

refined, the platinum group metals — platinum, palladium, rhodium, ruthenium, iridium and osmium — are precipitated in the electrolytic tanks as a sludge. The sludge is upgraded and sent to refineries in Britain and the US for recovery of the platinum metals. Canada ranked third in world platinum metals production in 1973 behind the Soviet Union and South Africa.

The automotive manufacturing firms in the US have generally made commitments for the use of platinum metals for their exhaust emission control devices. To meet this increased demand, South African producers were expanding plant capacities.

Cobalt. Canadian shipments of cobalt amounted to 3.34 million lb. valued at \$8.9 million in 1973 compared with 3.35 million lb. valued at \$8.3 million in 1972. Cobalt is recovered as a by-product of nickel-copper ores and to a lesser extent from silver-cobalt ores.

Canada's leading producer, The International Nickel Company of Canada, Limited (INCO), recovers cobalt in the form of crude oxide at its nickel refineries at Port Colborne, Ont. and Thompson, Man. Cobalt oxide and salts are also recovered at INCO's nickel refinery at Clydach, Wales. In October 1973 a new INCO nickel refinery was opened at Copper Cliff, Ont. The refinery has an annual capacity of 100 million lb. of nickel pellets, 25 million lb. of nickel and nickel-iron powders and half a million lb. of cobalt as high purity salts. During 1973 the company's cobalt production was 1.99 million lb. compared with 2.21 million lb. in 1972. Falconbridge Nickel Mines Limited ships nickel-copper matte from its mine at Falconbridge, Ont. to Kristiansand, Norway for refining. The refinery which was damaged by fire during 1972 was completely rebuilt and in the seven months of operation in 1973 it produced 1.61 million lb. of cobalt. Falconbridge continued construction on its new refinery complex at Bécancour, Que. When completed in 1975, the refinery will produce 500,000 lb. of cobalt a year in high purity cobalt salts.

Sherritt Gordon Mines, Limited recovers metal powder from nickel refinery end-solutions at its hydrometallurgical refinery at Fort Saskatchewan, Alta. The refinery treats nickel-copper concentrates from its Lynn Lake mine operation in Manitoba and also treats, on a toll basis, concentrates from the Giant Mascot Mines Limited mine near Hope, BC and from Western Mining Corporation Limited's nickel operations in Western Australia. During 1973 Sherritt Gordon Mines, Limited refined 119,000 lb. of cobalt from its Lynn Lake concentrates and 497,000 lb. from purchased feed. This was a reduction of 25% from the respective 1972 values of 117,000 lb. and 692,000 lb. and was due predominantly to reduced cobalt content in the refinery feed in 1973.

Columbium (niobium) and tantalum. Canadian shipments of columbium as columbium pentoxide (Cb_2O_5) were 3.18 million lb. valued at \$4.23 million in 1973 compared with 3.87 million lb. valued at \$3.87 million in 1972.

St. Lawrence Columbium and Metals Corporation, with a mine, mill and concentrator near Oka, Que. is Canada's only producer of columbium and has one of only two mines in the world that produce columbium in pyrochlore concentrates as a primary product; the other larger operation is near Araxa, Brazil.

Copperfields Mining Corporation and Quebec Mining Exploration Company (SOQUEM) continued development of the St-Honoré columbium pyrochlore deposit some eight miles north of Chicoutimi, Que. The mill has been designed for an initial capacity of 1,500 tons of ore a day with provision for rapid expansion to 2,000 tons a day should future demand requirements dictate. The project will be brought into production under the name "Niobec Inc."

Shipments of tantalum pentoxide in 1973 were 170,582 lb. valued at \$1,164,749 which compares with 41,120 lb. valued at \$246,658 in 1972. The US is Canada's largest tantalum export market, and in April 1973, the US General Services Administration (GSA) decided it would offer 756,000 lb. of tantalum for sale in the fiscal year 1974 starting July 1, 1973. In June, however GSA modified its decision and reduced its disposal rate to 400,000 lb. in order to prevent disruptions in commercial prices and markets.

Tantalum Mining Corporation of Canada Limited (Tanco) at Bernic Lake, Man. is Canada's sole producer. On April 1, 1973 production of tantalum ore and concentrates was suspended because accumulated inventories were sufficient for forward sales, and in June 1973 all sales were suspended indefinitely due to a depression of the market price below the \$10 a lb. set by Tanco as a minimum selling price.