WCR

DEPARTMENT OF MINES, VICTORIA

Melbourne, C.2.

Frome-Broken Hill Eumeralla No. 1 Bore
Preliminary Examination for Acid Insoluble Microfossils

Core samples from the Frome-Broken Hill Co. Pty. Ltd. Eumeralla No. 1 bore were treated by the hydrofluoric acid - Schulze's solution method, and the acid insoluble residue examined under the microscope for microfossils.

Samples Treated

Core No.	Depth (feet)	
1	941 - 961	Hystrichospheres including *Hystrichosphaera ramosa* *Hystrichosphaera furcata* cf. *Hystrichosphaera cingulata* *Hystrichokolpoma rigaudae*; and Foraminifera (embryonic).
2	1160 - 1180	*Hystrichosphaeridium* sp.
4	2835 - 2837	Dinoflagellates including *Deflandrea cretacea*, *Deflandrea* sp. hystrichospheres.
5	3311 - 3313	None isolated.
6	3800 - 3812	None isolated.
7	4285 - 4300	A few trilete Pteridophyte spores, and Gymnosperm pollens.
8	4790 - 4798	None isolated.
9	5297 - 5299	None isolated.

Comments:

The hystrichosphere assemblage from Core 1 (941 - 961 ft.) consists of species identical with those isolated from core at 730 feet in the Glenelg (Nelson) No. 1 bore, and 656 feet in the Carpendeit No. 1 bore.

The species with the exception of H. rigaudae have been recorded from the Glenelg bore at 932 feet, regarded by Deflandre and Cookson (1955) as ? Lower Eocene. As H. rigaudae is more typical of the Birregurra No. 1 bore at 514 - 516 feet it may be that this Eumeralla core from 941 - 961 feet represents sediments somewhat younger than the Lower Eocene.

Hystrichosphaeridium sp. from core 2 (1160 - 1180 ft.) represents a different microplankton assemblage within the Tertiary period.

The presence of D. cretacea in core 4 (2835 - 2837 ft.) indicates that this is from Upper Cretaceous sediments, although the microplankton assemblage isolated was very sparse.

Non marine pre Upper Cretaceous sediments appear to have been penetrated between cores 4 and 5 (3311 - 3313 ft.) and the typical Lower Cretaceous sporomorph assemblage of Cicatricosisporites and associated forms was present in the sample from core 10 (5803 - 5805 feet).

References

Deflandre, G. and Cookson, Isabel C., 1955 Fossil microplankton from Australian late Mesozoic and Tertiary sediments. Aust. Jour. Mar. Freshw. Res. 6. 2. p 242 - 313.

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