

There is a narrow basin along the St. Lawrence valley that is likely to yield considerable oil, although the area is not large. In New Brunswick and Nova Scotia people have been interested in oil production for more than sixty years, although competition with the adjacent states has been pretty stiff and has discouraged development. In 1900 the New Brunswick Petroleum Company drilled seventy wells in the southeastern part of New Brunswick and obtained a small flow, but more important are believed to be the oil shale deposits in Albert county which may become of immense value when modern methods of distillation render the recovery of shale by-products commercially possible.

It is in the western provinces, however, that Canada seems destined to find her fortune in oil. Not much has been done, comparatively speaking, in the way of oil prospecting in these western provinces, but enough has been done to give us a cheering outlook. Attention in the past has been divided mainly between the possibility of commercial development of the bituminous sands exposed on the Athabaska River, commonly known as "tar sands", and the search for petroleum in the vast stretches of the Mackenzie River basin, north and south of Edmonton, in northern central and southern Alberta, in the Peace River and Great Slave districts, while during the past few years wells have been sunk in the Fraser River valley and the Kootenay country, British Columbia.

Suppose we discuss the Athabaska "tar sands" first. They were discovered by Sir Alexander Mackenzie in 1789 and he called them "bituminous fountains". They appear here and there throughout an area of about 8,000 square miles. Certain of these outcrops will eventually prove of great value, provided that market and transportation conditions are right. The sand is a bed of ordinary sandstone 100 to 200 feet thick, sat-

urated almost through with heavy asphaltic oil. The Athabaska valley has cut its way through this deposit, so that it is exposed in the cliffs and bluffs on both sides of the river for a distance of a hundred or more miles. It is, in fact, the largest natural exposure of oil in the world. Some experts maintain that this sand extends over an area of 15,000 miles. It contains fifteen per cent. of bitumen, and when heated it yields fifteen to twenty-five imperial gallons of oil to the ton. The experts, basing their calculations on the supposition that the average thickness of the deposit is fifty feet and the average yield ten gallons a ton, compute the oil content of this field at 300,000,000,000 barrels of oil. This is an enormous quantity—600 times the world's annual production.

Well, how can we get at this tremendous oil reserve, and what could we do with it? Leaving out of consideration the possibilities of refining, it has been proved that the crude material may be used as an excellent road surface. It has been tried with success in Edmonton. At the present time Canada imports all asphaltic materials used from foreign countries. The Athabaska valley presents to us the largest known deposit of solid asphaltic material in the world. Freight rates will probably determine the ultimate success or failure of this great potential industry.

There is another point regarding this tar sand country. The tar sands evidence the upwelling of some remote period in history of petroleum on an immense scale. The more valuable constituents of the petroleum have long since disappeared, but this probably applies only to the sands close to the surface. Under cover conditions may be vastly different. A railroad now passes through a portion of this region and oil prospecting there is not the excessively costly enterprise that it used to be. Several test wells have been drilled with varying results, and while commercial oil has