

NOTES ON THE OCCURRENCE OF PETROLEUM IN GASPÉ,
QUEBEC

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EARLIER HISTORY.

The Locality indicated.—Operations in search of petroleum have been carried on in a desultory manner for about 30 years in the vicinity of Gaspé basin, Gaspé county, Quebec, without as yet any economic result. The presence of oil at depth has, however, been proved through the efforts of "The Petroleum Trust," an English company, which has been operating on the southwest side of Gaspé bay, in the neighborhood of and to the south of Gaspé basin.

The Oil-bearing Formation described.—In the eastern part of the Gaspé peninsula there is a great thickness of sandstones resting conformably upon almost as great a thickness of limestones, the whole being of lower Devonian and possibly partly Upper Silurian age. According to Dr R. W. Ells,* these sandstones have a thickness of about 3,000 feet, while the

* Report of Progress, Geol. Survey of Canada, 1880-82, p. 5 D D.

underlying limestone is estimated at about 2,000 feet. These rocks are largely developed in the vicinity of Gaspé bay, where they form a series of almost parallel anticlinals, on or near the axes of which the greater part of the exploratory work has been done.

Dr R. W. Ells, in the report cited above, speaks of these anticlinals as follows :

"The rocks of the series have a considerable development on the several rivers that flow into Gaspé bay, where they lie in shallow basins, bounded by the anticlinals, which bring into view the strata of the lower or Gaspé limestone series. These basins are at least four in number, the dividing anticlinals being known as the Haldimand, the Tar Point, the Point Saint Peter, and the Percé, the most southerly yet recognized. On the south side they rest upon rocks of the Silurian system. The whole formation may therefore be said to occupy a geosynclinal basin, the western limit of which has not yet been traced, but which will probably be found to be continuous with the basin recognized on the Cascapedia river, and thence extending to the Metapedia."

Former Knowledge concerning the Locality.—In the "Geology of Canada," 1863, page 789; the following mention is made of the various natural oil springs of the district. This includes probably all that was known of the occurrence of oil in Gaspé up to that date :

"At the oil spring at Silver brook, a tributary of the York river, the petroleum oozes from a mass of sandstone and arenaceous shale, which dips southeastwardly at an angle of 13° and is nearly a mile to the south of the crown of the anticlinal. The oil, which here collects in pools along the brook, has a greenish color and an aromatic odor, which is less disagreeable than that of the petroleum of western Canada. From a boring which has been sunk in the sandstone to a depth of about 200 feet there is an abundant flow of water, accompanied with a little gas and very small quantities of oil. Farther westward, at about twelve miles from the mouth of the river, oil was observed on the surface of the water at the outcrop of the limestone. Petroleum is met with at Adams' oil spring, in the rear of lot B of York, nearly two miles east of south from the entrance of Gaspé basin. It is here found in small quantities floating upon the surface of the water, and near by is a layer of thickened petroleum, mixed with mold, at a depth of a foot beneath the surface of the soil. A mile to the eastward, at Sandy beach, oil is said to occur, and, again, at Haldimandtown, where it rises through the mud on the shore. These three localities are upon the sandstone and on the line of the northern anticlinal which passes a little to the north of the Silver Brook oil spring. Farther to the southeast, on the line of the southern anticlinal and about two miles west of Tar Point, which takes its name from the petroleum found there, another oil spring is said to be found, three-quarters of a mile south of Seal cove. On the south side of the Douglastown lagoon, and about a mile west of the village, oil rises in small quantities from the mud on the beach. A well has here been bored to a depth of 125 feet in the sandstone, which dips to the southwest at an angle of 10°, but traces only of oil have been obtained. Farther to the westward oil is said to occur on the second fork of the Douglastown river. Traces of it have also been observed in a brook

near Saint George's cove, on the northeast side of Gaspé bay. In none of these localities do the springs yield any large quantities of oil, nor have the borings, which have been made in two places, been as yet successful. The above indications are, however, interesting, inasmuch as they show the existence of petroleum over a considerable area in this region, some part of which may perhaps furnish available quantities of this material."

RECENT EXPLOITATION.

History of later Operations not fully known.—Regarding later operations but little is known, as owing to the distance from our usual fields of work and the disinclination of operators to impart information it has been found impossible to closely follow actual operations. However, this much is known, that oil has been found at some depth, though in small quantities.

Notes on past and present Investigations.—The following notes are gleaned from a report on mines and minerals of the province of Quebec recently prepared by J. Obalski, M E, supplemented by information obtained by the writer :

At Sandy Beach, on lot B, York township, two wells were sunk about 20 years ago, one of which is said to have afforded oil, and about a mile above Douglastown, on the southern side of the Saint John river, a well was sunk 125 feet without successful result. At Silver Brook two wells were bored to a depth of 800 and 900 feet respectively, both showing the presence of petroleum, and on the southern side of the York river, near Silver Brook, two borings were made by the Gaspé Oil company to a depth of 700 and 800 feet, in neither of which was oil struck. Subsequent to these a well was sunk at Sandy Brook to a depth of 700 feet, in which oil was found, though in small quantity. The oil, a specimen of which was collected in 1882 by the writer, was brought to the surface of a small pool by the water, which flowed in considerable quantity from the boring, and was a heavy black oil of about 25° Baumé gravity.

In 1888 the International Oil company of Saint Paul, Minnesota, sunk a shallow well, which was in 1889 deepened to 450 feet without finding oil. The lands and plant owned by this company were in the same year taken over by "The Petroleum Trust," which has since sunk five wells in the district. In one of these, bored at Seal cove, a short distance south of the crown of the Tar Point anticlinal, they have met with a small quantity of high-grade oil. According to one of the drillers, the boring reached a depth of 3,000 feet, of which the upper 2,150 consisted of yellow and white sandstone, followed by 850 feet of bluish shaly limestone, in which, at a depth of about 2,600 feet from the

surface, the oil was found. The oil, which is green in color, is of about 38° Baumé gravity, has an aromatic odor, and is bright ruby red by transmitted light.

Continuation of Investigations probable.—The company working at present expect to continue operations, the results of which, in view of the probable exhaustion in the near future of the Petrolea field in Ontario, will be watched with interest.