25th March, 1937

Dear Sir,

I have to acknowledge receipt of your letter of the 16th instant addressed to the Acting Field Geologist with reference to Tertiary deposits on Flinders Island.

In reply I wish to state that the sedimentaries underlying the basalt near Whitemark are represented by stream deposits consisting of shallow gravels containing small quantities of tin, oxide, and have no significance from an oil research point of view.

In relation to the size of the island, comparatively large areas of Upper Tertiary sediments occur chiefly in the north and along the east coastal plain. The few sections available show these to be bedded horizontally, so that there appears to be no possibility of the lower beds being exposed at surface. The greatest thickness penetrated in these Tertiary beds was on the property of A. R. Cooper to the north of Emita, where a well was sunk to a depth of 108 feet. At the "Wingaroo" property in Five Mile Lagoon district (north east Flinders) boring for underground water through clays, limestones and sands to a depth of 80 feet revealed almost perfect sea shells in the lower sands. The shells were submitted to Mr. F. Chapman, the then Commonwealth Palaeontologist (1932) who after making the determinations gave the age as Werrikooian. These beds are therefore in the uppermost division of the Tertiary and much younger than the Balcombian series of Lakes Entrance, in which mineral oil is located.

In regard to the oil bearing swamp material mentioned in your letter to the Minister of Mines on the 3rd instant the following details have application:-

Peat at Flinders Island.

A deposit of peat occurs on the low lying coastal plain in the property of H.T. Briant at Badger Corner.

When a lagoon of 25 acres in extent was being drained a peaty substance was disclosed extending over the area to a depth of 2 feet and overlying sandy loam and waterworn gravels, subsequently fires destroyed a large amount of the material which originally did not exceed 20,000 tons.

The deposit consists of cork like matter, of low specific gravity, containing small amounts of sandy soil and fine roots. It is black when damp and dries on exposure to a light brown colour.

It is apparent that the material has been formed as a decomposition product and accumulation of vegetable matter in the latood. A dried sample of the material cleaned of roots and soil was tested with the following results:-

Proximate Analysis

Moisture	5.50 %
Volatile Combustible Matter	68.88 %
Fixed Carbon	19.27 %
Ash	6.35 %
Sulphur	1.21 %

Crude Oil etc. Test

Yield on distillation	73.8 Galls. per ton
Specific Gravity	0.957
Sulphur	0.71 per cent

Fractionation Test of Crude Oil, etc.

0°	to	150° C	11.76 %
150°C	to	200° C	5.88 %
200°C	to	250° C	29.41 %
250°C	to	310° C	40.00 %
Water			2.94 %
Residue			10.00 %

The small quantity available excludes the deposit from any economic importance.

A similar occurrence in North West Tasmania at Alcomie was examined in 1931 during the survey of the Smithton district.

Trusting the above details will prove useful.

ACTING GOVERNMENT GEOLOGIST

Mr. C. S. Demaine,
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