

Crystal Data: Hexagonal. *Point Group:* $\bar{3} 2/m$. Coarse plates.

Physical Properties: *Cleavage:* {0001}, perfect. *Tenacity:* Ductile. Hardness = n.d. VHN = n.d. D(meas.) = 8.3 D(calc.) = 8.39

Optical Properties: Opaque. *Color:* Steel-gray; creamy white in reflected light. *Anisotropism:* Distinct, gray to dark brown.

R₁–R₂: (400) 54.5–55.4, (420) 54.5–55.7, (440) 54.6–56.0, (460) 54.8–56.5, (480) 55.1–57.1, (500) 55.4–57.8, (520) 55.8–58.6, (540) 56.2–59.3, (560) 56.5–59.8, (580) 56.7–60.2, (600) 56.8–60.5, (620) 56.7–60.6, (640) 56.6–60.5, (660) 56.3–60.4, (680) 56.0–60.1, (700) 55.7–59.8

Cell Data: *Space Group:* $R\bar{3}m$. $a = 4.33$ $c = 40.75$ $Z = 3$

X-ray Powder Pattern: Glacier Gulch, Canada.

3.16 (10), 2.16 (5), 2.29 (4), 1.779 (3), 4.52 (2), 1.943 (2), 1.566 (2)

Chemistry:

	(1)	(2)	(3)
Bi	75.14	75.1	74.42
Pb	0.68	0.6	
Fe	0.52		
Te	19.25	21.5	22.72
S	3.64	2.7	2.86
insol.	0.30		
Total	99.53	99.9	100.00

(1) Glacier Gulch, Canada; corresponding to Bi_{4.00}Fe_{0.10}Pb_{0.04}Te_{1.68}S_{1.26}. (2) Nagyörzsöny, Hungary; by electron microprobe, corresponds to Bi_{4.00}Pb_{0.03}Te_{1.88}S_{0.94}. (3) Bi₄Te₂S.

Occurrence: In quartz and skarn (Hedley, Canada).

Association: Bismuth, gold, Joséite, bismuthinite, ikonolite, hedleyite, pyrrhotite, arsenopyrite, molybdenite.

Distribution: In Canada, in British Columbia, from Glacier Gulch, Hudson Bay Mountain, near Smithers [TL]; and on the Good Hope claim, near Hedley, Osoyoos mining division. At the Stepnyak gold deposit, Kazakhstan. In the Sosukchan deposit, northeastern Sakha; in the Shumilovsk Sn–W deposit, and the gold placer Krasnyi Klyuch, Baikal region, eastern Siberia, Russia. At Kingsgate, New South Wales, Australia. From Natsukidani, Oita Prefecture, the Tsugahira mine, Kyushu, and in the Tsumo mine, about 50 km northwest of Hiroshima City, Akita Prefecture, Japan. At the tellurium Dashuigou deposit, Sichuan Province, and in the Qibaoshan deposit, Hunan Province, China. From Smolotely, near Příbram, Czech Republic. At the Propada and Bardce deposits, Malko Tarnovo district, Bulgaria. From Nagyörzsöny, Hungary. At Săcărîmb (Nagyág), Romania. From Tunaberg, Sweden. In the Carrock mine, Caldbeck Fells, Cumbria, and the Penlee quarry, Cornwall, England.

Name: For the relation to Joséite; “B” to distinguish it from Joséite, formerly Joséite-A.

Type Material: n.d.

References: (1) Peacock, M.A. (1941) On josite, grünlingite, oruete. Univ. Toronto Studies, Geol. Ser. 46, 83–105. (2) R.M. Thompson (1949) The telluride minerals and their occurrence in Canada. Amer. Mineral., 34, 342–382. (3) Criddle, A.J. and C.J. Stanley, Eds. (1993) Quantitative data file for ore minerals, 3rd ed. Chapman & Hall, London, 273.