

23.—Production of Alberta Oil Fields, 1948 and 1949

NOTE.—Figures for total production of petroleum for 1922-46 are given at p. 473 of the 1947 Year Book, and production in the different fields for 1947 at p. 477 of the 1948-49 edition.

| Field | 1948 | 1949 | Field | 1948 | 1949 |
|-----------------------------|---------------------|-----------|--------------------|----------------------|-------------------|
| | bbl. | bbl. | | bbl. | bbl. |
| Leduc..... | 4,657,371 | 9,688,784 | Princess..... | 186,393 [†] | 121,227 |
| Redwater..... | 36,875 [†] | 4,793,491 | Vermilion..... | 112,331 | 86,933 |
| Turner Valley..... | 4,900,739 | 4,304,063 | Wainwright..... | 17,131 | 16,086 |
| Lloydminster (Alberta side) | 648,055 | 716,941 | Miscellaneous..... | 33,534 [†] | 228,467 |
| Taber..... | 201,527 | 150,746 | | | |
| Conrad..... | 179,627 | 139,728 | Totals..... | 10,973,583 | 20,246,466 |

[†] Three months.

*The Edmonton-Superior Pipe Line.**—Starting at Edmonton, Alta., the pipe line to Superior, Wis., U.S.A., will have a length of 1,150 miles. From the Edmonton terminal the crude flows to Regina, Sask., through a 20-inch pipe line, boosted on the second half of its 450 mile journey by a pumping station at Ermine, Sask. East of Regina other intermediate stations en route to Lakehead are to be at Cromer and Gretna, Man., and at Clearbrook, Minn., U.S.A.

It was the discovery of the Leduc field in February, 1947, and a rapid sequence of events which followed that precipitated the planning of this pipe line, for it was immediately apparent that all estimated reserves of Alberta petroleum would have to be drastically reviewed. These reserves, at the time of the Leduc discovery, were estimated at 35,000,000 bbl. At the end of 1947 the estimate was 150,000,000 bbl., in 1948, 400,000,000 bbl., and in 1949, 830,000,000 bbl.

The line is planned for an initial capacity of 95,000 bbl. per day for the Edmonton-Regina section and 70,000 bbl. per day for the Regina-Superior section. Additional pumping stations are capable of boosting this to 150,000 bbl. per day on the Edmonton-Regina section and 103,000 bbl. on the Regina-Superior, the reduced capacity east of Regina anticipating quantities drawn off there and at possible future refinery sites.

Establishing the easterly terminal at Superior, Wis., does not constitute 'export' of oil to the United States. Superior is simply lakehead for the shipment by tankers of Alberta oil to the refineries at Sarnia, Ont., and thence the refined product to the Ontario markets. During the season of closed navigation stock-piling of crude is provided for at Superior in storaged capacity of some 1,500,000 bbl.

The Tar Sands and Bituminous Developments. †—Bituminous sand studies were continued in 1949 at and around the Alberta Government's separation plant at Bitumont, the construction of which was not sufficiently complete for trial operation until late in 1948.

Plant operation revealed the following important facts: the bituminous sand put through during the season contained about 12 p.c. oil by weight. Lower beds contain a higher percentage of oil, but there is no evidence that the feed to the plant will exceed a content of 15 p.c. of oil; primary recovery of wet crude was 90 p.c. containing as little as 4·5 p.c. of mineral to 10 p.c. and more under varying conditions; water content of the crude varied between 25 p.c. and 40 p.c.; the dehydration unit removed the water and reduced the mineral content to less than 3 p.c.

* Summarized from an address by T. S. Johnston, Vice-President of Interprovincial Pipeline Company, Limited, before the Association of Professional Engineers and the Winnipeg branch, Engineering Institute of Canada, Dec. 15, 1949.

† Condensed from the Annual Report (1949) of the Research Council of Alberta.