

**Crystal Data:** Monoclinic. *Point Group:*  $P2_1/m$ . Prismatic by elongation || [001]; typically striated || [001]; highly complex crystals, to nearly 1 cm; commonly as exsolutions and inclusions in galena. *Twinning:* On {120} and {241}.

**Physical Properties:** *Fracture:* Subconchoidal to uneven. *Tenacity:* Brittle. Hardness = 2.5–3 VHN = n.d. D(meas.) = 6.04 D(calc.) = 6.019

**Optical Properties:** Opaque. *Color:* Steel-gray; in polished section, white to grayish white. *Luster:* Metallic. *Anisotropism:* Strong.

R<sub>1</sub>–R<sub>2</sub>: (400) 38.2–40.1, (420) 37.8–39.8, (440) 37.5–39.5, (460) 37.3–39.3, (480) 37.0–39.0, (500) 36.7–38.8, (520) 36.4–38.6, (540) 36.0–38.3, (560) 35.6–38.0, (580) 35.3–37.8, (600) 35.0–37.4, (620) 34.8–37.2, (640) 34.5–37.0, (660) 34.2–36.6, (680) 33.8–36.1, (700) 33.4–35.8

**Cell Data:** *Space Group:*  $P2_1/a$ .  $a = 15.849(4)$   $b = 17.914(4)$   $c = 5.901(1)$   
 $\beta = 116^\circ 25.5(2)'$   $Z = 4$

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

3.29 (10), 2.81 (8), 2.03 (5), 1.704 (4), 2.93 (3), 1.759 (3), 1.653 (2)

**Chemistry:**

	(1)	(2)	(3)
Pb	28.67	28.6	30.48
Ag	23.44	24.4	23.78
Fe	0.67		
Cu	0.73		
Sb	26.43	28.6	26.87
S	20.18	18.0	18.87
Total	100.12	99.6	100.00

(1) Příbram, Czech Republic; corresponds to Pb<sub>1.80</sub>Ag<sub>2.76</sub>Fe<sub>0.15</sub>Cu<sub>0.15</sub>Sb<sub>2.76</sub>S<sub>8.00</sub>. (2) Santa Maria de Catorze, Mexico; by electron microprobe, corresponding to Pb<sub>1.97</sub>Ag<sub>3.22</sub>Sb<sub>3.35</sub>S<sub>8.00</sub>.

(3) Pb<sub>2</sub>Ag<sub>3</sub>Sb<sub>3</sub>S<sub>8</sub>.

**Occurrence:** In hydrothermal veins with other sulfides formed at medium temperatures.

**Association:** Galena, sphalerite, miargyrite, pyrargyrite, pyrite, siderite, quartz.

**Distribution:** In the Czech Republic, from Příbram [TL] and Kutná Hora. In Germany, in Saxony, at Bräunsdorf, near Freiberg [TL], in the Neues Hoffnung Gottes mine; at Freiberg; and in the Alte Hoffnung Gottes mine, Voigtsberg. [??ck if Saxony??] From Baia Sprie (Felsőbánya) and Baia Mare (Nagybánya), Romania. From Fournial, Cantal, and Pontgibaud, Puy-de-Dôme, France. In the Mangazeika and Bulatsk Pb–Zn deposits, northeastern Sakha, Russia. In the USA, from the Lake Chelan district, Chelan Co., Washington; the Wood River deposits, Mineral Hill district, Blaine Co., Idaho; and near Morey, Nye Co., Nevada. At Santa Maria de Catorze, San Luis Potosí, Mexico. From Zancudo, Colombia. At Machacamarca and Cerro Rico, Potosí, Bolivia. From the Pirquitas deposit, Riconada Department, Jujuy Province, Argentina. Known from a number of other localities.

**Name:** From the Greek for *difference*, as being distinct from freieslebenite.

**References:** (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 414–415. (2) Hellner, E. (1958) Über komplex zusammengesetzte Spiessglanze III. Zur Struktur des Diaphorits, Ag<sub>3</sub>Pb<sub>2</sub>Sb<sub>3</sub>S<sub>8</sub>. Zeits. Krist., 110, 169–174 (in German with English abs.). (3) Berry, L.G. and R.M. Thompson (1962) X-ray powder data for the ore minerals. Geol. Soc. Amer. Mem. 85, 136. (4) Criddle, A.J. and C.J. Stanley, Eds. (1993) Quantitative data file for ore minerals, 3rd ed. Chapman & Hall, London, 140.

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