

Development continued of a new orebody near the Lynx and Myra mines on Vancouver Island. When completed in late 1984 its zinc production was expected to triple to about 50 000 t of zinc in concentrates a year.

Silver. In 1982, silver production was 1 204 000 kg valued at \$378.8 million, up in volume but down in value from \$458.1 million in 1981 and \$478.4 million in 1979. Canada is the world's fourth largest mine producer of silver after the Soviet Union, Mexico and Peru. Other major producers are the United States, Australia and Poland.

Increased mine production of silver in 1981 and 1982 over 1980 was attributed to byproduct silver production from new base-metal mines and to primary production from a new silver mine in central British Columbia beginning in the fall of 1981. Production in 1982 was adversely affected by a decline in the price of silver to less than US\$5.00 an ounce causing a silver-lead-mine at Elsa, Yukon to suspend operations for the second half of the year. Closure of the lead-zinc mine at Faro, Yukon also caused a loss of byproduct silver production.

The 16.6% decline in value in 1982 from 1981, despite a 6.6% increase in volume, was due to decline in price from US\$8.06 at the beginning of January to \$4.90 in mid-July. The price recovered to \$10.87 at the end of December.

Main sources of Canadian silver output are base-metal ores, accounting for about 70% of the total. The remainder comes from silver mines and base-metal mines whose primary product is silver, and as a byproduct of gold output.

British Columbia, the leading silver producing province, accounted for about 38% of Canadian mine production in 1982. Its silver comes mainly from one large silver mine and from a lead-zinc mine at Kimberly.

Ontario derives silver from small silver mines at Cobalt and a large base-metal mine at Timmins. Other major producing areas are the Sudbury and Sturgeon Lake districts.

New Brunswick is the major silver producing province in the Atlantic region from base-metal mines near Bathurst. Production of byproduct silver in Newfoundland has declined with the closure of base-metal mines.

In Quebec, silver is recovered as a byproduct from copper and zinc-copper mines.

In the Prairie region silver is produced at the copper-zinc mines near Flin Flon, Snow Lake and Leaf Rapids, Man.

In the Northwest Territories a silver mine at Port Radium on Great Bear Lake closed in early 1982. Some silver is recovered from a base-metal mine on Baffin Island. A copper-silver mine near Whitehorse in Yukon closed permanently due to depletion of ore reserves at the end of 1982.

Refined silver is produced at six Canadian primary refineries: in Montréal, Que. Trail, BC, Copper Cliff, Cobalt and Ottawa (the Royal Canadian Mint), Ont., and Belledune, NB.

Lead. Production recovered to 341 000 t in 1982 after decreasing from 342 000 t of lead in concentrates in 1979 to 296 000 t in 1980. About 40-50% of this production was exported, largely to Europe, Japan and the United States. The remainder was processed at Canada's two primary lead smelters/refineries at Trail, BC (145 000 tpy capacity) and at Belledune, NB (72 000 tpy capacity).

Production of refined lead from ores and concentrates dropped from 184 000 t in 1979 to 163 000 t in 1980 and then recovered to 174 000 t in 1982. In addition, lead metal production from recycled batteries and other lead scrap contributed about 70 000 tpy. Domestic consumption, as measured by producers' shipments, ordinarily takes about 48% of total production of lead metal, both primary and secondary. But in 1982 domestic consumption dropped to 93 000 t, only 39% of production.

Major changes among lead producers reflected continuing difficulties in the non-ferrous mining industry. A Buchans, Nfld. zinc-lead-copper-silver mine ceased milling ore in December 1981 but continued mine exploration through 1982 in an effort to bolster declining reserves. The two lead producers in Nova Scotia closed in 1981 with little chance of reopening. This loss and suspended production of the lead-zinc mine at Faro, Yukon were offset to some extent by the opening of the Polaris mine on Little Cornwallis Island, NWT. (See Zinc.) Its production in 1982 was 30 000 t of lead (metal content of concentrates).

Platinum group metals. Canada ranks third in world platinum metals production, well behind South Africa and the Soviet Union. Production of these metals in 1982 was 8.6 million grams valued at \$98.9 million, down from 11.9 million grams (\$136.2 million) in 1981, and 12.6 million grams (\$159.1 million) in 1980. The two major producers at Sudbury, Ont. closed for the second half of 1982 because of low prices and weak demand in nickel markets. Canada produces platinum metals as a byproduct of nickel refining. When nickel matte is refined electrolytically, the platinum group metals — platinum, palladium, rhodium, ruthenium, iridium and osmium — are concentrated in the residue. The upgraded residue, or sludge, is sent to refineries in Britain and the United States where the platinum metals are recovered.

Prices of all the platinum group metals peaked in early 1980, subsided through 1981, reached low points in mid-1982 and then recovered somewhat. The producer price of platinum remained at US\$15.27 a gram during the period, but the dealer