

Crystal Data: Monoclinic. *Point Group:* 2/m. As prismatic to bladed crystals elongated along [010] to 0.15 mm. Crystals exhibit {001}, {101}, {011}, and {010}. Typically, in bow tie-like aggregates, drusy balls, and irregular sprays. *Twining:* Penetration twinning with individuals intersecting at ~60°, the contact plane is parallel to a prominent prism face.

Physical Properties: *Cleavage:* Likely on {101}, based on the crystal structure.

Tenacity: Brittle. *Fracture:* Irregular. Hardness = 3 D(meas.) = n.d. D(calc.) = 7.845(1)

Optical Properties: Transparent. *Color:* Pale to medium greenish blue. *Streak:* Pale blue.

Luster: Adamantine; frosted crystal faces are dull.

Optical Class: Biaxial (+). $n(\text{calc.}) = 2.169$ $2V(\text{meas.}) = 50^\circ\text{-}60^\circ$ *Orientation:* $Y = b, Z \wedge c = 40^\circ$ in obtuse β . *Pleochroism:* $Y =$ medium green-blue, $Z =$ light green-blue. *Absorption:* $Y > Z > X$.

Dispersion: Strong, $r > v$ inclined.

Cell Data: *Space Group:* $P2_1/n$. $a = 7.8552(5)$ $b = 10.4836(7)$ $c = 11.0426(8)$ $\beta = 95.547(2)^\circ$
 $Z = 2$

X-ray Powder Pattern: Otto Mountain, San Bernardino County, California, USA.

3.195 (100), 2.942 (80), 3.336 (69), 3.292 (50), 3.007 (49), 3.068 (47), 2.580 (38)

Chemistry:	(1)	(2)
PbO	62.53	62.60
TeO ₃	32.85	32.84
CuO	3.77	3.72
H ₂ O	[0.84]	0.84
Total	99.99	100.00

(1) Otto Mountain, San Bernardino County, California, USA; average of 3 EDS analyses supplemented by Raman spectroscopy, H₂O calculated from structure analysis; corresponds to Pb_{5.99}Cu_{1.01}Te_{4.00}O₁₈(OH)₂. (2) Pb₆CuTe₄O₁₈(OH)₂.

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, cerussite, gold, hessite, iodargyrite, khinite-4O, wulfenite, thorneite, markcooperite, ottoite.

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

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Type Material: Natural History Museum of Los Angeles County, Los Angeles, California, USA (62261, 62262, and 62263).

References: (1) Kampf, A.R., J. Marty and B. Thorne (2010) Lead-tellurium oxysalts from Otto Mountain near Baker, California: II. Housleyite, Pb₆CuTe₄O₁₈(OH)₂, a new mineral with Cu-Te octahedral sheets. *Amer. Mineral.*, 95, 1337-1342.