

Rosedale-1
77/87

APPENDIX 3



MICRO- AND MACROFLORAL EXAMINATION OF BORE CORE SAMPLES
FROM A.P.M. ROSEDALE NO.1 BORE

MICROFLORAL EXAMINATION OF ROSEDALE BORE CORE
SAMPLES

Rosedale-1
7/8/57

A short report on four A.P.M. Rosedale No.1 bore core samples was submitted on 13.5.60. Further sampling has recently been completed, again using the Hydrofluoric acid - Schulze's Solution treatment method.

<u>Depth</u>	<u>Slide Nos.</u>	<u>Microfloras</u>
1180'-82'	1128-30	Nothofagus sp., Tricolpites sp., Proteacidites sp., Disaccate Gymnosperms Pilferous exined pollen; Fungal Conidia
1186'-88'	1127-7	Triorites harrisii, Nothofagus, Bisaccate Gymnosperm, Cyathidites sp.
1188'-90'	1072-5	(Triorites sp., Cyathidites sp., (Proteacidites sp. etc. Nothofagus sp.
*2191'-93'	999-1001	(" " " "
*2195'-97'	1002-9	{ " " " "
*2197'-99'	1013-6	{ " " " "
2277'-79'	1104-7	Nothofagus sp., T.harrisii, Fungal Conidia, Proteacidites, Echinate exined pollen undetermined, Trilete echinate spore, Proteacidites cf. crassus, Myrtacoidites, Cupaneidites orthoteichus, Proteacidites cf. obscurus
2279'-80'	1108-12	Rather depauperate.
2283'-85'	1121-2	(Coalified with few microfossils (
2287'-89'	1119-20	(
2473'-75'	1076-8	Lycopodiumsporites austroclavatides, Bi- and Trisaccate Gymnosperms (Microcachryidites sp.) Cyathidites, Neoraistrickia sp., Pilferous exined spores undetermined, Granulatis- porites sp. Megaspores?
4247'-50'	1079-83	Cyathidites sp. Leptolepidites sp. Echinate exined spore undetermined.
4484'-86'	1084	Rather barren.

Page 2.

4492'-84'	1113A-1114A	Cyathidites sp.
5049'-51'	1085-8	Plant debris, Cyathidites sp., Piliferous, Leptolepidites verracatus etc.
*5243'-65'	1039-41	Neoraistrickia sp., Cyathidites sp.
5251-53'	1089-91	Plant debris.
5500'-2'	1131-2	Gymnosperms, large Monolete spore.
5506'-8'	1133-4	Barren.
5752'-4'	1113-5	Leptolepidites verracatus etc.

* See Previous Report.

A very evident and most marked floral change occurs between 2289' and 2473'. Dicotyledenous pollen grains, with Nothofagus predominant, disappear and are replaced by an entirely different assemblage of spores from ferns, Lycopods, Gymnosperms etc. This marks the region of the Mesozoic-Tertiary boundary, and sampling to 5754' shows that this assemblage continues relatively unchanged.

Further sampling from the 2500'-4000' region, a more complete species determination and a quantitative study is planned. As no marine microplankton were found in the Tertiary sequence it is presumed that they are freshwater or swamp deposits, but it must be noted that samples are from a few restricted zones in the 1180', 1990', 2200' and 2280' levels, chosen particularly because of their likelihood to contain plant microfossils. In the Mesozoic sequence the samplings also indicate non marine sedimentation. A few undetermined organisms in the 2500' zone are possibly broken megaspores.

Using the work of Cookson and Dettmann as basis for age determination the Mesozoic sequence would fall into an Upper Stage of the Lower Cretaceous period, but her stage determinations are not unquestionable, and as in the writers opinion a Lower Cretaceous determination is debatable, a Middle-Upper Mesozoic age only is postulated.

References:

- Cookson Isabel, C., & Dettmann, Mary, E., 1958 - Some Trilete Spores from Upper Mesozoic Deposits in the Eastern Australian Region.
Proc. Roy. Soc. Vic., Vol. 70, Pt.2, pp.95-128
- _____, 1959 - Microfloras in Bore Cores from Alberton West Victoria
Proc. Roy. Soc. Vic., Vol.71, Pt.1, pp.31-38
- Dettmann, Mary E., 1959 - Upper Mesozoic Microfloras in Well Cores from Woodside and Hedley Victoria.
Proc. Roy. Soc. Vic., Vol.71, Pt.2, pp.99-105

MACROFOSSILS

Macroscopic plant remains have been examined from the following horizons.

At 2193' - 8' undetermined plant fragments include stem and leaf remains with two specimens of prime interest, namely a stem with bud, and small linear-hastate leaves up to 1 cm. long and 1 mm. broad, of dicotyledenous aspect. A specimen at 2195' also appears to be the remains of a dicotyledenous leaf, but no cuticle was isolated despite repeated attempts. Fern and Cycad-like remains are absent, and the flora indicates a Tertiary age.

At 2289' - 2300' vertical rootlets penetrate a soft white claystone. Similar rootlets are found in Victorian Mesozoic and Tertiary claystones and as maceration revealed nothing of the root anatomy these are of doubtful value for dating.

Undoubted Mesozoic macrofossils at 5243' -65' have been commented on in the Report of 13/5/60. Attempts at cuticle isolation have also here met with repeated failure, and as the specimens referred to are at present believed to have a long time range, no reliable determination to Stage status is possible.
