Geological Survey of Victoria

~~UPPER~~ CRETACEOUS FORAMINIFERA FROM HOLLAND'S LANDING WELL (BENGWORDEN SOUTH No.1). GIPPSLAND.

D.J. Taylor

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Introductory Explanation

The much-quoted record of/~~Upper~~ marine Cretaceous sediments in the Holland's Landing bore in Gippsland is based on a report to the Chief Government Geologist in 1960 by former Departmental micropalaeontologist Mr. D.J. Taylor. The original report was never published, however, nor made available through the Department's unpublished report system. I am now taking the liberty of fulfilling the latter.

Barry Hocking

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10th ~~August~~ Sept., 1960.

Memorandum to the Chief Government Geologist.

Holland's Landing Well (Bengworden South No.1, 1940)

At the request of Woodside (Lakes Entrance) Oil Co.N.L., I have examined for micro-fauna the bottom 200 feet of core samples from the Holland's Landing Well.

The most significant discovery was that in a sample of the core from 4004 feet (bottom of hole) the light grey silty shale contained two specimens of the pelagic foraminifera Praeglobotruncana deliqua (species undescribed - manuscript name) which is restricted to a certain interval of the marine Cretaceous sequence (upper Albian) in Belfast No.4 Bore, and Port Campbell No.1 & 2 Wells, in South-western Victoria. Unfortunately the issue is confused as the sample from the Hollands Landing Well was contaminated with Oligocene foraminifera. However the possibility that this sample was contaminated with these Cretaceous foraminifera has been eliminated. But there still remains the possibility that the Cretaceous foraminifera are remanie fossils derived from earlier sediments as only two specimens were isolated, though both these specimens were well preserved with little sign of wear. Therefore, ~~that~~ even if the specimens were derived, ~~that~~ the age of the sediment intersected at 4004 feet is younger than the Jurassic age assigned by Crespin (1940 - Victorian Mines Dept. Annual Report, p.29). I am of the opinion that Crespin did not subject this sample to palaeontological examination, but assigned an age on appearance thus adhering to tradition. Furthermore I am of the opinion that the core at 4004 feet is probably of Cretaceous (upper Albian) age. As already stated P.deliqua is restricted to a certain horizon of the Marine Cretaceous from well samples in South Western Victoria, but the Holland's Landing core does not correlate lithologically with the dark grey mudstones of the upper Albian of South-western Victoria. The fact that only two pelagic specimens were recorded provides evidence for an interesting speculation. This speculation is that the two specimens represent a sudden influx of Cretaceous seas onto a terrestrial environment. This marine break-through was apparently sudden, carrying in only pelagic foraminifera, and the marine conditions did not remain long enough for the benthonic foraminifera (especially the typical arenaceous forms) to establish themselves.

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Another point of interest is that an abundant foraminiferal assemblage of Oligocene aspect was recorded in a core at 3884 feet. Crespin does not record any foraminifera below 3743 feet, although she states that the Oligocene persists to 3949 feet. As yet I have found no foraminifera between the definite Oligocene at 3884 feet and the probable Cretaceous at 4004 feet. Therefore, it would appear slow deposition or non-deposition took place between upper Albian and Oligocene times.

I intend to examine further samples from the Holland's Landing Well, and extend my investigations to other wells in the vicinity where Jurassic has been reported.

D.J.Taylor
Geologist.