

Lightweight aggregates were still in prominence in 1960 and late in the year two new plants were under construction in Western Canada. There were in operation throughout the country 10 plants expanding clay and shale, 10 processing vermiculite and eight expanding perlite. Other plants were processing slag from the steel industry into lightweight aggregate. It may be noted that all flooring slabs in the 42-storey structure forming the nucleus of the Ville Marie Plaza project in Montreal are being cast in lightweight aggregate concrete.

The value of production of the clay products industry decreased in 1960, reflecting the decline in housing construction. Cooksville-Laprairie Brick Limited is building a new plant near Ottawa for the manufacture of brick and tile from local shale.

**Potash.**—While there was no production of potash in 1960 from the extensive deposits in Saskatchewan, it is anticipated that two companies will be mining the mineral by late 1961 or early 1962.

At mineable depths varying from 2,800 feet to 3,400 feet, what is believed to be the world's largest high-grade deposit of potash, in the form of sylvite and carnallite, occurs under a large area of southern Saskatchewan. Reserves have been estimated at over 6,400,000,000 tons of recoverable potash grading more than 25 p.c.  $K_2O$ . Attempts to win potash from this area have encountered technical difficulties caused by the wet and largely unconsolidated strata known as the Blairmore formation.

In 1959, the Potash Company of America Limited penetrated this formation near Saskatoon with a circular concrete shaft by the freezing method and potash was mined for several months but ceased when difficulty was experienced in maintaining a dry shaft. Since that time extensive shaft repairs have been in progress. International Minerals and Chemical Corporation (Canada) Limited, at Esterhazy, sank a concrete shaft to the Blairmore without difficulty but attempts to penetrate this zone by chemical grouting were not successful. The freezing method was then decided upon and experienced German engineers were engaged for shaft-sinking. From an underground working chamber a ring of holes was drilled through the Blairmore and calcium chloride refrigerant circulated at  $-50^{\circ}F$ . to freeze the shaft area. When the area was frozen, shaft-sinking was resumed using cast iron tubing, a method unique in Canadian mining. Seventy five-foot-high segmented cast-iron rings were installed in a 300-foot section of the shaft. These rings, manufactured in Canada to close tolerance, were sealed by lead gaskets to form a strong and impervious lining; the finished lining comprises 2,800 tons of cast iron. It is estimated that developing the Esterhazy mine to production will cost \$25,000,000. Meanwhile, other companies continue the exploration of potash deposits in Western Canada. World production is expected to rise by 40 p.c. during the next ten years because of the growing demand for potash-bearing fertilizers.

**Sulphur.**—With the development of natural gas fields in the western provinces, Canada has emerged as a major source of elemental sulphur. During 1960, 837,000 tons (both elemental and sulphur equivalent of smelter gases and pyrite) were shipped to consumers, placing Canada among the top five leading sulphur-producing nations of the world.

Until 1952, Canada's requirements for the elemental form were supplied by imports; today, large-scale exports are necessary to market current production recovered as a by-product of natural gas processing. Based on estimates of gas reserves, the potential for recovery is between 150,000,000 and 300,000,000 tons of sulphur.

Although pyrite, other sulphides and smelter gases provide Canadian industry with much of its sulphur requirements, more than 30 p.c. of the 1960 production was recovered as a by-product in the cleansing of natural gas in Western Canada before transmission to market. By the end of the year, seven recovery plants in Alberta, one in British Columbia and one in Saskatchewan were in operation and seven others were in various stages