

through northeast British Columbia to the Liard River where outcrops occur south of Fort Simpson. Thus, the eastern edge in a straight line, between various points where known, would be at least 1,200 miles long but probably greatly exceeds that length because of its sinuous outline. All this becomes, as is now being recognized, good prospective oil territory as the oil is held in the southwestward-dipping Mississippian porous strata at favourable locations near their eastern border by being sealed against overlying and overlapping younger beds.

In Saskatchewan there has been production of heavy oil from the Lloydminster and Coleville fields. Also, a considerable reserve of medium-grade oil has been established in a number of fields but particularly in the general Fosterton area. Marketing of this medium-grade oil has been difficult because it is not so desirable as light oil for refining and because it contains sulphur. Arrangements to solve this problem have not yet been put into effect and therefore when light oil was discovered in the Viking sand in the Smiley field it was hailed as of great importance to the Province. It now appears that the Smiley field will contain about 10,000 acres and, although the daily yield per well is moderate, the fact that the wells are relatively shallow and can be completed in a week has led to fast development because the oil can be marketed through the Interprovincial pipeline. This is the first light oil production from Saskatchewan and is of importance in the search for new fields of a similar type.

The Sturgeon Lake field was discovered in 1952. It lies 50 miles east of Grande Prairie in the Peace River area of Alberta and is a reef field somewhat similar to Leduc and Redwater. Further drilling in 1953 has revealed that this field may have a recoverable oil reserve of from 100 to 200 million barrels. Late in 1953, the Pembina field, 65 miles southwest of Edmonton and west of the Leduc-Bonnie Glen-Wizard Lake trend, was discovered. The oil occurs in a sand known as the Cardium in Upper Cretaceous shale of Colorado age. This sand is well known in the foothills from its occurrence in Turner Valley but previously it had not given commercial oil production although it was known to contain gas in a few places. It thins out eastward where the sand in it is replaced by shale. The sand is thus a wedge with southwest dip and in the thin up-dip edge the oil has accumulated. The productivity of individual wells in the Cardium may not be high since the permeability of the sand is rather low but the extent of the field could considerably exceed that of East Texas in the United States, an area of about 136,000 acres in which the productivity has been very large. Thus, the Pembina field may become the largest in area in North America. Its boundaries, however, are not yet known and although the expectation is that all wells drilled in 1953 are in one pool some of them are widely spaced.

In all, about 15 new fields were officially recognized in Alberta in 1953 but most of these had only a few wells in production at the end of the year.

In British Columbia, the drilling in the Peace River area has been primarily to discover gas reserves to supply the proposed pipeline to Vancouver, B.C., and the Pacific northwest area of the United States. There is, as yet, no oil production in British Columbia as a result of this drilling although encouraging shows have been found in a few wells. The gas reserves in the Peace River area are now estimated at 3,949,000,000,000 cu. feet based on 49 potentially productive wells in Alberta with a reserve of 1,775,000,000,000 cu. feet and 45 potentially productive wells in British