

rebounded to 3 580 t of trioxide in 1982, although the rate of output had been reduced to 70% of capacity by year-end in response to poor market conditions.

In late 1981, a small 100 t a day tungsten mine was put into production in British Columbia. Intermittent production continued until late 1982 when the operation was shut down due to depletion of ore reserves. Total output amounted to 150 t of tungsten trioxide.

Development of a tungsten/molybdenum deposit at Mount Pleasant, NB was expected to be completed by mid-1983. This new producer was designed to mine 650 000 t of ore a year, from which an estimated 1 800 t of tungsten trioxide and 600 t of molybdenum disulphide would be recovered.

Exploration and preliminary engineering work continued on a tungsten deposit on the Yukon-Northwest Territories boundary.

10.4 Non-metallics

Asbestos. Canada ranks second after the USSR in world asbestos production and accounts for 25% (1981) of world output. Canadian shipments of asbestos fibre were 820 000 tonnes valued at \$403 million in 1982, continuing a downtrend since 1979 when shipments were 1.49 million tonnes valued at \$607 million. All Canadian production consists of chrysotile and in 1982 about 89% was from Quebec, 9% from British Columbia and 2% from Newfoundland. The only mine in Newfoundland was closed for most of the year.

Canada is the world's largest exporter of asbestos, shipping about 95% of its production to more than 70 countries. The United States is the largest market, accounting for more than 25% of Canadian exports, followed by Japan, the Federal Republic of Germany, France and Britain. These five countries consumed nearly 60% of Canadian exports in 1982.

General weakness in markets persists because of recessionary conditions, stricter environmental regulations, product substitution and adverse publicity mainly arising from health hazards associated with past exposure to asbestos dust in the workplace. Future demand for asbestos will mainly depend on the extent of world economic recovery and the degree to which world public opinion regards asbestos as a current health problem.

Clay and clay products. During a four-year period from 1979, value of shipments of clay and clay products from domestic sources decreased by 22% to \$94.7 million in 1982. Deposits of clay for use in the manufacture of papers, refractories, high quality whiteware and stoneware products are scarce in Canada; many of these products, as well as china clay (kaolin), fire clay, ball clay and stoneware clay are largely imported. Common clays and shales, relatively higher in alkalis and lower in alumina, are

used to manufacture heavy clay products such as brick and tile.

Potash. Canada is the world's largest exporter of potash. Shipments in 1982 were 5.2 million tonnes (potassium dioxide equivalent) valued at \$625 million, down because of the recession from a peak of 7.2 million tonnes (\$1,020 million) in 1980. In 1982 the industry operated at 60% capacity. There are eight mines, all in Saskatchewan, with four controlled by the Saskatchewan Potash Corp., a provincial government Crown corporation directing 40% of capacity.

About 95% of world potash output of 27 million tonnes is used in fertilizer, the balance for industrial purposes.

In New Brunswick the first potash mine was put into production in 1983 and another mine was announced for 1986.

Salt. Shipments in 1982 amounted to 8.1 million tonnes valued at \$161 million. About 70% of the total was rock salt used for snow and ice control on streets and highways and for chemical manufacturing. The remainder is fine vacuum evaporated salt and salt in brine used for production of caustic soda and chlorine.

Four rock salt mines include two in Ontario, one in Nova Scotia and a new one in Îles de la Madeleine, Que. A company operating a potash mine in New Brunswick also produces byproduct salt. Fine salt evaporator plants and brining operations are in Nova Scotia, Ontario, Manitoba, Saskatchewan and Alberta.

Sulphur. Canada has been the world's largest exporter of elemental sulphur since 1968. Shipments peaked in 1981 at 8.0 million tonnes valued at \$648 million. In 1982, sales declined to 7.1 million tonnes and \$600 million. The price of elemental sulphur increased from \$18.33 to \$90.30 a tonne f.o.b. (free on board) Alberta from 1978 to February 1982, then fell to \$75.00 a tonne by year end.

Canadian sulphur in elemental form is obtained as a byproduct in the production of sour natural gas, in the extraction of oil from tar sands and in the refining of petroleum. Sulphur dioxide, produced in the roasting of sulphide ores of nickel, copper, zinc and iron, is recovered as byproduct liquid sulphur dioxide and as sulphuric acid at several Canadian smelters. In addition to these involuntary producers of sulphur a small amount of pyrite is roasted expressly for sulphuric acid.

In 1981 and 1982 about 91% of sulphur shipments was in elemental form with 80% going offshore and more than half the remainder going to the United States.

Canadian production of sulphur peaked in 1973, yet during the period 1968 to 1978 production exceeded shipments by such an amount that stockpiles of elemental sulphur reached 21 million