

Industrial Mineral activities, 1998

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Introduction

Exploration for and production of industrial minerals continued to be a mainstay of the onshore mining industry in Nova Scotia during 1998.

Production of gypsum, salt, aggregate and cement continued to be strong during 1998, reflecting the historically stable nature of these industries. Equally promising was a strong interest in non-traditional industrial mineral commodities. Well over half of all exploration expenditures were directly related to the search for new industrial mineral commodities. Preliminary data also indicate that well over half of all ground under licence in the province was held for exploration activities related to industrial minerals.

Interest has remained strong in traditional areas such as gypsum and limestone. However, by far the greatest exploration interest has been directed toward non-traditional industrial minerals such as kaolin, salt for underground oil and gas storage, zeolites, titanium, and rare earth elements. Continued activity relating to kaolin accounted for nearly half of all exploration expenditures.

Activities

During 1998 I acted as the main initial contact for advice and information concerning industrial mineral resources. Numerous inquiries were received covering a wide

variety of commodities. These inquiries were handled personally or directed to other staff with additional expertise relating to the commodity in question. In keeping with industry requests for confidentiality, specifics of these inquiries, activities or identified end uses will not be discussed. However, a general outline (not complete) of the types of commodity requests received and their common applications are given in Table 1.

In addition to responding to industry requests for assistance and information, minor field activity was undertaken. Of particular interest is the industrial mineral potential of leucogranite and leucomonzogranite of the South Mountain Batholith. These rocks tend to have high silica, feldspar and muscovite contents and low iron (predominantly occurring as biotite) concentrations. The rock is processed first by crushing, followed by selective flotation and finally high intensity magnetic separation to produce feldspar, muscovite and silica ore. A number of representative samples were collected during 1998 for preliminary process testing. Results of this testing are not yet known.

Mining of similar granitic rock types in the United States is rapidly replacing the traditional mining of pegmatites for these industrial minerals. Feldspar and silica are predominantly used in the glass and ceramics industries, and muscovite is finding increasing usage as a high value-added functional filler in flexible plastics used in the manufacture of automobile panels.

Table 1. Partial list of commodity information requests during 1998 and common uses of these commodities.

Commodity	Common Use
Andalusite	Refractory
Kaolin	Paper, paint, plastics, ceramics
Silica sand	Abrasive, glass, filler-extender
Limestone	Cement, agriculture, filler-extender
Gypsum	Wallboard
Granite, limestone, slate, sandstone	Dimension stone applications and aggregate
Common clay	Ceramics and construction
Diatomaceous earth	Functional filler
Montmorillonite (bentonite)	Drilling mud, cat litter, filter agent
Quartz stone	Landscaping
Barite	Drilling mud, other value-added products
Fluorite	HF acid, industrial/metallurgical applications
Kyanite	Refractory
Peat and peat bogs	Agriculture, horticulture
Sand	Agricultural applications
Rare earth elements	Special industrial applications, e.g. magnets