

Crystal Data: Hexagonal. *Point Group:* 32. Forms acicular crystals, to 2 cm, commonly hollow and tubular; as sheetlike clusters and felted masses; also as glassy droplets.

Physical Properties: *Cleavage:* Good on {01 $\bar{1}$ 2}. *Tenacity:* Flexible. Hardness = 2
VHN = n.d. D(meas.) = 4.80 D(calc.) = 4.809

Optical Properties: Opaque, transparent in very thin fragments. *Color:* Gray to purple-gray, red in transmitted light; in polished section, white in air, darker white to grayish brown in oil. *Streak:* Red. *Luster:* Metallic.

Optical Class: Uniaxial (+). *Pleochroism:* Distinct, cream-white toward brown. $\omega = 3.0$
 $\epsilon = 4.04$ *Anisotropism:* Very strong.

R₁-R₂: (400) 29.9-50.9, (420) 28.3-48.6, (440) 27.0-46.5, (460) 26.1-44.6, (480) 25.5-43.1, (500) 25.5-42.3, (520) 25.9-41.6, (540) 26.8-41.4, (560) 27.9-41.3, (580) 28.8-41.0, (600) 29.8-40.4, (620) 30.1-39.7, (640) 29.9-38.7, (660) 28.8-37.6, (680) 27.9-37.0, (700) 27.5-36.8

Cell Data: *Space Group:* P3₁21 or P3₂21. $a = 4.3662$ $c = 4.9536$ $Z = 3$

X-ray Powder Pattern: Synthetic.

3.00 (100), 3.78 (55), 2.072 (35), 1.998(20), 1.766 (20), 2.184 (16), 1.650 (10)

Chemistry: Very pure selenium, with a trace of S.

Occurrence: Formed at relatively low temperatures by sublimation of fumarolic vapors, and from oxidation of selenium-bearing organic compounds in sandstone U-V deposits; from burning coal and pyritic ores.

Association: Pyrite, ferroselite, zippeite, metatyuyamunite, metarossite, montroseite, corvusite.

Distribution: In the USA, from the United Verde mine, Jerome, Yavapai Co., Arizona; at a number of localities in U-V deposits of the Colorado Plateau, as in the Peanut mine, Bull Canyon, Uravan district, Montrose Co., Colorado, and the Parco No. 23 mine, Thompsons district, Grand Co., Utah. From the Road Hog No. 1A mine, Black Hills, Fall River Co., South Dakota; in the Mopung Hills, Churchill Co., and the Gold Quarry mine, near Carlin, Eureka Co., Nevada; in uranium mines around Grants, McKinley Co., New Mexico; from Darwin, Inyo Co., California. At the Moctezuma (Bambolla) mine, 12 km south of Moctezuma, Sonora, Mexico. From the Pacajake mine, Hiaco, 24 km east-northeast of Colquechaca, Potosí, Bolivia. On Vesuvius, Campania, Italy. In the Czech Republic, at Kladno. In Russia, from the Kul'Yurt Tau pyrite deposit, and in the Zhivetski horizon, Tuva. From the Yutangba district, near Enshi, Hubei Province, China.

Name: From the Greek, *selene*, *the moon*, in allusion to its similarity to tellurium, named for *the earth*, Latin *tellus*.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 136-137. (2) Thompson, M.E., C. Roach, and W. Braddock (1956) New occurrences of native selenium. *Amer. Mineral.*, 41, 156-157. (3) (1955) NBS Circ. 539, 5, 54. (4) Sindeeva, N.D. (1964) Mineralogy and types of deposits of selenium and tellurium, 42-44. (5) Ramdohr, P. (1969) *The ore minerals and their intergrowths*, (3rd edition), 382-383. (6) Criddle, A.J. and C.J. Stanley, Eds. (1993) *Quantitative data file for ore minerals*, 3rd ed. Chapman & Hall, London, 504 (synthetic).