

**Crystal Data:** Tetragonal, pseudocubic. *Point Group:* 4/m 2/m 2/m, 4mm, or 422. As grains up to 1 mm. *Twinning:* Simple and poor polysynthetic twins.

**Physical Properties:** *Fracture:* Conchoidal. *Tenacity:* Brittle. *Hardness* = n.d. VHN = 280 (25 g load). D(meas.) = n.d. D(calc.) = 4.29

**Optical Properties:** Opaque. *Color:* Orange. *Luster:* Metallic. *Anisotropism:* Weak, purplish blue to greenish brown-yellow.

R<sub>1</sub>-R<sub>2</sub>: (420) 19.4-19.4, (460) 21.8-20.6, (500) 23.9-22.8, (540) 27.7-26.5, (580) 30.7-29.5, (620) 33.6-32.1, (660) 35.9-34.3, (700) 37.8-36.0

**Cell Data:** *Space Group:* P4/mmm, P4mm, P422, or P4<sub>1</sub>22. *a* = 10.697(6) *c* = 10.697(6) *Z* = 2

**X-ray Powder Pattern:** Chizeuil, France.

3.088 (100), 1.895 (90), 1.614 (70), 2.676 (50), 1.227 (40), 1.091 (40), 4.37 (30)

**Chemistry:**

	(1)	(2)
Cu	40.90	42.6
Fe	14.63	13.2
Zn		0.7
Sn	7.33	8.3
As	3.43	4.5
Sb	1.60	
S	31.85	31.3
Total	99.74	100.6

(1) Chizeuil, France; by electron microprobe, average of six analyses, yielding

Cu<sub>10.19</sub>Fe<sub>4.15</sub>Sn<sub>0.98</sub>(As<sub>0.73</sub>Sb<sub>0.21</sub>)<sub>Σ=0.94</sub>S<sub>15.74</sub>. (2) Maggie deposit, Canada; by electron microprobe, giving Cu<sub>10.60</sub>(Fe<sub>3.00</sub><sup>+</sup>Fe<sub>0.74</sub><sup>+</sup>Zn<sub>0.17</sub>)<sub>Σ=3.91</sub>Sn<sub>1.11</sub>As<sub>0.95</sub>S<sub>15.44</sub>.

**Occurrence:** In a porphyry copper deposit with other tin-bearing sulfides (Maggie deposit, Canada).

**Association:** Pyrite, chalcopyrite, colusite, stannite, stannoidite, mawsonite, bornite, enargite, tetrahedrite-tennantite, quartz, barite.

**Distribution:** From Chizeuil, Saône-et-Loire, France. At Huaron, Peru. In the Maggie copper deposit, 15 km north of Ashcroft, British Columbia, Canada.

**Name:** To honor Professor Henri Vincienne (1898-1965), who first called attention to the mineral.

**Type Material:** National School of Mines, Paris, France.

**References:** (1) Cesbron, F., R. Girault, P. Picot, and F. Pillard (1985) La vinciennite Cu<sub>10</sub>Fe<sub>4</sub>Sn(As, Sb)S<sub>16</sub>, une nouvelle espèce minérale. Etude paragenétique du gîte type de Chizeuil, Saône-et-Loire. Bull. Minéral., 108, 447-456 (in French with English abs.). (2) (1986) Amer. Mineral., 71, 1280-1281 (abs. ref. 1). (3) Jambor, J. and D.R. Owens (1987) Vinciennite in the Maggie porphyry copper deposit, British Columbia. Can. Mineral., 25, 227-228.