

Crystal Data: Monoclinic. *Point Group:* $2/m$, m , or 2 . As sheaves of ill-formed platy crystals, with dominant $\{100\}$, to $200\ \mu\text{m}$. Also as cryptocrystalline nodular masses, which may be hollow. *Twining:* Polysynthetic on $\{100\}$.

Physical Properties: *Fracture:* Irregular to subconchoidal. *Tenacity:* Brittle. Hardness = 4 VHN = 153–217, 192 average (100 g load). $D(\text{meas.}) = 9.4(3)$ $D(\text{calc.}) = 9.11$. Photosensitive, darkening on exposure to UV, IR, X-rays, and visible light.

Optical Properties: Translucent. *Color:* Lemon-yellow to orange-yellow when fresh; dark olive-green, through lighter yellowish green, to dark green-brown on exposed surface; in reflected light, gray to slightly lighter gray, with pale lemon-yellow internal reflections; lemon-yellow in transmitted light. *Streak:* Pale yellowish green. *Luster:* Vitreous, resinous when nodular. *Optical Class:* Biaxial. *Pleochroism:* Weak. *Absorption:* Strong. $\alpha = [2.10]$ $\beta = \text{n.d.}$ $\gamma = [2.58]$ $2V(\text{meas.}) = \text{n.d.}$

R: (400) 16.7, (420) 17.1, (440) 17.0, (460) 16.4, (480) 15.8, (500) 15.3, (520) 14.9, (540) 14.6, (560) 14.3, (580) 14.2, (600) 14.0, (620) 14.0, (640) 13.8, (660) 13.8, (680) 13.7, (700) 13.6

Cell Data: *Space Group:* $C2/m$, Cm , or $C2$. $a = 11.755(3)$ $b = 7.678(2)$ $c = 5.991(2)$ $\beta = 111.73(3)^\circ$ $Z = 2$

X-ray Powder Pattern: Terlingua, Texas, USA.

3.160 (100), 2.715 (63), 1.872 (36), 2.952 (34), 3.027 (27), 2.321 (24), 6.28 (20)

Chemistry:

	(1)	(2)	(3)
SiO ₂	8.6	7.9	8.76
Hg ₂ O	89.6	91.0	91.24
Total	98.2	[98.9]	100.00

(1) Socrates mine, California, USA; by electron microprobe, average of five analyses.

(2) Terlingua, Texas, USA; by electron microprobe, average of three analyses, originally given as Si 3.7%, Hg 87.5%, here recalculated to oxides. (3) Hg₆Si₂O₇.

Occurrence: A secondary mineral, probably resulting from reaction between mercury and quartz under unknown conditions.

Association: Mercury, cinnabar, montroydite, terlinguaite, eglestonite, calcite, quartz, barite.

Distribution: In the Socrates mercury mine, Sonoma Co., and near the Clear Creek mercury mine, New Idria district, San Benito Co., California; at Terlingua, Brewster Co., Texas, USA. From the San Luis mine, Huahuaxtla, Guerrero, Mexico.

Name: For Dr. Edgar Herbert Bailey (1914–1983), distinguished geologist and mercury specialist with the U.S. Geological Survey.

Type Material: Canadian Museum of Nature, Ottawa, Canada, 65531; The Natural History Museum, London, England, 1906,190.

References: (1) Roberts, A.C., M. Bonardi, R.C. Erd, A.J. Criddle, C.J. Stanley, G. Cressey, R.J. Angel, and J.H.G. Lafamme (1990) Edgarbaileyite, the first known silicate of mercury, from California and Texas. *Mineral. Record*, 21, 215–220. (2) (1990) *Amer. Mineral.*, 75, 1431–1432 (abs. ref. 1). (3) Angel, R.J., G. Cressey, and A. Criddle (1990) Edgarbaileyite, Hg₆Si₂O₇: the crystal structure of the first mercury silicate. *Amer. Mineral.*, 75, 1192–1196.