

Crystal Data: Monoclinic. *Point Group:* 2/m. Crystals tabular {001}, to 2 cm, or prismatic [010]; elongated along [401] and [201]; commonly twisted and composite; also rosettelike groups.

Physical Properties: *Cleavage:* Perfect on {112}. *Tenacity:* Brittle. Hardness = 2.5 VHN = n.d. D(meas.) = 6.03 D(calc.) = 6.12

Optical Properties: Opaque. *Color:* Gray to black; in polished section, white with a pale green tint. *Streak:* Black. *Luster:* Metallic, tarnishes to dull.

Optical Class: Biaxial. *Pleochroism:* Very weak, in yellow green to darker, grayish green.

Anisotropism: Strong.

R₁–R₂: (400) 38.6–44.5, (420) 38.3–44.2, (440) 38.0–43.9, (460) 37.7–43.6, (480) 37.4–43.3, (500) 37.2–43.1, (520) 37.0–42.8, (540) 36.7–42.5, (560) 36.4–42.2, (580) 36.0–41.7, (600) 35.4–41.1, (620) 34.9–40.4, (640) 34.3–39.8, (660) 33.6–39.1, (680) 32.9–38.4, (700) 32.2–37.6

Cell Data: *Space Group:* C2/c. *a* = 13.603(3) *b* = 11.936(8) *c* = 24.435(7)
β = 106.047(10)° Z = 4

X-ray Powder Pattern: Herja, Romania.

3.260 (100), 3.81 (90), 2.949 (90), 2.857 (80), 3.351 (70), 3.88 (60), 2.152 (50)

Chemistry:	(1)	(2)	(3)	(1)	(2)	(3)
Pb	51.88	52.24	53.10	Fe	trace	0.02
Sn		0.17		Mn		0.01
Ag	0.56	0.07		Sb	27.20	27.99
Cu	0.11	0.01		Bi		0.09
Zn		0.01		S	19.73	19.92
Cd		0.10		insol.	1.15	19.17
				Total	100.63	100.63
						100.00

(1) Herja, Romania; corresponds to (Pb_{8.55}Ag_{0.18}Cu_{0.06})_{Σ=8.79}Sb_{7.62}S_{21.00}. (2) Chichibu mine, Japan; by electron microprobe, average of 23 analyses; corresponds to (Pb_{8.52}Sn_{0.05}Cd_{0.03}Ag_{0.02}Cu_{0.01}Zn_{0.01}Fe_{0.01}Mn_{0.01})_{Σ=8.66}(Sb_{7.77}Bi_{0.02})_{Σ=7.79}S_{21.00}. (3) Pb₉Sb₈S₂₁.

Occurrence: In hydrothermal veins formed at medium temperature.

Association: Sorbyite, jamesonite, bournonite, zinkenite, guettardite, jordanite, diaphorite, sphalerite, galena, pyrite, chalcopyrite, tetrahedrite, bournonite, arsenopyrite, siderite.

Distribution: In Romania, from Baia Sprie (Felsőbánya) [TL], at Herja (Kisbánya), in the Baia Mare (Nagybánya) district, and from Rodna. In Germany, at Wolfsberg, Harz Mountains, and from the Caspari mine, Arnsberg, North Rhine-Westphalia. From the Les Anglais mine, Massaic, Cantal; Montlucan and Bournac, Montagne Noire, Finistère; Saint-Pons, Alpes-de-Haute-Provence; and elsewhere in France. In Scotland, at the Louisa mine, Glendinning, Eskdale, Dumfries. In Bolivia, at the San José mine, Oruro. From Herminia, in the Julcani district, Peru. At the Brobdignag prospect, near Silverton, San Juan Co., the Argentine Pass area, Clear Creek Co., and near the Maid of Orleans mine, Montezuma district, Summit Co., Colorado, USA. From near Madoc, Ontario, Canada. In the Chichibu mine, Saitama Prefecture, Japan. In small amounts from other occurrences.

Name: In honor of Andor von Semsey (1833–1923), a Hungarian nobleman much interested in minerals.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 466–468. (2) Jambor, J.L. (1969) Sulphosalts of the pligionite group. *Mineral. Mag.*, 37, 442–446. (3) Kohatsu, J.J. and B.J. Wuensch (1974) Prediction of structures in the homologous series Pb_{3+2n}Sb₈S_{15+2n} (the pligionite group). *Acta Cryst.*, 30, 2935–2937. (4) Kato, A., S. Masaaki, and Y. Okada (1997) Re-study of semseyite from the Chichibu mine, Saitama Prefecture, Japan. *Bull. Natl. Sci. Mus., Tokyo, Ser. C*, 23(3-4), 79–86. (5) Ramdohr, P. (1969) *The ore minerals and their intergrowths*, (3rd edition), 753–754. (6) Criddle, A.J. and C.J. Stanley, Eds. (1993) *Quantitative data file for ore minerals*, 3rd ed. Chapman & Hall, London, 506.

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