Hill No.1 well between 10,801 feet and 11,528 feet (Dettmann 1964a).

Samples of cores 7 to 11 inclusive (1931-2870 feet) yielded microfloras which in containing Pilosporites spp. and Foraminisporis asymmetricus (Cookson & Dettmann) are clearly Lower Cretaceous in age. However, the microfloras cannot be referred to either the Speciosus or Paradoxa Assemblages since no species confined to either of these assemblages was observed. Nevertheless, the presence of Pilosporites notensis Cookson & Dettmann in cores 7 and 9 suggest that the sediments are no younger than Aptian (see Dettmann, 1963, pp.58, 114).

Core 6 (1778-93 feet) yielded a sparse assemblage including cf. Gleicheniidites sp. and angiosperm grains indicating the presence of Assemblage III, and an age no older than the Cenomanian. The uppermost sample also yielded cf. Gleicheniidites sp. together with Nothofagus, Triorites edwardsii Cookson & Pike, and Dacrydium florinii Cookson. Triorites edwardsii, which is diagnostic of Cookson's (1954) Microflora B, indicates an uppermost Cretaceous or Lower Tertiary age and suggests correlation with Cooriejong No.1 bore at 1535-54 feet and its equivalents (Dettmann 1964b).

References

- Cookson, I.C. 1954. A palynological examination of No.1 bore, Birregurra, Victoria. Proc. Roy. Soc. Vict., 66, 119-123.
- Dettmann, M.E. 1963. Upper Mesozoic microfloras from south-eastern Australia. Proc. Roy. Soc. Vict., 77, 1-148.
- Dettmann, M.E. 1964a. Palynological report on Cretaceous core samples from F.B.H. Flaxmans No.1 well. Unpublished report submitted to Frome-Broken Hill Co. Pty. Ltd. 7/4/64.
- Dettmann, M.E. 1964b. Palynology of core samples from Terang No.1, Carpendit, Tandarook, Mepunga No.7, Panmure No.2, and Cooriejong No.1 bores. Unpublished report submitted to Frome-Broken Hill Co. Pty. Ltd. 17/12/64.

21st September, 1965

Mary E. Dettmann,
Department of Geology, University
of Queensland, St. Lucia, Qld.

Sample No.	Depth (feet)	Microspores												Pollen				
		1. Dictyosporites speciosus	2. Acquitriradites spinulosus	3. Cicatricosisporites australiensis	4. Pilosisporites notensis	5. Foraminisporis wonthaggiensis	6. Foraminisporis asymmetricus	7. Pilosisporites parvispinosis	8. Rouseisporites reticulatus	9. Rouseisporites simplex	10. Januasporites spinulosus	11. Crybelosporites striatus	12. cf. Gleicheniidites sp.	13. Tricolpites sp.	14. triporate sp.A	15. Nothofagus	16. Triorites edwardsii	17. Dacrydium florinii
c.5	1506-26'												+	+				
c.6	1778-98'												+	+				
c.7	1931-51'																	
c.8	2225-45'																	
c.9	2236-96'																	
c.10	2557-67'																	
c.11	2860-70'																	
c.12	3158-68'																	
c.13	3460-70'																	
c.14	3724-34'																	
c.16	4011-21'																	
c.17	4223-34'																	
c.18	4517-27'																	
c.19	4819-29'																	

459m
433m
401-510
280-507
1096-1165
135-2225
N/L

Table 1. Distribution of selected spores and pollen grains in ODNL Anglesea No.1 well between 1506 feet and 4829 feet. Samples lower (5161 - 10,085 feet) in the sequence did not provide any identifiable species.

+ - species present

- T confusus*
- N senectus*
- T sectilis*
- P androsaxinosus*
- T sabulosus*
- N emarcidus*
- P adonanthoides*
- cf. T gillii*
- P annulata*
- R peltatus*
- T minor*
- N laterus*
- + C australis*
- P mansueti*

D granulatus

112791