

in the company's contact acid plant adjoining the pigment processing plant. Capacity is rated at 18,000 tons of pigment a year, present output going to domestic producers of paints, paper, rubber, plastics, floor tile, linoleums, etc.

### Magnesium

Early in World War II, interest was reactivated in magnesium, a metal much needed at that time. This led to the development of the Pidgeon process based on the reduction of calcined dolomite by ferrosilicon in a vacuum. A very high purity magnesium metal that can be successfully alloyed was achieved by this method. Between the years 1942 and 1945, Dominion Magnesium Limited at Haley, Ont., produced 20,000,000 lb. of high-purity metal from the abundant dolomite ores in that area.

### Less Common Metals

A number of metals virtually unknown only a few years ago are now in the limelight of scientific experimentation as the metallurgist seeks the unique characteristics required in an atomic and space age.

Canada's only producer of lithium concentrates and products is Quebec Lithium Corporation which has a mine and mill located at Lacorne, Que. Drilling at the property has indicated one of the largest spodumene deposits in the world. In 1960 the company constructed a lithium-chemical plant at the mine site. Initial feed for this refinery was 50 tons of chemical-grade spodumene concentrate per day having a yield of 12,000 lb. of lithium carbonate. Lithium compounds are used chiefly as ceramic raw materials and in lubricating greases. Common applications include use as a constituent in storage batteries and refrigeration systems. Looking to the future, lithium has potential uses in atomic energy applications and in solid propellants.

During the past five years considerable interest has been aroused by the finding of large low-grade niobium deposits scattered intermittently between Algoma, Ont., and Montreal, Que. Special attention has been given to the occurrences in the Oka area where niobium is found in three different minerals, pyrochlore, perovskite and niocalite; the last—an unusual mineral—was recently identified by an officer of the Mines Branch. Detailed mineralogical studies have been carried out on these different minerals and results made available to the companies interested in the deposits. At least one company has developed a flotation process and has erected a plant for the production of pyrochlore concentrates. Niobium metal, virtually free of other metallic contaminants, has been prepared in the Mines Branch laboratories. The metal was produced from niobium pentachloride which is derived from pyrochlore concentrate. The addition of small quantities of niobium to carbon steel results in the improvement of the mechanical qualities of the steel and it is expected that substantial amounts will be used for this purpose as well as in high temperature alloys. Because of its resistance to corrosion, niobium will have important applications in the chemical field.

Beryllium, a valuable metal used widely as a hardening agent in copper alloys, has important applications in nuclear reactors as a moderator and reflector of neutrons and as sheathing for fuel rods. It has not yet been produced from any deposits in Canada. A large complex orebody with a significant content of beryllium oxide has been discovered at Seal Lake in Labrador. Mineralogical investigations conducted at the Mines Branch have led to the isolation of several interesting minerals. The chief ore mineral of this deposit is berylite and a comprehensive study is being made of suitable methods for the recovery of beryllium values. At the present time various mineral-dressing techniques are being applied.

Cesium is one of the metals with potential in this field. The Mines Branch is conducting a co-operative study with the Chemalloy Corporation of cesium-bearing pollucite