

remaining mines are owned by, and ship their output to the three integrated steel companies in Ontario.

British Columbia had one small iron ore mine and produced a small amount of byproduct iron from a copper operation. Byproduct production was terminated in 1982 with the depletion of ore reserves at the mine. The iron ore mine was expected to close late in 1983, also because of depleted ore reserves.

**Nickel.** Production was 126 500 t in 1979, rose to 184 800 t in 1980 and then declined to 88 700 t in 1982 when the industry was shut down for several months due to depressed market conditions.

Nickel was produced from mines at Sudbury and Shebandowan, Ont. and Thompson, Man. Refined nickel was produced at Sudbury and Port Colborne, Ont. and at Thompson. Production was about 80% of capacity in 1980, the year with the highest volume of output, and about 40% in 1982.

Resistance to corrosion, high strength over a wide temperature range, pleasing appearance and suitability as an alloying agent are characteristics of nickel which make it useful in a wide range of applications. The growing use in stainless steel in recent years now accounts for close to 50% of consumption, followed by nickel-based alloys, electroplating, alloy steels, foundry and copper-based alloys.

Close to two-thirds of nickel consumption is in capital goods and the remainder in consumer products. Nickel is used in chemical and food processing, nuclear power plants, aerospace equipment, motor vehicles, oil and gas pipelines, electrical equipment, machinery, batteries, as a catalyst, and in many other applications.

**Gold.** In 1982 Canadian gold production was 62.5 million grams valued at \$929.38 million, up from 52 million grams (\$922.09 million) in 1981 and 51.4 million grams (\$590.8 million) in 1979. The volume increased as a number of new mining operations, under development since the gold price surge of 1979-80, made their first contribution to production. Value of production increased by a lesser percentage than volume because the price declined. At the end of 1982 there were 39 producing gold mines operated by 30 companies.

Canada ranked third in the world as a gold producer, well behind South Africa and the Soviet Union. Quebec became the leading gold producing province in 1982, closely followed by Ontario. British Columbia ranked third and Northwest Territories fourth.

Gold production in Quebec amounted to 23.2 million grams in 1982 and 17.3 million grams in 1981, mostly from lode gold mines. Ontario gold production, mainly from lode gold mines, was 19.8 million grams in 1982 and 18.2 million grams in 1981. A major new gold discovery that will result in new gold mines was made at Hemlo, Ont. in 1982. In British Columbia gold was recovered as a byproduct of base-metal mining and from a number of lode gold

mines that came into production during 1979-82. British Columbia also reported production from placer mining. In Northwest Territories, production from the established lode gold mines near Yellowknife and from two new mines, one at Cullaton Lake and one at Contwoyto Lake, was 6.9 million grams in 1982 and 4.8 million grams in 1981. Gold production in the Prairie provinces, 1.9 million grams in 1982 and 1.6 million grams in 1981, was mainly a byproduct of the smelting of base-metal ores. One lode gold mine, a former producer near Bissett, Man. was returned to production. All gold produced in the Atlantic provinces was recovered as a byproduct of base-metal mining. In New Brunswick, gold showings were identified along the Bay of Fundy coast, north and south of Saint John. Gold production in Yukon was derived as a byproduct of base-metal mining and from placers. Placer mining yielded 2.5 million grams of gold in 1982 and is concentrated in the historic placer mining areas around Dawson City, Mayo and Burwash and has become a mainstay of the Yukon economy.

Gold is usually processed into bullion at the mine site, making it easily transportable. Bullion is refined to high purity metal at refineries in Toronto, Ottawa (the Royal Canadian Mint) and Vancouver. Base-metal refineries at Sudbury, Ont., Montréal, Que. and Flin Flon, Man. also refine gold recovered from ores.

**Zinc.** Canada is the world's largest producer and trader of zinc, providing about 25% of all zinc consumed in the western world. But mine production declined sharply in 1980, reflecting the weakened state of the world economy and the accompanying lower demand for zinc. Showing recovery, in 1982 Canadian mine output was 1.19 million tonnes. Production of refined zinc increased in 1981, but dropped during 1982 because of an extended strike and planned shut-downs. Consumption of refined zinc as measured by producer shipments was 120 000 tonnes in 1982, down somewhat from that of the previous years.

Four electrolytic zinc refineries in Canada have a total annual capacity of 675 000 tonnes. Cominco Ltd. completed a modernization and expansion program at Trail, BC. Canadian Electrolytic Zinc at Valleyfield, Que. was increasing annual capacity by 9 000 t and Kidd Creek Mines at Hoyle, Ont. by 19 000 t.

Many Canadian mines have been forced to reduce or suspend production. A large mine at Faro, Yukon suspended production in June 1982 pending completion of a waste stripping program financed by Dome Petroleum and the federal government.

One of the few bright spots on the Canadian mining scene was the start-up in 1982 of a mine on Little Cornwallis Island some 130 km south of the magnetic North Pole. At full design capacity this mine will produce 130 000 tonnes per year (tpy) of zinc and 30 000 tpy of lead in concentrates.