Buchans Mining Company milled 366,000 tons of zinc-lead-copper ore in 1956. The concentrates produced contained 74,280,000 lb. of zinc, 46,594,000 lb. of lead and 8,000,000 lb. of copper. The Company also produced 919,000 oz. t. of silver and 8,400 oz. t. of gold. The new MacLean shaft, planned for a depth of 4,000 feet, 1½ miles northwest of the Buchans townsite, was started. In the Notre Dame Bay area, Maritimes Mining Corporation was on schedule in the pre-production development of the old Tilt Cove copper property. A new 2,000-ton concentrator was expected to be ready for operation in September 1957. Ore reserves were reported in March 1956 at 3,941,700 tons averaging 2.05 p.c. copper.

Subsection 2.—Industrial Minerals*

There were important developments in the industrial mineral field during 1956 and 1957. Production records were established for many of the minerals and a number of new deposits were opened up. Especially noteworthy were the developments in the Canadian sulphur industry and the progress made toward production of potash from the rich and extensive deposits in Saskatchewan.

Sulphur.—Pyrite and pyrrhotite together with smelter gases have been the main sources of sulphuric acid and sulphur dioxide in Canada and are accounting for increasing quantities of sulphur products. However, with the development of the natural gas resources of Western Canada a new source of elemental sulphur is coming into being which will in the near future become the main source of sulphur in the country.

Some of the largest gas fields of Western Canada contain gas of the 'sour' variety, that is, gas with a relatively high content of sulphur in the form of hydrogen sulphide. The hydrogen sulphide must be removed from the gas before it is fed to the gas transmission lines. In this process elemental sulphur is obtained. The content of hydrogen sulphide is as high as 37 p.c. in some of the sour gas in Alberta. From every million cubic feet of hydrogen sulphide about 40 short tons of extremely pure sulphur can be obtained, and at a cost comparable with that of obtaining sulphur by the Frasch process.

Prior to 1956 there were two small sulphur recovery plants operating on sour gas in Alberta, producing 110 long tons of sulphur daily. In 1956, Imperial Oil Limited built a plant at the Redwater oilfield north of Edmonton capable of producing 20 long tons of sulphur per day, and late in the same year The British American Oil Company Limited completed a plant at Pincher Creek, Alta., having an initial capacity of 225 long tons of sulphur daily and an eventual capacity of 800 long tons daily. Also in 1956, Jefferson Lake Sulphur Company of New Orleans, La., the third largest sulphur producer in the United States, commenced construction of a plant at Taylor, B.C., to produce 425 long tons of sulphur per day from gas supplied by Pacific Petroleums Limited. This plant, scheduled for operation in November 1957, may be increased in output to 800 long tons per day in 1959. Six other sulphur recovery plants having a total minimum daily productive capacity of 2,400 long tons are proposed for Alberta within the next few years and, provided the present plans of gas transmission companies are carried out, it is possible that 1,000,000 tons of sulphur will be produced annually from natural gas in Western Canada by 1961.

In Montreal a plant to produce 100 long tons of sulphur daily from oil refinery gas, constructed by Laurentide Chemicals and Sulphur Limited is expected to be in operation late in 1957.

Reference has been made in previous Year Books to the Noranda process for converting pyrite and pyrrhotite into sulphuric acid, sulphur, and iron sinter. This process is working successfully at Port Robinson and at Cutler in Ontario. The sulphuric acid plant at Cutler has a daily capacity of 1,000 tons of sulphuric acid and serves the uranium industry in the Blind River district.

Sulphuric acid and liquid sulphur dioxide have also been produced from smelter gases for a number of years. Currently, The International Nickel Company of Canada Limited and the Texas Gulf Sulphur Company are jointly investigating the economics

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