INFORMATION SOURCES


INVENTORY/RESOURCES

• Feldspar and nepheline syenite are important constituents used in the production of glass and ceramics. In British Columbia, both are found in deposits which have economic potential.

• Feldspars are commonly found in igneous rocks.

• Feldspathic material occurs in economic concentrations in nepheline syenite, phonolite, pegmatite, aplite, leucocratic granite and feldspathic sand.

• Nepheline syenites also contain the commercially important mineral nepheline.

• British Columbia has 22 documented occurrences of feldspar and 16 of nepheline syenite.

• Large deposits of nepheline syenite are rare worldwide, but at least one occurs in British Columbia.

RESULTS OF FIRING TESTS FOR GLAZE POTENTIAL

<table>
<thead>
<tr>
<th></th>
<th>COLOUR</th>
<th>SURFACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEST #1: FIRED AT 1250°C FOR 3-4 HOURS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trident Mountain</td>
<td>white, translucent,</td>
<td>smooth</td>
</tr>
<tr>
<td>(nepheline syenite)</td>
<td>glassy, no spots</td>
<td></td>
</tr>
<tr>
<td>Lumby</td>
<td>white, glassy,</td>
<td>smooth</td>
</tr>
<tr>
<td>(pegmatite)</td>
<td>no spots</td>
<td></td>
</tr>
<tr>
<td>Hellroaring Creek</td>
<td>(1) white, opaque,</td>
<td>smooth</td>
</tr>
<tr>
<td>(pegmatite)</td>
<td>no spots</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2) white, opaque,</td>
<td>smooth</td>
</tr>
<tr>
<td></td>
<td>glassy, no spots</td>
<td></td>
</tr>
<tr>
<td>Scuzzy Creek</td>
<td>(1) white, opaque,</td>
<td>rough</td>
</tr>
<tr>
<td>(feldspathic sand)</td>
<td>few spots</td>
<td>gritty</td>
</tr>
<tr>
<td></td>
<td>(2) white, opaque,</td>
<td>rough</td>
</tr>
<tr>
<td></td>
<td>glassy, no spots</td>
<td></td>
</tr>
</tbody>
</table>

RESERVES

• There are 100 million tonnes of feldspar reserves documented in British Columbia.

• The Hellroaring Creek pegmatite deposit, southwest of Kimberly, covers an area measuring 500 by 1000 metres. It has recently been evaluated as a source of commercial grade feldspar and was seeking development permits through the Mine Development Assessment Process.

• Four large feldspathic sand deposits, are located along Scuzzy Creek, north of Hope. Tests indicate that these deposits contain material that meets glass manufacturers' requirements.

• The Lumby pegmatite, near Vernon, outcrops in two zones, 700 by 300 metres each. Indicated (probable) reserves are 100 million tonnes of material grading 50% feldspar, 18% silica and 3% mica (White, 1988).

• The Trident Mountain nepheline syenite belt, northeast of Revelstoke, extends over the length of at least 7 kilometres and is up to 1000 metres wide.

PRODUCTION

• Presently, there is no production of feldspar or nepheline syenite in British Columbia.
MARKETS AND OPPORTUNITIES

- Western Canada imports feldspathic sand from Idaho and nepheline syenite from Ontario.

- A market study identified a ready market of 20,000 tonnes, and potentially up to 50,000 tonnes, of feldspar per year and a possible overseas market for British Columbia nepheline syenite.

- Transportation costs are the limiting factor for feldspathic materials. A British Columbia supplier to western Canada and the Pacific northwest markets would enjoy a marked freight advantage.

- Sampling and diamond drilling by Lumberton Mines in 1986 indicates that Hellroaring Creek pegmatite contains a considerable amount of glass and ceramic grade feldspar with full liberation at 50 mesh.

- Low iron content and acceptable potassium and alumina content indicate that the Lumby pegmatite has good potential to produce a high-quality feldspar with liberation at 20 mesh.

- Large indicated volumes of available feldspathic sand and relatively easy access give the Scuzzy Creek site good potential to produce material for the glass industry.

- The Trident Mountain nepheline syenite deposit produces a glass grade product reaching 85% brightness in laboratory scale tests.

CONTACTS

Industrial Minerals Unit
553 Superior St, Victoria, B.C. V8V 1X4
Tel. (604) 356-2846
MAJOR OCCURRENCES
(FROM MINFILE, 1992)

- FELDSPAR
- NEPHELINE SYENITE

MINOR OCCURRENCES

- SILICA
- FELDSPAR

REFERENCE

- MAJOR ROADS
- RAILWAYS
- MAJOR CITIES
- MAJOR PORTS

MAP

- Fort Nelson
- Fort St. John
- Prince Rupert
- Smithers
- Prince George
- Kitimat
- Scuzzy Creek
- Campbell River
- Blubber Bay
- Gillies Bay
- Nanaimo
- Vancouver
- Victoria
- Hell Roaring Creek
- Lumby