Rankinite

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

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<tbody>
<tr>
<td>SiO₂</td>
<td>41.3</td>
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<tr>
<td>CaO</td>
<td>58.4</td>
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<tr>
<td>Total</td>
<td>99.7</td>
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(1) Tunguska River basin, Russia; corresponds to Ca₃Si₂O₇₋₁.

Polymorphism & Series: Dimorphous with kilchoanite.

Occurrence: In high-temperature calc-silicate skarns.

Association: Larinite, melilitite, spurrite, kilchoanite, nagelschmidtite, gehlenite, cuspidine, monticellite, andradite, perovskite, magnesite.


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.
