Rankinite

Crystal Data: Monoclinic. Point Group: 2/m. Rarely as prismatic crystals, to 8 mm; as subhedral flattened or tabular grains; as elongated irregular polikloblastic patches; massive.

Physical Properties: Hardness = 5.5 D(meas.) = 2.96–3.00 D(calc.) = 2.99–3.00


Cell Data: Space Group: P2₁/a. a = 10.557(1) b = 8.885(3) c = 7.858(1) β = 119.586(6)° Z = 4

X-ray Powder Pattern: Tokatoka, New Zealand.
2.717 (100), 3.18 (80), 4.48 (70), 3.84 (70), 3.03 (60), 1.819 (60), 3.20 (50)

Chemistry:

<table>
<thead>
<tr>
<th>Compound</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SiO₂</td>
<td>41.3</td>
</tr>
<tr>
<td>CaO</td>
<td>58.4</td>
</tr>
<tr>
<td>Total</td>
<td>99.7</td>
</tr>
</tbody>
</table>

(1) Tunguska River basin, Russia; corresponds to Ca₃Si₂O₇.

Polymorphism & Series: Dimorphous with kilchoanite.

Occurrence: In high-temperature calc-silicate skarns.

Association: Larinite, meilllite, spurrite, kilchoanite, nageschmidtite, gehlenite, cuspidine, monticelllite, andradite, perovskite, magnetite.


Name: For Dr. George Atwater Rankin (1884–?), physical chemist of the Geophysical Laboratory, Washington, D.C., USA, an early student of the system lime-alumina-silica.
