**Temagamite**

**Formula:** $\text{Pd}_3\text{HgTe}_3$

**Crystal Data:** Orthorhombic. **Point Group:** n.d. As rounded to irregular inclusions, to 115 $\mu$m, in chalcopyrite.

**Physical Properties:** Hardness = n.d. VHN = 92 (25 g load). D(meas.) = 9.5 (synthetic). D(calc.) = 9.45

**Optical Properties:** Opaque. **Color:** In polished section, white with a gray tinge. **Luster:** Metallic. **Anisotropism:** Weak in air, stronger in oil, in pale gray to dark gray. $R_1-R_2$: (470) 51.8–52.8, (546) 52.9–53.9, (589) 54.2–55.0, (650) 57.1–57.7

**Cell Data:** **Space Group:** n.d. (synthetic). $a = 11.608(2)$, $b = 12.186(1)$, $c = 6.793(1)$, $Z = 6$

**X-ray Powder Pattern:** Synthetic.

2.912 (10), 2.187 (9), 1.959 (7), 1.661 (5), 1.624 (5), 1.462 (5), 1.155 (5)

**Chemistry:**

<table>
<thead>
<tr>
<th>Element</th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pd</td>
<td>34.9</td>
<td>34.5</td>
</tr>
<tr>
<td>Pt</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Hg</td>
<td>22.1</td>
<td>22.0</td>
</tr>
<tr>
<td>Bi</td>
<td>n.d.</td>
<td>0.13</td>
</tr>
<tr>
<td>Te</td>
<td>42.1</td>
<td>42.1</td>
</tr>
<tr>
<td>Total</td>
<td>99.1</td>
<td>99.73</td>
</tr>
</tbody>
</table>

(1) Temagami Mine, Canada; by electron microprobe, corresponding to $\text{Pd}_{2.99}\text{Hg}_{1.00}\text{Te}_{3.01}$.

(2) Stillwater complex, Montana, USA; by electron microprobe, corresponding to $(\text{Pd}_{2.95}\text{Pt}_{0.05})_{\Sigma=3.00}\text{Hg}_{1.00}\text{Te}_{3.00}$.

**Occurrence:** Cogenetic with moderately high-temperature invasive chalcopyrite magma (Temagami Mine, Canada).

**Association:** Merenskyite, hessite, chalcopyrite, stützite.

**Distribution:** In Canada, in Ontario, from the Temagami Cu–Ni mine, Temagami Island, Lake Temagami, Nipissing district [TL] and from a prospect near Rathbun Lake. In the USA, from the Stillwater complex, Montana; and the New Rambler Cu–Ni mine, Medicine Bow Mountains, east of Encampment, Albany Co., Wyoming.

**Name:** For the Temagami mine in Canada, where the mineral was first found.

**Type Material:** Royal Ontario Museum, Toronto, Canada, M32528.

**References:**

2. (1975) Amer. Mineral., 60, 947 (abs. ref. 1).