

Borodaevite**Ag₅(Pb, Fe)Bi₇(Sb, Bi)₂S₁₇**

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Crystal Data: Monoclinic. *Point Group:* 2/*m* or *m*. Crystals are elongated, platy; as irregular grains, to 1.2 mm.

Physical Properties: Hardness = n.d. VHN = 165 (20 g load). D(meas.) = n.d. D(calc.) = 7.90

Optical Properties: Opaque. *Color:* Black; white in reflected light. *Streak:* Black. *Luster:* Metallic.

Optical Class: Biaxial. *Anisotropism:* Distinct, brown. *Birefractance:* Very weak.

R₁–R₂: (400) —, (420) 39.9–41.4, (440) 40.4–42.4, (460) 39.8–42.1, (480) 39.7–42.3, (500) 39.5–42.2, (520) 39.1–41.8, (540) 39.0–41.5, (560) 38.4–41.2, (580) 38.2–41.0, (600) 37.6–40.6, (620) 37.3–40.3, (640) 37.2–40.0, (660) 36.5–39.6, (680) 36.6–39.3, (700) 36.1–39.3

Cell Data: *Space Group:* C2/*m* or *Cm*. *a* = 13.515(7) *b* = 4.098(3) *c* = 26.000(8)
β = 93.00(4)° *Z* = 2

X-ray Powder Pattern: Alaskitovoye deposit, Russia.

2.82 (10), 3.37 (9b), 3.24 (9), 3.49 (8b), 1.992 (8), 2.01 (7), 1.967 (6)

Chemistry:

	(1)
Ag	18.23
Pb	3.22
Fe	0.43
Sb	6.42
Bi	53.47
S	17.92
Total	99.69

(1) Alaskitovoye deposit, Russia; by electron microprobe, average of three analyses; corresponds to Ag_{5.10}Pb_{0.47}Fe_{0.23}Bi_{7.73}Sb_{1.59}S_{16.88}.

Occurrence: In a hydrothermal Sn–W deposit.

Association: Matildite, gustavite–andorite, aramayoite, galena, pavonite, ramdohrite, owyheeite, benjaminite, molybdenite, hübnerite, triplite, quartz.

Distribution: From the Alaskitovoye Sn–W deposit, near Ust-Nera, Sakha, Russia [TL].

Name: To honor Yuri Sergeevich Borodaev (1923–), Russian mineralogist, Moscow State University, Moscow, Russia.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 87992.

References: (1) Nenasheva, S.N., A.V. Efimov, A.V. Sivtsov, and N.N. Mozgova (1992) Borodaevite [Ag₅(Fe, Pb)₁Bi₇]₁₃(Sb, Bi)₂S₁₇ – a new mineral. *Zap. Vses. Mineral. Obshch.*, 121(4), 113–120 (in Russian). (2) (1994) *Amer. Mineral.*, 79, 763 (abs. ref. 1). (3) Ilinca, G. and E. Makovicky (1997) Note on the definition of borodayevite [sic] [Ag₅(Fe, Pb)Bi₇]₁₃(Sb, Bi)₂S₁₇. *Neues Jahrb. Mineral., Monatsh.*, 337–353.