

original conception for this line was a capacity of 50,000 to 60,000 bbl. of oil a day which, by the addition of six more pumping stations, could be increased to 100,000 to 120,000 bbl. a day. Early in 1949 the Golden Spike field, west of Leduc, was discovered and in May the Leduc-Nisku oil pipeline was extended 8 miles to Golden Spike.

At present, in addition to the 8-inch line from Leduc to Nisku, a second 8-inch line extends eastward from the Golden Spike field through the North Woodbend area, across the North Saskatchewan River, to Edmonton. A 6-inch branch line, six miles long from the Acheson field to the north, feeds into this. The maximum capacity through the Nisku terminal is about 37,800 bbl. a day and the initial capacity of the Woodbend line was 28,000 bbl. a day without a booster pump station. As the production increased, a pump station was built about 15 miles from Edmonton, allowing for a maximum delivery of 36,000 bbl. a day or a total delivery through the two lines of more than 70,000 bbl. a day from the Leduc, Woodbend, Acheson and Golden Spike fields. To increase delivery, the pipeline from Leduc to Nisku, a distance of 5.5 miles, will be looped in 1953, raising its capacity about 13 p.c. and the 14-mile Nisku-Edmonton line will be doubled by another 8-inch line. Summer capacity of these lines is somewhat greater than winter capacity owing to the greater viscosity of the oil in cold weather. This new construction will increase the 8-inch lines in the Leduc and adjacent areas to 74 miles and the total Imperial Oil pipeline systems to 274.5 miles, of which 181.3 miles are in the Leduc-Woodbend-Golden Spike-Acheson areas, 79.2 miles in the Redwater field, and 14 miles in the Excelsior field.

In addition to the Golden Spike field, several new discoveries were made in 1949, including Joseph Lake, Stettler, Campbell, and Excelsior in south-central Alberta and Normandville in the Peace River area. When it therefore became evident early in 1949 that there would be a large increase in oil reserves, Imperial Oil Limited modified its original plans for a pipeline to Regina and in May announced that the line would be built by the Interprovincial Pipe Line Company Limited from Edmonton to the head of the Great Lakes. Canada's consumption of petroleum at that time was about 300,000 bbl. a day and it was estimated that it would reach 500,000 bbl. a day by 1958. To support a production of 300,000 bbl. a day, reserves of 2.5 to 3,000,000,000 bbl. would be necessary and in 1949 the reserves in Alberta were estimated to be about 750,000,000 bbl. The line as finally designed was for 20-inch pipe for 439 miles from Edmonton, Alta., to Regina, Sask., 16-inch for 336 miles from Regina to Gretna, Man., where the pipeline crossed the International Boundary to the United States, and 18-inch pipe for 322 miles from Gretna to Superior, Wis., U.S.A., at the head of the Great Lakes. The cost of construction was estimated at about \$90,000,000. Initially, the through-put was to be 95,000 bbl. daily from Edmonton to Regina, to be increased as need arose by new pumping stations. Tankers on the Great Lakes were to carry the oil to Sarnia, Ont., where Imperial Oil Limited operates a refinery which was then using 57,000 bbl. of crude oil a day, and storage was to be provided at Superior for decreased deliveries during the winter when navigation is closed.

The pipeline was built in 1950, actually in 150 days construction time, and was joined from Edmonton to the Redwater field by 30 miles of 16-inch pipeline, thus making the total length 1,127 miles. A 10-inch branch line from Gretna, with an initial through-put capacity of 14,000 bbl. a day, was built 75 miles to Winnipeg to supply a new \$10,000,000 refinery constructed there. The pipeline was connected