Itsiite  

**Crystal Data:** Tetragonal.  
*Point Group:* \( \bar{4} 2m \). As platy crystals to 1 mm, flattened on \{001\} and exhibiting \{001\}, \{101\}, and \{112\}, with \{101\} and \{112\} often striated.

**Physical Properties:**  
*Cleavage:* Perfect on \{001\}.  
*Fracture:* Splintery.  
*Tenacity:* Brittle.  
*Hardness* = 5.5  
*D(meas.)* = n.d.  
*D(calc.)* = 3.644

**Optical Properties:**  
*Color:* Colorless, light blue to medium greenish blue.  
*Cleavage:* Perfect on \{001\}.  
*Lustre:* Vitreous.  
*Pleochroism:* None.  
*Optical Class:* Uniaxial (−).  
\( \omega = 1.623(1) \)  
\( \varepsilon = 1.619(1) \)

**Cell Data:**  
*Space Group:* \( \bar{4} 2m \).  
*a* = 10.9515(5)  
*c* = 10.3038(7)  
*Z* = 4

**X-ray Powder Pattern:** Gun claim, near the Itsi Range, Yukon Territory, Canada.  
3.746 (100), 2.899 (96), 2.145 (69), 3.446 (60), 3.100 (51), 2.279 (44), 1.758 (43)

**Chemistry:**  

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Na(_2)O</td>
<td>0.06</td>
<td></td>
</tr>
<tr>
<td>BaO</td>
<td>46.35</td>
<td>45.59</td>
</tr>
<tr>
<td>CaO</td>
<td>7.35</td>
<td>8.34</td>
</tr>
<tr>
<td>FeO</td>
<td>0.15</td>
<td></td>
</tr>
<tr>
<td>Al(_2)O(_3)</td>
<td>0.17</td>
<td></td>
</tr>
<tr>
<td>TiO(_2)</td>
<td>0.06</td>
<td></td>
</tr>
<tr>
<td>SiO(_2)</td>
<td>34.91</td>
<td>35.73</td>
</tr>
<tr>
<td>B(_2)O(_3)</td>
<td>[10.41]</td>
<td>10.35</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>99.46</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

(1) Gun claim, Yukon Territory, Canada; average of 3 electron microprobe analyses, presence of B was confirmed by EMPA, B\(_2\)O\(_3\) calculated from crystal structure refinement; corresponding to Ba\(_2\)\(_{2.06}\)(Ca\(_{0.89}\)Al\(_{0.03}\)Na\(_{0.01}\)Fe\(_{0.01}\)Ti\(_{0.01}\))\(_{2-0.94}\)(Si\(_{3.96}\)B\(_{2.04}\))\(_{2-6.00}\)O\(_{14}\).  
(2) Ba\(_2\)Ca(BSi\(_2\)O\(_7\))\(_2\).

**Occurrence:** In low-temperature, late-stage hydrothermal veins cutting a contact-metamorphic, Ba-rich skarn deposit adjacent to quartz monzonite.

**Association:** Cerchiaraite-(Fe), diopside, pyrite, quartz, sphalerite, witherite.

**Distribution:** From the Gun claim, 4 km SE of Wilson Lake, south of the Itsi Range, Yukon Territory, Canada.

**Name:** For the *Itsi* Mountain Range, which gets its name from the language of the Kaska, a First Nations people of the area (“itsi” means “wind”).

**Type Material:** Natural History Museum of Los Angeles County, Los Angeles, California, USA. (#64072).

**References:**  