**Oboyerite**

\[ \text{H}_6\text{(Pb, Ca)}_6(\text{Te}^{4+}\text{O}_3)_3(\text{Te}^{6+}\text{O}_6)_2 \cdot 2\text{H}_2\text{O} \]

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**Crystal Data:** Triclinic. Point Group: \( \text{T} \) or \( \text{1} \). In tiny spherules, composed of fibers to 60 \( \mu \text{m} \).

**Physical Properties:** Cleavage: One perfect. Hardness = 1.5 \( \text{D(meas.)} = 6.4(6) \)

\( \text{D(calc.)} = 6.66 \)

**Optical Properties:** Semitransparent. Color: Milk-white.

Optical Class: Biaxial. Orientation: Maximum extinction at 37\(^{\circ}\) to elongation. \( \alpha = 2.24 \)

\( \beta = \text{n.d.} \)

\( \gamma = 2.26 \)

\( 2\text{V(meas.)} = \text{n.d.} \)

**Cell Data:** Space Group: \( \text{P} \\text{T} \) or \( \text{P}1 \). \( a = 12.249(8) \)

\( b = 15.113(6) \)

\( c = 6.868(3) \)

\( \alpha = 116.45(4)^{\circ} \)

\( \beta = 98.58(4)^{\circ} \)

\( \gamma = 85.82(4)^{\circ} \)

\( Z = 2 \)

**X-ray Powder Pattern:** Grand Central mine, Arizona, USA.


**Chemistry:**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>\text{TeO}_3</td>
<td>16.2</td>
<td>15.54</td>
</tr>
<tr>
<td>\text{TeO}_2</td>
<td>22.1</td>
<td>21.19</td>
</tr>
<tr>
<td>\text{PbO}</td>
<td>58.0</td>
<td>59.28</td>
</tr>
<tr>
<td>\text{CaO}</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>\text{H}_2\text{O}</td>
<td>4.2</td>
<td>3.99</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.8</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Grand Central mine, Arizona, USA; by microanalysis, \( \text{H}_2\text{O} \) by the Penfield method, after deduction of insoluble as quartz and chlorargyrite. (2) \( \text{H}_6\text{Pb}_6(\text{Te}^{4+}\text{O}_3)_3(\text{Te}^{6+}\text{O}_6)_2 \cdot 2\text{H}_2\text{O} \).

**Occurrence:** A rare mineral found in specimens on a mine dump, an alteration product of rich gold-bearing telluride ore.

**Association:** Jarosite, fairbankite, rodalquilarite, mroseite, cerussite, orthoclase, “opal”.

**Distribution:** In the Grand Central mine and the Tombstone Exploration open pit mine, Tombstone, Cochise Co., Arizona, USA.

**Name:** For Oliver Boyer, an original staker of the Grand Central claim.
