## MINES AND MINERALS

Yukon Territory. Declines in Newfoundland, Nova Scotia, Ontario and Saskatchewan were more than offset by higher output in the other provinces and the territories. Ontario was again the leading silver-producing province, primarily because of the substantial by-product silver produced at the Kidd Creek base metal mine of Ecstall Mining Limited near Timmins. Base metal ores continued to be the main source of Canadian output, accounting for some 95% of the total. The major portion of the remaining 5% came from silver-cobalt ores mined in northern Ontario and the remainder was by-product recovery from lode and placer gold ores.

Canadian silver production was valued at \$71,796,769 in 1971. The \$10,067,219 reduction from 1970 resulted from lower prices, which fluctuated between \$1.752 and \$1.288 per oz.t. Reported consumption of silver in 1971 was 6,800,000 oz.t. compared with 5,747,068 oz.t. in 1969.

Canadian Copper Refiners Limited at Montreal East, Que., was Canada's largest producer of refined silver, recovering 12,885,000 oz.t. in 1971 from the treatment of anode and blister copper. The silver refinery of Cominco Ltd. at Trail, BC, was the second largest producer, recovering 5,559,823 oz.t. in the processing of silver-bearing lead and zinc ores and concentrates. Other producers of refined silver were The International Nickel Company of Canada, Limited, at Copper Cliff, Ont., from nickel-copper concentrates; and the Royal Canadian Mint at Ottawa, Ont., from gold bullion. At Belledune, NB, East Coast Smelting and Chemical Company Limited recovered by-product silver from lead-zinc concentrates treated in an Imperial Smelting Process blast furnace. Late in 1970, it was decided for economic reasons to close down the Kam-Kotia refinery at Cobalt, beginning April 1, 1971, with final closure date scheduled for February 1972.

The four largest primary sources of silver in Canada in 1971 were: the Kidd Creek zinc-copper-silver mine near Timmins, Ont., operated by Ecstall; the Sullivan lead-zinc-silver mine at Kimberley, BC, operated by Cominco; the silver-lead-zinc mines in the Yukon Territory, about 200 miles north of Whitehorse, operated by United Keno Hill Mines Limited and Anvil Mining Corporation Limited, at Faro, YT. In terms of silver content of concentrates produced, Ecstall recovered 12,768,177 oz.t., Cominco 3,666,522 oz.t., and United Keno 3,007,463 oz.t. Other important mine producers of by-product silver, in declining order of output, included: Noranda Mines Limited, Geco Division, at Manitouwadge, Ont.; Echo Bay Mines Ltd. near Port Radium, NWT; Brunswick Mining and Smelting Corporation Limited near Bathurst, NB; Heath Steele Mines Limited near Newcastle, NB; and Manitou-Barvue Mines Limited at Val d'Or, Que.

Some 2,780,303 oz.t. of silver were derived from silver-cobalt ores mined in the Cobalt-Gowganda area of northern Ontario; the largest producer was again Silverfields Mining Corporation Limited with an output of 1,129,330 oz.t.

**Molybdenum.** Production of molybdenum in Canada in 1971 was 22,662,732 lb. valued at \$38,367,344 compared with 33,771,716 lb. valued at \$57,140,574 in 1970. Canada was second only to the United States among world producers of molybdenum and supplied approximately 18% of estimated world production (excluding the Sino-Soviet bloc) of 155,400,000 lb.; world mine capacity (excluding the Sino-Soviet bloc) at the end of 1971 was approximately 174,000,000 lb. per year and production in 1971 exceeded consumption by approximately 28,000,000 lb. Capacity is expected to remain in excess of demand for at least five years.

The copper-molybdenum mine, west of Kelowna, BC, of Brenda Mines Ltd. completed its first full production year in 1971. The milling rate was 24,662 tons per day with grade of ore milled being 0.22% copper and 0.062% molybdenum. Recoveries were 89.77% for copper and 86.13% for molybdenum; production for the year was 9,600,000 lb. of molybdenum. Sales in 1971 were 5,100,000 lb. and year-end inventory was 7,600,000 lb. Ore reserves at the end of the year were estimated at 154,000,000 tons averaging 0.182% copper and 0.048% molybdenum.

Endako Mines Ltd. was amalgamated with Placer Development Limited under the name of the latter company in 1971. Production of the Endako Division mine near Endako in central British Columbia was reduced to 75% of the 1970 capacity rate of output in August 1971. The company's accumulation of unsold molybdenum in concentrates was 10,000,000 lb. During 1971 Endako treated 9,051,000 tons of ore at an average grade of 0.162% MoS2 to produce a total of 14,387,736 lb. of contained molybdenum consisting of 5,163,787 lb. in molybdenite (MoS2) concentrate and 9,223,949 lb. in molybdic oxide (MoO3). The Mount Copeland mine of King Resources Company, 18 miles northwest of Revelstoke, BC, produced 969,400 lb. of