

Crystal Data: Hexagonal. *Point Group:* $\bar{3} 2/m$. Platy grains, to 1 mm.

Physical Properties: *Cleavage:* Perfect on {0001}. Hardness = n.d. VHN = 40–65, 51 average (20 g load). *D(meas.)* = n.d. *D(calc.)* = 7.57

Optical Properties: Opaque. *Color:* In polished section, very pale gray with slight greenish tint. *Anisotropism:* Weak.

R: (400) —, (420) —, (440) —, (460) 51.4, (480) 51.8, (500) 52.7, (520) 52.8, (540) 53.2, (560) 53.1, (580) 53.4, (600) 53.9, (620) 53.9, (640) 54.2, (660) 54.5, (680) 54.4, (700) 54.9

Cell Data: *Space Group:* $P\bar{3}m1$. $a = 4.2423(25)$ $c = 79.73(5)$ $Z = 6$

X-ray Powder Pattern: Alekseev mine, Russia.

3.09 (100), 2.12 (60), 2.25 (40), 1.348 (40), 1.307 (40), 3.63 (30), 1.974 (30)

Chemistry:

	(1)	(2)	(3)
Pb	20.3	20.5	21.94
Bi	46.0	45.5	44.25
Te	27.3	27.3	27.02
S	6.3	6.3	6.79
Total	99.9	99.6	100.00

(1) Alekseev mine, Russia; by electron microprobe, leading to Pb_{0.94}Bi_{2.11}Te_{2.06}S_{1.89}. (2) Do.; leading to Pb_{0.95}Bi_{2.10}Te_{2.06}S_{1.89}. (3) PbBi₂Te₂S₂.

Occurrence: Of hydrothermal origin in sulfide-quartz veins (Alekseev mine, Russia).

Association: Galena, gold, altaite, tetradymite, tsumoite, rucklidgeite, quartz (Alekseev mine, Russia).

Distribution: From the Alekseev gold mine, Sutam district, Stanovoi Range, southeast Sakha, Russia [TL]. In the San-notake district, Fukuoka Prefecture, Japan. At the St. David's mine, Dolgellau district, Wales. In the Ardino deposit, Bulgaria. From near Tybo, Nye Co., Nevada, USA. In the Barringer mine, Timmins, Ontario, Canada. From the Corrego Criminoso gold mining district, Goias, Brazil.

Name: For the Alekseev mine, Russia.

Type Material: Gosudarst University, Moscow; Moscow University, Moscow; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 79060.

References: (1) Lipovetskii, A.G., Y.S. Borodaev, and E.N. Zav'yalov (1978) Aleksite, PbBi₂Te₂S₂, a new mineral. Zap. Vses. Mineral. Obshch., 107, 315–321 (in Russian). (2) (1979) Amer. Mineral., 64, 652 (abs. ref. 1). (3) Bevins, R.E. and C.J. Stanley (1990) Aleksite, a lead bismuth sulfotelluride; a second world occurrence from the Dolgellau gold belt, Wales. J. Russell Soc., 3(2), 67–69. [get article or look in Bevins Min Wales??-need mine name??more data,another analysis - can combine Russ anal 1–2 note??] (4) Bayliss, P. (1991) ??title??. Amer. Mineral., 76, 257–??.[must??SG,cell]