

REPORT ON THE BORE-HOLE AT NORTHDOWN

The borehole at Northdown was visited on the 22nd November, 1928. The whole of the plant had been removed and Mr. Laughlin was engaged at Latrobe in loading the plant. The cores were not arranged on the ground in any regular order, but the two different-sized cores and a few pieces of paper tied on some of the cores, enables a general idea to be obtained of the strata passed through. It appeared that practically the whole of the core below 500 feet had been removed. It was afterwards explained by Mr. Laughlin that only one to two feet of core had been obtained from this part of the bore-hole and that it had all been removed by Mr. Stott

The attached log of the bore-hole has been compiled from Mr. Laughlin's reports and the cores generally confirm the items. Fourteen feet of sand (recent dune sand) and at least 8 feet of pebbly beds (representing beach deposit) were passed through near the surface. Normal quartzose sandstones formed the greater part of the core to a depth of 139 feet. The sandstones were of medium grain size and contained abundant flakes of mica and pieces of carbonaceous material. Thin seams of carbonaceous material and thicker ones of friable dark mudstones were interbedded with the sandstones. These sandstones are probably of the Permo-Carboniferous system, but are very similar to the Triassic sandstones.

From 139 to 555 feet the strata consisted of dark bluish grey mudstones with some beds containing pebbles. The mudstones were fossiliferous, the most abundant genera being stenopora, while others, such as fenestella, spirifera, conularia, and one or two genera of gasteropoda, were present to a much less extent. Small fragments of leaves were also obtained. These mudstones are undoubtedly of the Permo-carboniferous System and apparently represent the Lower Marine, but may contain other series as well.

The mudstones appeared to be underlain by argillaceous sandstones with pebbles, which may represent the basal beds of the Permo-Carboniferous system.

The few pieces of core from the lowest part of the bore-hole represent rock types such as altered sandstones and quartzites, but there is a considerable proportion of pieces of calcite or calcareous material in the core. The interpretation of these pieces of core is somewhat difficult especially in regard to the calcareous material. It has been assumed that they represent Lower Palaeozoic or Proterozoic rocks which form the bedrock on which the Permo-Carboniferous System was deposited. It is difficult, however, to imagine why quartzites of the types occurring in the former **eras** should give such a small proportion of core.

The only alternative explanation is that the core represented pebbles and boulders in a **loosely compacted** sandy matrix, with pebbles or lenses of calcareous material. In this case the beds would represent basal beds of the Permo-Carboniferous system.

It seems immaterial as to which is the correct explanation from the viewpoint of location of natural petroleum, and either would mean that the bore had probably penetrated below zones favourable for the accumulation of petroleum.

P. B. Nye.
GOVERNMENT GEOLOGIST.

Mines Department,
Hobart.

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LOG OF BORE HOLE AT NORTHDOWN

DEPTH		THICKNESS
From	To	
0	14	14 Sand
14	22	8 Pebbly wash
22	139	117 Sandstones
139	160	21 Mudstones
160	187	27 Mudstones and Sandstone
187	274	87 Mudstones
274	279	5 Mudstones with a few pebbles
279	300	21 Mudstones
300	338	38 Pebbly mudstones
338	373	35 Solid mudstones
373	415	42 Mudstones with pebbles
415	496	81 Mudstones
496	555	59 Mudstones with pebbles
555	641	86 Quartzite pebbles and boulders in sandy sediment
641	674	33 Quartzite and pebbles
674	676	2 Quartzite