PALYNOLOGICAL REPORT ON WOODSIDE WELLINGTON PARK No.1 WELL

Sixteen samples of cores taken from between 3719 feet and 11,975 feet in Woodside Wellington Park No.1 well and submitted by Haematite Explorations Pty. Ltd. form the basis of the present report. Spores and pollen grains were obtained from the majority of the samples from between 3719 feet and 9019 feet. However, the plant microfossils recovered from between 3719 feet and 6310 feet exhibit only fair or poor preservation and those obtained from samples between 6845 feet and 9019 feet are preserved as fragmentary remnants. Samples below 9019 feet were found to be devoid of identifiable spores and pollen grains although the residues contain high concentrations of woody fragments and other carbonaceous matter.

Despite the generally poor preservation of the microfloras one or more stratigraphically significant species was identified in all but three of the samples in the interval 3719 - 9019 feet. The presence of these species enables correlation of the sediments with other bore sequences in Gippsland and the microfloras indicate that the Wellington Park No.1 deposits range in age from Lower Cretaceous to uppermost Cretaceous or Lower Tertiary.

The microfloral content and a discussion of the age of the sediments is presented below (see also Table 1).

Microfloral Assemblages and Correlations

The lowest samples (from 9508 feet and below) did not provide any identifiable spores or pollen grains and thus no age assessments can be achieved on microfloral evidence.

Samples from between 3838 feet and 9019 feet yielded microfloras in which Dictyotosporites speciosus Cookson & Dettmann is a component. This species is the index of Dettmann's (1963) Speciosus Assemblage which is

considered to be Valanginian - Aptian in age. The Speciosus Assemblage is known from other wells in Gippsland including Woodside No.2 between 6402 feet and 6860 feet, Woodside No.3 at 5711-24 feet, and Hedley No.1 between 2099 feet and 2132 feet (see Dettmann 1963, p.121). These sediments are considered correlatives of Wellington Park No.1 well between 3818 feet and 9019 feet.

Cores 11 and 12 (8415-9019 feet) in Wellington Park No.1 well yielded Cyclosporites hughesi (Cookson & Dettmann) in association with Dictyotosporites speciosus, the combined occurrence of which is diagnostic of the older category of the Speciosus Assemblage. Although Cyclosporites hughesi was not identified in core 8 (6845 feet), the sample yielded Cooksonites variabilis Pocock which is known only from the older category of the Speciosus Assemblage. Moreover, the latter species, which has limited vertical distribution elsewhere in south-eastern Australia indicates correlation of the horizon at 6845 feet in Wellington Park No.1 well with sediments in Bengworden South No.1 bore at 3977 feet (see Dettmann 1963, p.121, Table 8).

Cores 2 and 3 (3818 - 4340 feet) provided assemblages containing Crybelosporites striatus (Cookson & Dettmann) together with Dictyotosporites speciosus . The combined occurrence of these species indicates conformity with the younger category (Aptian) of the Speciosus Assemblage. Comparable microfloras have been recorded from Gippsland in sediments in Woodside No.2 well at 6402-85 feet, Woodside No.3 well at 5711-24 feet, and Hedley No.1 well at 2132-37 feet (Dettmann 1959).

The two samples of core 1 (3719 - 3725 feet) contain a microflora in which Triorites edwardsii Cookson & Pike, Nothofagus spp., and Dacrydium spp. are components. T. edwardsii indicates conformity with Cookson's (1954) Microflora B known from Lower Tertiary and uppermost Cretaceous horizons in Australia. Similar microfloras were found (Dettmann 1965) in Gippsland

Shelf No.1 well at 8695.5 feet.

References

Cookson, I.C. 1954. A palynological examination of No.1 bore, Birregurra, Victoria. Proc. Roy. Soc. Vict., 66, 119-128.

Dettmann, M.E. 1959. Upper Mesozoic microfloras in well cores from Woodside and Hedley, Victoria. Proc. Roy. Soc. Vict., 71, 99-105.

