

to 4.1 million lb. valued at \$7.9 million in 1971. Most of the zinc ores in Canada contain cadmium in quantities varying from 0.001% to 0.067% recoverable cadmium, and zinc concentrates contain up to 0.7% cadmium. The largest mine production comes from Kidd Creek mine near Timmins, Ont., followed by Pine Point Mines Limited in the Northwest Territories, Cominco Ltd. in British Columbia, Hudson Bay Mining and Smelting Co., Limited in Saskatchewan and Manitoba and the Noranda group of companies in Ontario, Quebec and New Brunswick.

Cadmium is recovered as a by-product from the smelting and refining of zinc ores and concentrates. Metallic cadmium is recovered as a by-product at the electrolytic zinc plants of Cominco Ltd. at Trail, BC, Hudson Bay Mining and Smelting Co., Limited at Flin Flon, Man. and Canadian Electrolytic Zinc Limited at Valleyfield, Que. The Smelting Division of Brunswick Mining and Smelting Corporation Limited, recovered small amounts of cadmium at its Belledune, NB, Imperial Smelting Process lead-zinc smelter until January 1972 when it began converting the smelter to treat only lead concentrates. Small initial quantities were also recovered at Ecstall's new plant near Timmins. In 1972 metallic cadmium produced in Canada totalled 2.3 million lb. compared with 1.6 million lb. in 1971.

**Selenium and tellurium.** Production of selenium in 1972 decreased to 582,060 lb. valued at \$5.2 million from 718,440 lb. valued at \$6.5 million in 1971. Production of tellurium increased to 45,649 lb. valued at \$271,155 from 24,000 lb. valued at \$148,000 in 1971. Selenium and tellurium are recovered from the anode muds resulting from the electrolytic refining of copper at the plants of Canadian Copper Refiners Limited at Montreal East, Que. and The International Nickel Company of Canada, Limited at Copper Cliff, Ont.

**Magnesium.** Canadian production of magnesium was 5,924 tons valued at \$4.5 million. Production was down substantially from 10,353 tons in 1970 and 7,234 tons in 1971. Exports of Canadian magnesium metal have entered the United States duty-free under the Canada-United States Defense Production Sharing Program but this program has recently operated on a reduced scale. The decrease in production is mainly attributable to the curtailment in this program. Only in certain highly-pure items can the Canadian product find a market in the United States. Exports of Canadian magnesium ingots face a 20% tariff when entering the United States domestic market whereas the comparable Canadian tariff is 5%. Releases from the General Services Administration stockpile in the United States totalled 7,737 tons of magnesium metal in 1972, creating additional marketing problems for Canadian magnesium.

The only Canadian producer of primary magnesium is Chromasco Corporation Limited. This company has operated a mine and smelter at Haley, Ont., 50 miles west of Ottawa, since 1942.

### 12.1.3 Industrial minerals

**Asbestos.** Canadian shipments of asbestos fibre were 1.7 million tons valued at \$206.1 million in 1972, compared with 1.6 million tons valued at \$204.0 million in 1971 (Table 12.17). All of the Canadian production consists of chrysotile and 81% of it comes from Quebec, over 6% from British Columbia, 6% from the Yukon, 4% from Newfoundland and over 2% from Ontario.

Canada is the world's largest exporter of asbestos, shipping over 90% of its production to more than 70 countries. The United States is the largest market, followed by Japan, Britain, the Federal Republic of Germany and France. These five countries absorbed about 70% of Canadian exports, which totalled approximately 1.57 million tons in 1972.

Total world demand for asbestos fibre weakened in 1972. However a good market in the United States was largely responsible for a slight increase in shipments by Canadian producers. A weaker demand in Western Europe and Japan resulted in less emphasis on completing some new Canadian mine projects, but demand for fibre in these markets is expected to increase. This prompted some expansion of existing capacity and continued development of new Canadian projects.

In Quebec, near Deception Bay, Ungava, production commenced at the new Asbestos Hill mine owned by Asbestos Corporation Limited and full productive capacity of 100,000 tons of fibre is expected to be reached by 1974. Canadian Johns-Manville Company,