Ottoite

\[ \text{Pb}_2\text{TeO}_5 \]

**Crystal Data:** Monoclinic. *Point Group:* 2/m. As complex spear-shaped crystals elongate along [100] in subparallel to divergent intergrowths, to 0.5 mm. *Twinning:* Merohedral twinning indicated by structure analysis.

**Physical Properties:** *Cleavage:* Two in the [100] zone at ~90°, possibly on {010} and {001}. *Tenacity:* Brittle. *Fracture:* Irregular. *Hardness* = 3  *D*(meas.) = n.d.  *D*(calc.) = 8.721


**Cell Data:** *Space Group:* I2/a.  \( a = 7.5353(6) \quad b = 5.7142(5) \quad c = 10.8981(12) \quad \beta = 91.330(6)^\circ \quad Z = 4 \)

**X-ray Powder Pattern:** Otto Mountain, San Bernardino County, California, USA. 3.015 (100), 3.055 (90), 3.131 (64), 1.773 (43), 2.112 (29), 1.810 (21), 1.686 (20)

**Chemistry:**

<table>
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<tr>
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<th>(1)</th>
<th>(2)</th>
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<tbody>
<tr>
<td>PbO</td>
<td>68.88</td>
<td>71.77</td>
</tr>
<tr>
<td>TeO_3</td>
<td>28.03</td>
<td>28.23</td>
</tr>
<tr>
<td>Total</td>
<td>96.95</td>
<td>100.00</td>
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</table>

(1) Otto Mountain, San Bernardino County, California, USA; average of 5 electron microprobe analyses; corresponds to \( \text{Pb}_{1.96}\text{Te}_{1.01}\text{O}_5 \).  (2) \( \text{Pb}_2\text{TeO}_5 \).

**Occurrence:** A secondary phase on fracture surfaces and in small vugs in quartz veins. Formed from the partial oxidation of primary sulfides (e.g., galena) and tellurides (e.g., hessite) during or following brecciation of the quartz veins.

**Association:** Acanthite, bromine-rich chlorargyrite, gold, iodargyrite, khinite, wulfenite, houlsleyite, markcooperte, thorneite, timroseite.

**Distribution:** From the Aga mine, and the Bird Nest Drift, Otto Mountain, ~2 km northwest of Baker, San Bernardino County, California, USA.

**Name:** For the locality, Otto Mountain, California, USA.

**Type Material:** Natural History Museum of Los Angeles County, Los Angeles, California, USA (62511, 62512, 62528, 62529, and 62530).