

average rate of at least 1 trillion cubic feet a year for at least the next 8 to 10 years". The Nevis discovery alone is likely to provide half of that amount for 1952 and it is but one of several important areas discovered during the year.

In the Pigeon Lake area of Alberta the Leduc-Wizard Lake-Bonnie Glen trend was extended southwestward with the finding of more oil overlain by extensive gas caps. West of this, at Minnehik, a large gas discovery was made in the Mississippian limestone which is the productive horizon of the foothills areas. In the area south of Calgary a large flow of gas occurred in three Shell Oil Company wells drilled near Okotoks. A feature of this gas is the abnormally large content of hydrogen sulphide.

There are few areas in Alberta where drilling is being done that gas does not occur, but in many of these the gas is presently not considered important. Wells in many areas, however, have provided substantial flows, as for example in the Lac La Biche, Clive, Fort Saskatchewan, Big Lake, and Morinville areas north and east of Edmonton, and at Chancellor and along the Stettler-Big Valley reef trend farther south. Also in the Peace River area of Alberta two fields, Gordondale and Rycroft, added new reserves to those previously proven. In all, about 155 potential gas wells were drilled in Alberta during 1952 and the reserves have been increased by perhaps 3,500,000,000 cu. feet.

The requirements for natural gas in Alberta continued to increase but the reserves increased at an appreciably higher rate than the consumption so that there is need of finding additional markets. At the end of the review period, increasing thought was being directed toward opening up Ontario and the Montreal area to natural gas from Alberta and the other Prairie Provinces via a pipeline over an all-Canadian route which would cost an estimated \$300,000,000.

Developments in oil and gas have given rise to a rapid growth in refining capacity and to the establishment of a petrochemical industry in Alberta. To mention a few of the plants: Celanese Corporation of America by the end of June 1953 had nearly completed a \$55,000,000 plant just east of Edmonton, the output from which will include various industrial organic chemicals; nearby, Canadian Industries Limited had started to build a \$13,000,000 polythene plant; and at Fort Saskatchewan to the northeast of Edmonton, Sherritt Gordon Mines Limited was building a \$17,000,000 refinery in which ore from its Lynn Lake deposits in northern Manitoba will be processed.

In the tar sands along the Athabasca River, Alberta has what is believed to be the largest single oil reserve in the world. These sands contain reserves of oil estimated at from 100,000,000,000 to 250,000,000,000 bbl. Economic methods of extracting the oil from the sands were worked out on a pilot-plant scale by the Federal Government at Ottawa and by the Provincial Government on its pilot plant at Bitumount, 60 miles north of Waterways on the Athabasca River. During the review period, nine different companies secured exploration permits and were carrying out extensive drilling operations. Some were doing research on the different production and refining problems.

Alberta is Canada's principal coal-producing province and in 1952 contributed 41 p.c. or 7,195,000 tons of the total Canadian output. Production, however, continues to decline because of the increasing use being made of diesel engines by the railways and of oil and gas for domestic and commercial purposes. Output includes almost all ranks of coal including a small tonnage of semi-anthracite. Bituminous coals ranging from high to low volatile, which form the bulk of the output, are produced in the Crownsnest, Nordegg and Mountain Park areas, lower-rank