

1,600 tons in 1965 to 3,000 tons in 1966. Canadian consumption of primary magnesium, including imports, was 5,200 tons in 1966. World production is in the order of 176,000 tons a year.

Selenium and Tellurium.—Selenium production in 1966 at 575,500 pounds valued at \$2,791,000 was 12 p.c. higher than in 1965; tellurium output at 72,200 pounds valued at \$469,600 was 3.5 p.c. higher. These metals are recovered from the anode muds resulting from electrolytic refining of copper at the plants of Canadian Copper Refiners Limited at Montreal East, Que., and International Nickel at Copper Cliff, Ont.

Titanium.—Ilmenite, an iron-titanium oxide, is mined in the Allard Lake and St. Urbain areas of Quebec. Ilmenite mined by Quebec Iron and Titanium Corporation (QIT) in the Allard Lake area is smelted by QIT in electric-arc furnaces at Sorel, Que., to produce high-titania slag and a range of specialty pig irons. The titania slag is sold to producers of titanium-based pigments in Canada, the United States, Britain and other countries. Production of titania slag was reduced by a strike in 1966, the value being \$20,505,000 compared with the record \$22,425,000 in 1965.

Atlas Titanium, a Division of Rio Algom Mines Limited, Welland, Ont., continued to carry out second-stage melting of imported titanium ingots and increased, by 30 p.c. from 1965, its processing of the metal. Atlas makes mill products and finished electroplating baskets for sale in domestic and export markets.

Vanadium.—Vanadium is recovered in Canada from imported Venezuelan crude oil in the form of vanadium pentoxide (V_2O_5) by Canadian Petrofina Limited at its refinery near Pointe-aux-Trembles, Que. The capacity of the plant is about 1,000 pounds of V_2O_5 a day. Great Canadian Oil Sands Limited will start oil recovery from the Athabasca tar sands near Fort McMurray in northern Alberta in September 1967. The operation will produce petroleum coke, some of the ash from which is reported to contain about 4 p.c. vanadium. The recovery of this vanadium is planned.

Cobalt.—Cobalt production in 1966 was 3,511,000 pounds valued at \$7,108,000 compared with 3,648,000 pounds valued at \$7,529,000 in 1965. Cobalt is recovered as a by-product of the smelting and refining of nickel-copper ores of Sudbury, Ont., from nickel ores of Thompson, Man., and from silver ores of Cobalt, Ont. International Nickel recovers cobalt from its refinery operations at Port Colborne, Ont., Thompson, Man., and Clydach, Wales. Falconbridge Nickel produces electrolytic cobalt from the refining of nickel-copper matte shipped to its refinery at Kristiansand, Norway. Sherritt Gordon recovers by-product cobalt at its nickel refinery at Fort Saskatchewan, Alta. Cobalt Refinery Division of Kam-Kotia Mines Limited produces cobalt oxide and speiss as by-products of smelting and refining complex silver-cobalt concentrates from mines in the Cobalt-Gowganda area of Ontario.

Columbium.—Columbium production of St. Lawrence Columbium and Metals Corporation, the only Canadian producer, was 2,638,000 pounds of columbium pentoxide (Cb_2O_5) in pyrochlore concentrates valued at \$3,182,000. The mine is near the town of Oka, 20 miles west of Montreal. Quebec Columbium Limited and Columbium Mining Products Limited also own large pyrochlore deposits in the Oka area. Masterloy Products Limited, near Ottawa, is the only Canadian manufacturer of ferrocolumbium, which is sold in Canada and the United States. Consolidated Morrison Exploration Limited and associated companies hold exploration concessions in the James Bay Lowlands area of Ontario, south of Moosonee, on which large tonnages of columbium-bearing material have been discovered. Early estimates indicated 40,000 tons or more per vertical foot, averaging 0.52 p.c. columbium pentoxide.