Gruzdevite $Cu_6Hg_3Sb_4S_{12}$

Crystal Data: Hexagonal. *Point Group:* 3 (probable). May be in zoned crystals with aktashite, to 4 mm; typically massive, presumably.

Physical Properties: Hardness = n.d. VHN = 295(5) (30 g load). D(meas.) = n.d. D(calc.) = 5.88

Optical Properties: Opaque. *Color:* Gray-black; white in reflected light. *Luster:* Metallic. *Anisotropism:* Weak.
R: (460) 33.1, (540) 32.8, (580) 32.7, (660) 31.9

Cell Data: *Space Group:* $R3$ (by analogy to aktashite). $a = 13.90(2)$ $c = 9.432$ $Z = 3$

X-ray Powder Pattern: Chauvai deposit, Kyrgyzstan.
3.16 (10), 1.929 (9), 1.645 (8), 1.113 (6), 1.251 (5), 2.12 (3), 1.363 (3)

Chemistry:

	(1)	(2)
Cu	19.99	20.55
Fe	0.29	
Hg	32.73	32.45
Sb	26.21	26.26
As	0.37	
S	20.44	20.74
Total	100.03	100.00

(1) Chauvai deposit, Kyrgyzstan; by electron microprobe, average of six samples, corresponding to $(Cu_{5.87}Fe_{0.10})_{\Sigma=5.97}Hg_{3.04}(Sb_{4.01}As_{0.09})_{\Sigma=4.10}S_{11.89}$. (2) $Cu_6Hg_3Sb_4S_{12}$.

Polymorphism & Series: Forms a series with aktashite.

Occurrence: In veinlets of probable low-temperature hydrothermal origin (Chauvai deposit, Kyrgyzstan).

Association: Aktashite, stibnite, cinnabar, metacinnabar, wurtzite, fluorite, calcite, barite (Chauvai deposit, Kyrgyzstan).

Distribution: From the Chauvai Sb–Hg deposit, Fergana Valley, Alai Range, southern Kyrgyzstan [TL]. In the San Miguel prospect, 10 km northwest of the Moctezuma (Bambolla) mine, 12 km south of Moctezuma, Sonora, Mexico. At the Goldstrike mine, Lynn district, Eureka Co., Nevada, USA.

Name: To honor the Russian mineralogist, Vyacheslav Sergeevich Gruzdev (1938–1977), Institute of Mineralogy and Geochemistry of Rare Elements, Moscow, Russia.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia.

References: (1) Spiridonov, E.P., L.Y. Krapiva, A.K. Gapeev, V.I. Stepanov, E.Y. Prushinskaya, and V.Y. Volgin (1981) Gruzdevite, $Cu_6Hg_3Sb_4S_{12}$, a new mineral from the Chauvai antimony–mercury deposit, Central Asia. Doklady Acad. Nauk SSSR, 261, 971–976 (in Russian). (2) (1982) Amer. Mineral., 67, 855 (abs. ref. 1). (3) Pekov, I.V. (1998) Minerals first discovered on the territory of the former Soviet Union. Ocean Pictures, Moscow, 95.