## 1907] GEOLOGY RESOURCES OF TRINIDAD AND BARBADOS 79

pumped from the wells to the height of land whence it descended by gravity to the refining works near the city of Bridgetown. In certain cases the location of the borings was unsuitable, the sediments being too greatly disturbed to be largely productive of oil, so that the vield of petroleum in economic quantity has not been satisfactory; but at other places the conditions are more favourable, the strata being more regular and less broken, while beneath the coral and clay formations, the latter being known under the name of "Oceanic beds," the oil-bearing Tertiary probably occurs throughout the whole extent of the island. Here also, owing to the covering of impervious clavs, the possibility of finding oil in paying quantity should be more favourable than in those portions where the clay and coral formations have been removed, as in the north-eastern portion. The thickness of the coral formation varies from a few feet only to 200 feet, and in some places possibly 250 feet, and the Tertiery rocks are sometimes seen owing to the denudation of the coral, more especially in the southern and northern portions of the island. The judicious expenditure of a certain amount of capital by boring in this coral-capped area should be carefully considered.

In the Oceanic, or clay and earthy deposits, are large beds of infusorial earths, often beautifully white and resembling the infusorial earth obtained from the beds of lakes in eastern Canada. The microscopic examination of the contained foraminifera, however, shews that the forms are of deep sea water types, instead of fresh water origin, as is the case in the northern lake deposits. These infusorial earths should, at some time, be of economic importance. No trace of volcanic rocks are seen in this island.

The manjak deposits of Barbados occur in true fissure veins as in Trinidad, the fissures undoubtedly being formed during the general period of upheaval which affected the Tertiary oil-bearing sands. The origin of this mineral is clearly seen in the case of the shaft referred to where the manjak passed down at .50 feet into petroleum. The inference is that this petroleum has flowed into the fissures thus formed, either from the sides or bottom, from the oil-sands which have been thus traversed; the volatile matters have been largely removed by oxydation, and the asphaltic portion has remained as a vein filling. Apparently similar conditions affected the albertite deposits of New Prunswick.