Clerite

\[ \text{Mn}(\text{Sb, As})_2\text{S}_4 \]

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**Crystal Data:** Orthorhombic. **Point Group:** 2/m 2/m 2/m. As irregular equant grains, to 0.2 mm, in aggregates.

**Physical Properties:** **Fracture:** Uneven. **Tenacity:** Brittle. Hardness = n.d. VHN = 224–262, 252 average (15 g load). D(meas.) = n.d. D(calc.) = 4.48


**Cell Data:** **Space Group:** Pnam (by analogy to berthierite). **a = 11.47(2), b = 14.36(3), c = 3.81(1), Z = 4**

**X-ray Powder Pattern:** Vorontsovskoye deposit, Russia. 2.65 (100), 3.69 (90), 2.90 (80), 3.23 (70), 1.813 (50), 4.46 (40), 2.18 (40)

**Chemistry:**

<table>
<thead>
<tr>
<th>Element</th>
<th>Mn</th>
<th>As</th>
<th>Sb</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>13.1</td>
<td>4.4</td>
<td>51.2</td>
<td>30.8</td>
</tr>
<tr>
<td>Total</td>
<td>99.5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) Vorontsovskoye deposit, Russia; by electron microprobe, average of five analyses; corresponding to \( \text{Mn}_{1.00}(\text{Sb}_{1.75}\text{As}_{0.25})\Sigma_{2.00}\text{S}_4.00 \).

**Occurrence:** In a hydrothermal gold deposit in limestone.

**Association:** Realgar, pyrite, alabandite, sphalerite, aktashite, routhierite, zinkenite, chalcostibite, orpiment, stibnite, cinnabar, tetrahedrite–tennantite, gold, greigite.

**Distribution:** From the Vorontsovskoye gold deposit, Serov district, Northern Ural Mountains, Russia [TL].

**Name:** To honor Onisima Yegorovicha Klera (1845–1920), Russian geologist, President of the Ural Society of Natural Sciences Amateurs, Ykaterinberg (Sverdlovsk), Russia.

**Type Material:** Ural Geological Museum, Mining Institute, Yekaterinburg (Sverdlovsk), Russia.

**References:**


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