METALS 509

lode gold mines operated during 1960, of which 42 received cost assistance under the terms of the Emergency Gold Mining Assistance Act. The others were not eligible because their operating costs were less than \$26.50 an oz.t. of gold produced. Many of these low-cost mines sold all or part of their gold production on the open market. Three lode gold mines closed during the year and two new mines started operations.

In 1960, 85.5 p.c. of Canada's gold production came from lode gold mines, 13.0 p.c. was by-product output from base-metal mines and 1.5 p.c. came from placer gold deposits. Gold occupied sixth place in value among minerals produced in Canada, following crude petroleum, nickel, copper, uranium oxide and iron ore. Canada remained the second largest gold-producing country in the Free World, following the Union of South Africa. The outlook for gold mining in Canada was brighter than it had been for many years. Gold was selling at approximately \$35.60 oz.t. in the London international gold market at the end of 1960 and the Canadian dollar was close to parity with the United States dollar; a high of \$34.82 oz.t. was reached in the last week of 1960.

Ontario was the main producer, accounting for 59.0 p.c. of the 1960 total output. An estimated 2,725,077 oz.t. were produced compared with 2,683,449 oz.t. in 1959, only the Porcupine and Kirkland Lake districts showing declines in output. Thirty-one lode gold mines operated in the province during 1960, 13 of them in the Porcupine district where the chief producers were Hollinger Consolidated Gold Mines, Limited (Canada's secondlargest gold producer), McIntyre Porcupine Mines Limited, Dome Mines Limited and Aunor Gold Mines Limited. In the Larder Lake district only one lode gold mine operated but this was Canada's largest gold producer, Kerr-Addison Gold Mines Limited, whose production reached an all-time high of nearly 700,000 oz.t. In the Patricia district, seven mines were operated, with a new mine, H. G. Young Mines Limited, starting production in August. The principal producers in the district were Campbell Red Lake Mines Limited, Madsen Red Lake Gold Mines Limited and Dickenson Mines Limited. In the Kirkland Lake district, seven mines recorded production but Kirkland Minerals Corporation Limited closed its mine in September. The main producers were Macassa Mines Limited, Wright-Hargreaves Mines, Limited and Lake Shore Mines Limited. In the Port Arthur mining division, MacLeod-Cockshutt Gold Mines, Limited and Leitch Gold Mines Limited continued to operate. Renable Mines Limited continued to operate in the Sudbury mining division. Some 50,000 oz.t. of gold were recovered as a by-product from base-metal mines in the province, most of it coming from the copper-nickel mines of the Sudbury district.

Quebec produced 22.5 p.c. of Canada's gold production, with 13 lode gold mines operating during 1960; production totalled 1,033,249 oz.t. compared with 999,388 oz.t. in 1959. Nearly 40 p.c. of the gold was recovered as a by-product in smelting base-metal ores from the Horne mine of Noranda Mines Limited and other Quebec mines that ship concentrates to the Noranda smelter. Anacon Lead Mines Limited (Chibougamau operation), classed as a lode gold mine, was closed in August and a new mine, Akasaba Gold Mines Limited, started shipments to the Bevcon Mines Limited mill on Mar. 1. The largest lode gold producers were Lamaque Mining Company Limited and Sigma Mines (Quebec) Limited at Bourlamaque, and East Malartic Mines Limited and Malartic Gold Fields Limited in the Malartic area.

The Northwest Territories produced 9 p.c. of the gold recovered in Canada. All production came from lode gold mines in the Yellowknife area and totalled 411,492 oz.t. compared with 405,922 oz.t. in 1959. Four mines operated, with Giant Yellowknife Mines Limited and Consolidated Discovery Yellowknife Mines Limited being the main producers. Giant is now Canada's third largest gold producer. Taurcanis Mines Limited continued development of a gold prospect some 100 air miles northeast of Yellowknife.

British Columbia produced approximately 4.5 p.c. of Canada's gold output, nearly 90 p.c. of it from lode gold mines and the remainder from base-metal and placer operations. Four lode gold mines operated; Bralorne Pioneer Mines Limited, the only large producer, operated two mines in the Bridge River area—the Pioneer division mine which was closed in October 1960 and the Bralorne division mine which increased its gold output. The