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PALYNOLOGICAL ZONATION OF PRETTY HILL No.1, CASTERTON No.1,
AND TULLICH No.1 WELLS.

In the present account additional evidence is brought forward relating to palynological zonation of Otway Group sediments in Casterton No.1, Pretty Hill No.1, and Tullich No.1 wells. Dettmann (1969) presented a summarized account of the palynological zones represented in the three wells, but noted that several of the samples contained indeterminate microfloras and hence the precise limits of the zones were not ascertained. Samples listed as containing indeterminate microfloras have been reprocessed and some have yielded diagnostic palynological floras, thus contributing to our knowledge of the distribution of the zones within the three well sections.

Pretty Hill No.1

Samples reexamined are from the lower horizons of the well and include horizons of "Unit 2" of the Eumeralla formation (cores 14 - 16) and the Pretty Hill sandstone (core 17 - 21). Core 15 (5420-24 feet) yielded a microflora diagnostic of the Foraminisporis asymmetricus Unit of the Dictyotosporites speciosus Zone. This unit thus embraces sediments between 5420 - 5947 feet within "Unit 2" of the Eumeralla formation (see Dettmann 1969).

Samples of the Pretty Hill sandstone failed to yield evidence additional to that documented previously (Dettmann 1969).

Casterton No.1

Sediments here examined include horizons of "Unit 2" of the Eumeralla formation (cores 7,8) and the Pretty Hill sandstone (cores 11 - 15). Cores 7,8 (4497-512 feet) provided Murospora florida in association with Dictyotosporites speciosus and Cyclosporites hughesi; the horizons are

accordingly referred to the Murospora florida Unit. From the Pretty Hill sandstone, core 11 was found to be devoid of plant microfossils, and core 12 (5609-18 feet) provided a microfloral assemblage indicative of a horizon near the boundary between the Murospora florida Unit and the Crybelosporites stylosus Zone. Underlying sediments of the Pretty Hill sandstone (cores 14 and 15 from 6396-406 feet and 6763-69 feet) are considered to be of late Jurassic or early Cretaceous age (see Dettmann 1969).

Tullich No.1

Horizons investigated include core 12 ("Unit 2" of Eumeralla formation) and cores 14,15 (Basal unit). Species recovered from core 12 (4500-05)feet) confirm allocation of the sediment to the Cyclosporites hughesi Subzone, but insufficient representation of diagnostic species precludes more precise zonal assignment. Cores 14,15 (5360-63 feet) contain forms diagnostic of the Murospora florida Unit.

Reference

Dettmann, M.E. 1969. Palynological zonation of Lower Cretaceous sediments of the Otway Basin, Victoria. Unpubl. report submitted to Shell Development (Australia) Pty. Ltd. 25/7/69.

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