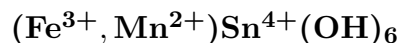


# Jeanbandyite



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**Crystal Data:** Tetragonal, pseudocubic. *Point Group:*  $4/m$ . In crystals, showing dominant  $\{111\}$ ,  $\{001\}$ , and  $\{100\}$ ;  $\{111\}$  may be striated  $\parallel$   $\{100\}$ , to 0.5 mm; in crude pseudo-octahedral aggregates, epitaxial on wickmanite or overgrown on natanite.

**Physical Properties:** *Cleavage:*  $\{001\}$  and  $\{100\}$ , fair. *Hardness* =  $\sim 3.5$   
D(meas.) = 3.81(5) D(calc.) = 3.81

**Optical Properties:** Transparent to translucent. *Color:* Orange-brown to red-brown, pale yellow; light orange-brown in transmitted light. *Streak:* Yellow-brown. *Luster:* Vitreous to subadamantine.

*Optical Class:* Uniaxial (-).  $\omega = 1.837(5)$   $\epsilon = 1.833(5)$

**Cell Data:** *Space Group:*  $P4_2/n$ .  $a = 7.648(7)$   $c = 7.648(7)$   $Z = 4$

**X-ray Powder Pattern:** Llallagua, Bolivia.

3.83 (100), 2.71 (70), 1.710 (60), 1.562 (35), 4.41 (20), 1.912 (20), 2.205 (15)

## Chemistry:

	(1)
SiO <sub>2</sub>	0.79
SnO <sub>2</sub>	49.61
Fe <sub>2</sub> O <sub>3</sub>	22.07
MnO	5.82
MgO	0.61
H <sub>2</sub> O	[21.10]
Total	[100.00]

(1) Llallagua, Bolivia; by electron microprobe, average of eight analyses; Fe confirmed as principally Fe<sup>3+</sup> microchemically, H<sub>2</sub>O by difference; corresponds to  $(\text{Fe}_{0.71}^{3+}\text{Mn}_{0.21}^{2+}\text{Mg}_{0.04})_{\Sigma=0.96}(\text{Sn}_{0.84}\text{Si}_{0.03})_{\Sigma=0.87}(\text{OH})_6$ .

**Mineral Group:** Stottite group.

**Occurrence:** In the oxide zone of polymetallic hydrothermal deposits.

**Association:** Wickmanite, fluorapatite, stannite, pyrite, jamesonite, cassiterite, wolframite, bismuthinite, franckeite, crandallite, quartz (Llallagua, Bolivia); natanite, pyrrhotite, siderite, quartz (Santa Eulalia, Mexico).

**Distribution:** From Llallagua, Bolivia. At Santa Eulalia, Chihuahua, Mexico. In the Mt. Pleasant tin mine, New Brunswick, Canada.

**Name:** Honors Jean A. Bandy, Wickenburg, Arizona, USA, who, with her husband Mark Bandy, translated Agricola's *De Natura Fossilium* from original Latin.

**Type Material:** Natural History Museum, Los Angeles, California, 18309; Harvard University, Cambridge, Massachusetts, 119125; National Museum of Natural History, Washington, D.C., USA, 149348.

**References:** (1) Kampf, A.R. (1982) Jeanbandyite, a new member of the stottite group from Llallagua, Bolivia. *Mineral. Record*, 13, 235–239. (2) (1983) *Amer. Mineral.*, 68, 471–472 (abs. ref. 1).