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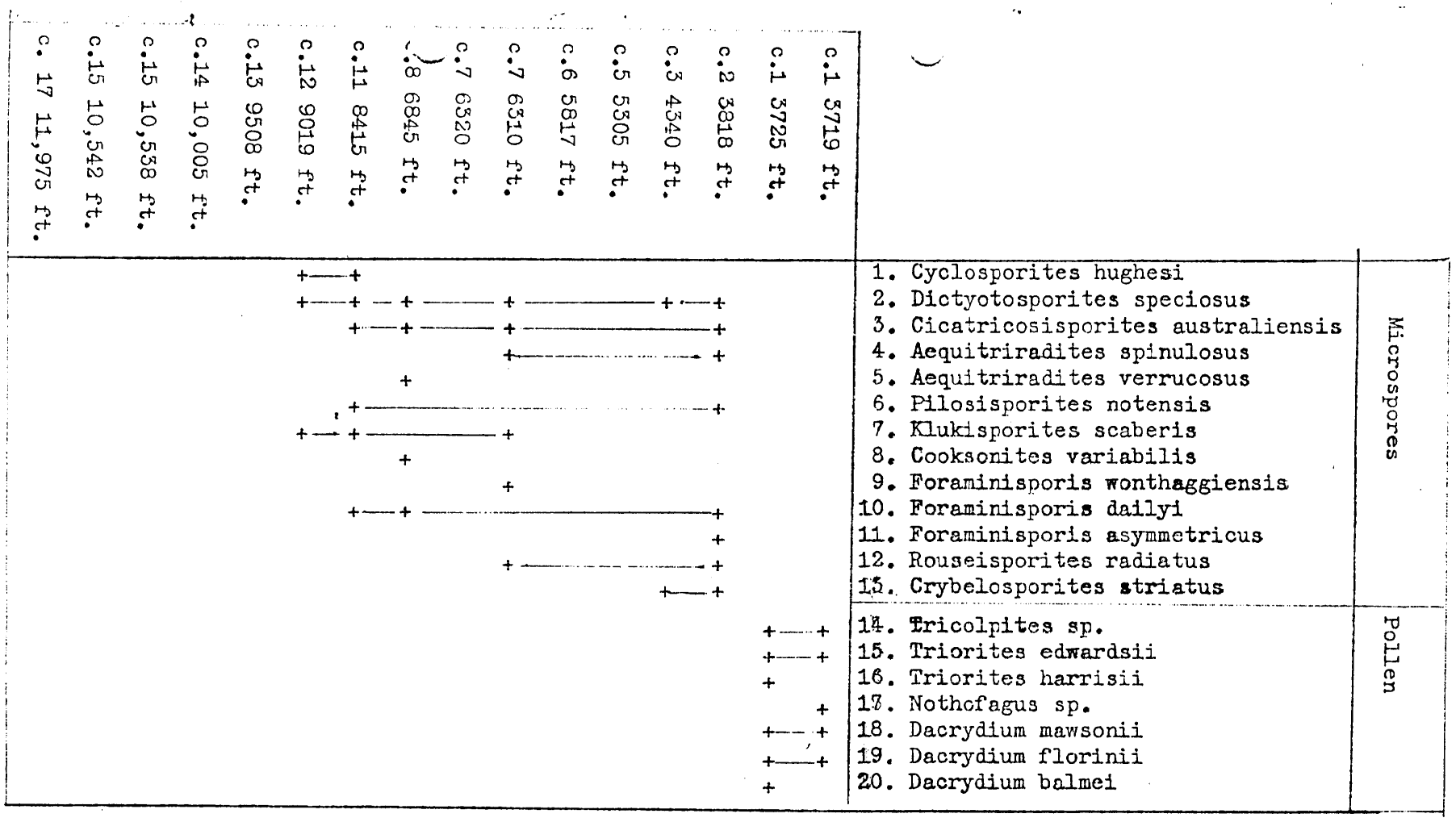

Table 1. Distribution of selected spores and pollen grains in Woodside Wellington Park No.1 well.

\+ - species present