

Pretty Hill



PE990180

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PRETTY HILL NO. 1 BORE - PRELIMINARY EXAMINATION
FOR ACID INSOLUBLE MICROFOSSILS

Core from the Pretty Hill No. 1 bore was treated by the Hydrofluoric acid - Schulze's solution method, and the residues obtained examined under the microscope for acid insoluble microfossils.

<u>Core No.</u>	<u>Depth</u>	<u>Microfossils</u>
1.	1292-6 feet	<u>Deflandrea</u> sp.1 <u>Proteacidites</u> pollens
2.	1820-22 "	<u>Proteacidites</u> , <u>Hyrtacidites</u> pollens
4.	2385-98 "	<u>Proteacidites</u> pollens <u>Nelsoniella</u> <u>aceras</u> <u>Deflandrea</u> sp.2 <u>Deflandrea</u> sp.3 Cf. <u>Membranilarnax</u> sp. <u>Hystrichosphaeridium heteracanthum</u>
6.	2726-32 "	<u>Deflandrea</u> <u>tripartita</u> <u>Hystrichosphaera</u> <u>ramosa</u> <u>Hexagonifera</u> <u>vermiculata</u> <u>Odontochitina</u> cf. <u>O. cribropoda</u>
7.	2928-40 "	Barren
8.	3340-55 "	<u>Cicatricosisporites</u> <u>australiensis</u> <u>Lycopodiumsporites</u> <u>austroclavatidites</u> Gymnosperm pollens etc.
9.	3812-4 "	Largely barren
10.	4318-28 "	Largely barren

Discussion:

Core 1 (1292-6 feet) Deflandrea sp.1 compares closely to Deflandrea sp. described from the Princetown Member of the Dilwyn Clay by Deflandre and Cookson (1955) and recorded as Lower Eocene.

Core 2 (1820-2 feet) Preparations from this core were unsatisfactory, poorly preserved microfossils indicating a Tertiary marine environment. The Mesozoic-Tertiary boundary appears to be between this and

Core 4 (2385-98 feet) which contains Upper Cretaceous microplankton. Xenikoon australis, common at the top of the Western Victorian marine Upper Cretaceous section (Evans, 1962) is absent. This and the presence of Nelsoniella aceras indicates that this core is somewhat below the uppermost portion of the Upper Cretaceous and probable correlation within the zone 2 of the sequence as described by myself (see Douglas 1959/60). The closest comparable Port Fairy (Belfast No. 4) microflora is that from 4285-4286 feet which also contains N. aceras and H. heteracanthum.

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Core 6 (2726-32 feet) falls within my zone 3 with the characteristic D. tripartita prominent. Of Belfast No. 4 microfloras, that from 4652 feet (Belfast Mudstones) would probably compare most closely.

Core 7 (2928-40 feet) Samplings contained no recognisable marine microfossils, but a microflora including the types listed above indicate the presence of Lower Cretaceous Otway Group sediments.

Core 9 (3812-4 feet) and Core 10 (4318-28 feet) The barren preparations from these cores indicates further sampling from relatively unfossiliferous non-marine sections.

(Signed) J. Douglas
Geologist

30th October, 1962

References:

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| Deflandre, G. and Cookson, Isobel C. | 1955 | Fossil Microplankton from Australian late Mesozoic and Tertiary sediments. Aust. Jour. Mar & Freshw. Res. 6, 2, p. 242-313. |
| Evans, P. R. | 1962 | Palynological observations on Frome Broken Hill Flaxman's Hill No. 1 Well. Bureau Min. Res. Records 1962/57. |