

Crystal Data: Tetragonal. *Point Group:* 422 or 4. As small (up to 300 μm) blebs and rims.

Physical Properties: *Tenacity:* Considerably more brittle than acanthite. Hardness = ~ 2 VHN = ~ 20 (15 g load) D(meas.) = n.d. D(calc.) = 8.34–8.45

Optical Properties: Opaque. *Color:* In polished section, gray-white; surface changes rapidly on exposure to light. *Pleochroism:* Weak to distinct; pale gray to pale gray with a brownish tint. *Anisotropism:* Strong; without distinct colors.

R₁–R₂: (470) 33.2–34.6, (546) 30.3–34.6, (589) 31.1–35.2, (650) 30.5–33.3

Cell Data: *Space Group:* P4₁22 or P4₁ (probable). $a = 9.68\text{--}9.76$ $c = 9.78\text{--}9.81$ $Z = 8$

X-ray Powder Pattern: Tambang Sawah, Indonesia.

2.712 (10), 2.591 (90), 6.94 (4), 2.112 (40), 4.33 (3), 2.802 (3), 1.980 (2)

Chemistry:	(1)	(2)	(3)	(4)
Ag	56.1	57.1	53.2	55.34
Au	29.8	32.7	35.1	33.69
Cu	2.2			
Se	trace			
Te	trace			
S	11.2	10.3	11.7	10.97
Total	99.3	100.1	100.0	100.00

(1) Comstock Lode, Nevada, USA; by electron microprobe. (2) Zmeinogorsk, Russia; by electron microprobe. (3) Tambang Sawah, Indonesia; by electron microprobe. (4) Ag₃AuS₂.

Occurrence: In low-temperature hydrothermal Au–Ag quartz veins, in part of supergene origin.

Association: Acanthite, Au–Ag alloy, chlorargyrite, naumannite, quartz.

Distribution: In Indonesia, from Tambang Sawah, Benkoelen district, Sumatra [TL], and on Java, at the Pongkor Au–Ag deposit and in the Cirotan Au–Ag–Sn–W deposit. In the USA, in Nevada, from the Comstock Lode, Virginia City, Storey Co. [TL], at the Bullfrog and Original Bullfrog mines, Bullfrog district, Nye Co., and in the Life Preserver mine, Tolicha district; from the Equity mine, near Creede, Mineral Co., Colorado; in the Morning Star deposit, San Bernardino Co., California; at the Comstock mine, Dos Cabezos Mountains, Cochise Co., Arizona. From the Milluri prospect, Potosí, Bolivia. In Russia, at Zmeinogorsk (Schlangenberg), Altai Mountains [TL] and in the Gai deposit, Southern Ural Mountains. Also known from several undisclosed localities in China and Uzbekistan.

Name: To honor Willem Uytenbogaardt (1918–), Professor of Geology, Technical University, Delft, The Netherlands, prominent ore microscopist.

Type Material: Institute of Earth Sciences, Free University of Amsterdam; University of Amsterdam, Amsterdam, The Netherlands; National Museum of Natural History, Washington, D.C., USA, 105328, B239.

References: (1) Barton, M.D., C. Kieft, E.A.J. Burke, and I.S. Oen (1978) Uytenbogaardtite, a new silver–gold sulfide. *Can. Mineral.*, 16, 651–657. (2) (1980) *Amer. Mineral.*, 65, 209 (abs. ref. 1).

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