

12.4.7 Nepheline syenite

Nepheline syenite was produced from two operations on Blue Mountain, 40 kilometres northeast of Peterborough, Ont. In 1976 production was estimated at 541 000 tonnes. Although a 16% increase over 1975 (Table 12.22), this production level represents a return to pre-slump output. The value of shipments in 1976 was \$10.8 million, up 23% from 1975. Exports accounted for 77% of total shipments. Sales to the US, representing 97% of Canada's total exports, increased 17%. Nepheline syenite is preferred to feldspar as a source of essential alumina and alkalis in glass manufacture. Other uses include the manufacture of ceramics, enamels, paints, papers, plastics and foam rubber. Canada is the world's largest producer of nepheline syenite.

12.4.8 Structural materials

The value of all construction undertaken in Canada in 1976 was roughly \$31.7 billion, an increase of 12.8% over 1975. Production of structural materials, including cement, sand and gravel, stone, clay and clay products and lime, was valued at \$1.1 billion in 1976, representing 15% of the total value of mineral production in Canada.

Canadian production of cement in 1976 was 9.8 million tonnes, a reduction reflecting less construction in place and fewer concrete-intensive projects. Cement was produced in all provinces except Prince Edward Island with Ontario and Quebec accounting for 70% of the Canadian total. Cement production capacity in Canada at the end of 1976 was about 15 million tonnes a year, excluding the capacity of five clinker grinding plants, two of them (belonging to Canada Cement Lafarge Ltd.) former fully integrated cement plants. During 1976, capacity changes indicated a net reduction of 77 000 tonnes a year despite the addition of 596 000 tonnes a year by St. Marys Cement Ltd. at its St. Marys, Ont., plant, where a four-stage suspension preheater and new kiln were added during conversion from a wet to a dry process. The rehabilitation and conversion of the Canada Cement Lafarge Ltd. Montreal East plant was slowed because of market conditions, with the result that at year end the clinker-producing capacity was non-existent and the plant could be used for grinding only.

In October 1976 St. Lawrence Cement Co. announced acquisition of Ciment Indépendant Inc. including the cement plant at Joliette, Que., a construction division, four ready-mix plants and two crushed-stone operations. Early in 1977 the company completed the purchase of all assets of Universal Atlas Cement Division's plant at Hudson, NY, for \$8.2 million. Universal Atlas Cement is a division of United States Steel Corp.

Production of sand and gravel in 1976 was 248 million tonnes valued at \$321 million (Table 12.24). Sand and gravel must be quarried, screened, washed, stockpiled and transported in large volume to compensate for the low unit value received. Transportation and handling often double the plant cost, making it economically desirable to establish plants close to major consuming centres. Urban expansion has greatly accelerated the demand for sand and gravel and many pits and quarries have been over-run by growing communities. Sand and gravel are used as fill, as granular base course and finish course in highway construction and as aggregate in concrete and asphalt.

Production of stone in 1976 was about 88 million tonnes valued at \$209.6 million (Table 12.25). Dimension stone, for use as building and ornamental stone, accounts for about 1% of total production. Crushed stone for use as aggregate in concrete and asphalt, as railroad ballast and road metal accounts for about 80% and the remainder is used in the metallurgical, chemical and allied industries.

12.5 Mineral fuels

12.5.1 Coal

For production figures see Tables 12.4 and 12.8. For an outline of the industry see Chapter 13, Energy.