**Poldervaartite**

\[(\text{Ca}, \text{Mn}^{2+})_2(\text{SiO}_3\text{OH})(\text{OH})\]

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**Crystal Data:** Orthorhombic. **Point Group:** 2/m 2/m 2/m. Crystals are prismatic, with \{110\}, \{100\}, \{010\}, and \{001\}, to 7 mm; aggregates in sheaves.

**Physical Properties:** Tenacity: Very brittle. Hardness = 5 D(meas.) = 2.91(2) D(calc.) = 2.90 Fluoresces deep red under SW UV.

**Optical Properties:** Transparent to translucent. **Color:** Colorless to white. **Streak:** [White.]
**Luster:** Vitreous on fractures to subvitreous on crystal faces.
**Optical Class:** Biaxial (+). **Pleochroism:** Weak; X = colorless; Y = light gray; Z = bluish gray.
**Orientation:** X = b; Y = a; Z = c. **Dispersion:** \(r < v\), weak. \(\alpha = 1.634(2)\) \(\beta = 1.640(4)\) \(\gamma = 1.656(2)\) \(2V(\text{meas.}) = 65(5)°\) \(2V(\text{calc.}) = 63°\)

**Cell Data:** **Space Group:** Pbc\(a\). \(a = 9.398(1)\) \(b = 9.139(2)\) \(c = 10.535(2)\) \(Z = 8\)

**X-ray Powder Pattern:** Wessels mine, South Africa.
3.231 (100), 4.18 (45), 2.846 (42), 2.391 (42), 2.789 (35), 2.042 (28), 3.27 (26)

**Chemistry:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SiO(_2)</td>
<td>29.8</td>
</tr>
<tr>
<td>FeO</td>
<td>0.1</td>
</tr>
<tr>
<td>MnO</td>
<td>18.7</td>
</tr>
<tr>
<td>MgO</td>
<td>0.0</td>
</tr>
<tr>
<td>CaO</td>
<td>41.5</td>
</tr>
<tr>
<td>H(_2)O(^+)</td>
<td>9.4</td>
</tr>
</tbody>
</table>

**Occurrence:** In a pocket in massive manganese ores in a bedded manganese ore deposit.

**Association:** Braunite, hausmannite, henritermierite, bultfonteinite, hematite, calcite.

**Distribution:** In the Wessels mine, near Kuruman, Cape Province, South Africa.

**Name:** To honor Arie Poldervaart (1918–1964), Professor of Petrology, Columbia University, New York City, New York, USA.

**Type Material:** American Museum of Natural History, New York, New York, USA, T100728.

**References:** (1) Dai, Y., G.E. Harlow, and A.R. McGhie (1993) Poldervaartite, Ca(Ca\(_{0.5}\)Mn\(_{0.5}\))(SiO\(_3\)OH)(OH), a new acid nesosilicate from the Kalahari manganese field, South Africa: crystal structure and description. Amer. Mineral., 78, 1082–1087.