Comancheite $Hg_{13}(Cl,Br)_8O_9$

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$ or $mm2$. Rarely as sprays of acicular crystals, elongated ‖ [001], up to 80 μm, and as anhedral masses.

Physical Properties: *Cleavage:* Fair on {001} and {110}. *Tenacity:* Brittle. Hardness = 2 D(meas.) = 7.7(4) D(calc.) = 8.0

Optical Properties: Transparent to translucent. *Color:* Red-orange to yellow in crystals; red when massive. *Streak:* Yellow-orange. *Luster:* Vitreous in crystals; resinous when massive. *Optical Class:* Biaxial. *Orientation:* Extinction parallel; length-fast. *Absorption:* Strong. n = 1.78–1.79 2V(meas.) = n.d.

Cell Data: *Space Group:* $Pnnm$ or $Pnn2$. a = 18.41(1) b = 21.64(1) c = 6.677(2) Z = 4

X-ray Powder Pattern: Terlingua, Texas, USA.
2.669 (10), 2.878 (8), 5.68 (7), 5.42 (6), 2.710 (5), 2.457 (5), 1.415 (5)

Chemistry:

	(1)
HgO	89.7
Cl	5.1
Br	8.9
$-O = (Cl,Br)_2$	2.0
Total	101.7

(1) Terlingua, Texas, USA; by electron microprobe, corresponding to $Hg_{13}(Cl_{4.51}Br_{3.50})_{\Sigma=8.01}O_{9.07}$.

Occurrence: A secondary mineral in an oxidized mercury deposit.

Association: Calcite, goethite, hematite, quartz.

Distribution: From the Mariposa mine, Terlingua, Brewster Co., Texas, USA.

Name: For the Comanche Indians, the first miners of the mercury deposits in which this mineral occurs.

Type Material: Canadian Geological Survey, Ottawa, Canada, 14608; National Museum of Natural History, Washington, D.C., USA, 150760.

References: (1) Roberts, A.C., H.G. Ansell, and P.J. Dunn (1981) Comancheite, a new mercury oxychloride-bromide from Terlingua, Texas. Can. Mineral., 19, 393–396. (2) (1982) Amer. Mineral., 67, 622 (abs. ref. 1).