Cervelleite Ag_4TeS

Crystal Data: Cubic. *Point Group:* n.d.   Rimming acanthite, to 30 μm thick, and as vermiform inclusions in hessite, also intergrown with benleonardite.

Physical Properties: Hardness = n.d. VHN = 26 (10 g load).   D(meas.) = n.d.
D(calc.) = 8.53(2)   Photosensitive.

Optical Properties: Opaque. *Color:* Black; pale blue to pale green in reflected light.
Luster: Metallic.
Optical Class: Isotropic.
R: (400) 39.8, (420) 40.0, (440) 40.1, (460) 40.0, (480) 39.7, (500) 39.3, (520) 38.9, (540) 38.3, (560) 37.8, (580) 37.2, (600) 36.8, (620) 36.3, (640) 35.8, (660) 35.4, (680) 34.9, (700) 34.4

Cell Data: *Space Group:* n.d.   a = 14.03(1)   Z = 24

X-ray Powder Pattern: Moctezuma mine, Mexico.
5.00 (vvs), 4.24 (vs), 6.29 (s), 3.766 (ms), 4.64 (m), 5.74 (w), 2.596 (w)

Chemistry:

	(1)	(2)
Ag	73.0	72.99
Cu	0.1	
Te	22.2	21.59
S	5.3	5.42
Total	100.6	100.00

(1) Moctezuma mine, Mexico; by electron microprobe, average of eight analyses; corresponds to $Ag_{3.99}Cu_{0.01}Te_{1.02}S_{0.97}$. (2) Ag_4TeS.

Occurrence: In fracture fillings in highly altered and silicified rhyolite vitrophyre in a hydrothermal Au–Te deposit.

Association: Silver, acanthite, hessite, benleonardite, pyrite, sphalerite, dolomite, quartz.

Distribution: From the Moctezuma (Bambolla) mine, 12 km south of Moctezuma, Sonora, Mexico [TL]. A number of additional localities are suggested to host this species, but so far in amounts too small for complete confirmation.

Name: To honor Dr. Bernard Cervelle (1940–), French mineralogist, University of Paris, Paris, France, for his work in ore microscopy.

Type Material: The Natural History Museum, London, England, 1985,354, E1161.

References: (1) Criddle, A.J., J.E. Chisholm, and C.J. Stanley (1989) Cervelleite, Ag_4TeS, a new mineral from the Bambolla mine, Mexico, and a description of a photo-chemical reaction involving cervelleite, acanthite and hessite. Eur. J. Mineral., 1, 371–380. (2) (1990) Amer. Mineral., 75, 1431–1437 (abs. ref. 1).