

Six smelters for the reduction of copper and nickel-copper ores and concentrates are operated in Canada. In the Sudbury district of Ontario, The International Nickel Company of Canada, Limited operates smelters at Copper Cliff and Coniston, and Falconbridge Nickel Mines, Limited produces nickel-copper matte at its Falconbridge smelter. Hudson Bay Mining and Smelting Co., Limited at Flin Flon, Man., smelts concentrates from its mine in Manitoba and Saskatchewan and copper concentrates from the mine of Sherritt Gordon Mines, Limited at Lynn Lake, Man. Ores and concentrates from most of the copper mines in Ontario, Quebec and Newfoundland are smelted at the Noranda smelter of Noranda Mines, Limited and the Murdochville smelter of Gaspé Copper Mines, Limited, both in Quebec. Electrolytic copper refineries are operated by International Nickel at Copper Cliff, Ont., and by Canadian Copper Refiners Limited at Montreal East, Que. Production of refined copper in 1964 was 408,505 tons, 8 p.c. more than in 1963.

The output from Newfoundland's three established producers was augmented by that from Consolidated Rambler Mines Limited after the latter came into production in October. Total output in 1964 was 14,506 tons valued at \$9,689,729. British Newfoundland Exploration Limited was developing its Whalesback Pond mine for production in 1965 at 1,500 tons of ore a day and First Maritime Mining Corporation Limited was developing the Gull Pond property for production in 1966. The output of copper in New Brunswick continued its upward trend, rising 17 p.c. over 1963 to 10,523 tons valued at \$7,029,479. Brunswick Mining and Smelting Corporation Limited became the province's newest producer when mill tune-up started in March. The company will open two new mines and build a new lead-zinc concentrator in the Bathurst area in 1965.

The reactivation of idle capacity at the Horne mine of Noranda Mines, Limited and at the Murdochville mine of Gaspé Copper Mines, coupled with a full year's output from the mines in the Matagami area and production from new mines, brought Quebec's output to 160,288 tons of copper valued at \$107,072,207. Ten miles north of Noranda, Lake Dufault Mines Limited completed construction of a 1,300-ton-a-day concentrator and initial development of its orebody; mill tune-up started in August and the mine and plant were officially opened in October. About 60 miles north of Amos, Rio Algom Mines Limited was developing its Poirier Township mine for production, in 1966, at 1,500 tons of ore a day.

In Ontario, with the return to full production at the Sudbury mines of The International Nickel Company of Canada, Limited, copper production increased by 12 p.c. over 1963 to 201,031 tons valued at \$132,519,010. In addition to the nickel-copper mines of International Nickel and Falconbridge in the Sudbury area, Ontario's copper producers were: Rio Algom's Pater mine at Spragge; Kam-Kotia Porcupine and McIntyre-Porcupine at Timmins; Copperfield's Temagami mine at Timagami; and Willroy and Noranda's Geco mine at Manitouwadge and North Coldstream at Kashabowie. The discovery of a major zinc-copper-silver orebody, near Timmins, by Texas Gulf Sulphur Company sparked a vigorous exploration and staking rush in the area. Texas Gulf plans production from its orebody in late 1966 at 6,000 tons of ore a day.

Manitoba-Saskatchewan's two major producers, Hudson Bay Mining and Smelting Co., Limited and Sherritt Gordon Mines, Limited, had a combined output of 49,880 tons of copper valued at \$33,319,676, an increase of 6.7 p.c. over 1963. Hudson Bay operated a central mill and smelter at Flin Flon, treating ores from the Schist Lake, Chisel Lake and Stall Lake mines in Manitoba, the Coronation mine in Saskatchewan and the Flin Flon mine that straddles the Manitoba-Saskatchewan boundary. The Company continued exploration and development at its Osborne Lake and Anderson Lake mines near Snow Lake in Manitoba. Sherritt Gordon produced copper concentrates at its Lynn Lake, Man., mine for shipment to Hudson Bay's smelter, and nickel-copper concentrates for shipment to its own smelter at Fort Saskatchewan, Alta. Sherritt Gordon continued exploration of the Fox Lake copper deposit some 34 miles southwest of Lynn Lake.