

Crystal Data: Monoclinic. *Point Group:* 2/m. As irregular grains to 3 mm, intergrown within aggregates of skippenite.

Physical Properties: *Fracture:* Conchoidal. Hardness = n.d. VHN = 155-186, 166 average (25 g load). D(meas.) = n.d. D(calc.) = 7.82

Optical Properties: Opaque. *Color:* Black on a fresh fracture; white with a bluish tint in reflected light. *Luster:* Metallic.

Optical Class: *Anisotropism:* Moderate, in blue-gray to dark grayish brown.

R₁-R₂: (400) - , (420) 46.0-46.6, (440) 46.7-47.2, (460) 47.3-47.6, (480) 47.7-48.0, (500) 47.9-48.3, (520) 48.1-48.5, (540) 48.0-48.6, (560) 47.8-48.7, (580) 47.8-48.8, (600) 47.9-48.8, (620) 47.9-48.9, (640) 48.0-48.9, (660) 48.0-49.0, (680) 47.9-49.0, (700) 47.9-49.0

Cell Data: *Space Group:* P2₁/m. *a* = 12.925(4) *b* = 4.152(1) *c* = 15.55(5) β = 108.93(1)° *Z* = 2

X-ray Powder Pattern: Otish Mountains deposit, Canada.

2.976 (10), 2.929 (10), 3.573 (9b), 2.407 (7), 2.140 (7b), 2.065 (7b), 1.484 (7)

Chemistry:	(1)	(2)
Cu	8.06 - 9.16	6.80
Ag		1.18
Pb	14.03 - 16.39	11.97
Bi	42.69 - 46.44	45.11
Se	27.44 - 28.73	34.38
Te	0.19 - 0.53	0.00
S	3.03 - 3.47	0.08
Total		99.51

(1) Otish Mountains deposit, Canada; by electron microprobe, ranges of 11 grains, the average of which corresponds to Cu_{2.36}Pb_{1.26}Bi_{3.70}(Se_{6.21}S_{1.74}Te_{0.05})_{Σ=8.00}. (2) Zálesí uranium deposit, Czech Republic; average electron microprobe analysis; yields Cu_{1.93}Ag_{0.20}Pb_{1.04}Bi_{3.90}(Se_{7.87}S_{0.05})_{Σ=7.92}.

Occurrence: In vein-type uranium deposits with other tellurides and selenides.

Association: Skippenite, soucekite, clausthalite, chalcopyrite, Au-Ag alloy (Otish Mountains); clausthalite, bohdanowiczite, nevkite (Niederschlema-Alberoda deposit).

Distribution: From the Otish Mountains uranium deposit, Quebec, Canada. At the El Dragón mine, Antonio Quijarro Province, Department of Potosí, Bolivia. From the Zálesí uranium deposit, Czech Republic, and the Niederschlema-Alberoda U-Se-polymetallic deposit, western Erzgebirge, Germany.

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Type Material: n.d.

References: (1) Johan, Z., P. Picot, and F. Ruhlmann (1987) The ore mineralogy of the Otish Mountains uranium deposit, Quebec: skippenite, Bi₂Se₂Te, and watkinsonite, Cu₂PbBi₄(Se,S)₈, two new mineral species. *Can. Mineral.*, 25, 625-637. (2) (1989) *Amer. Mineral.*, 74, 948 (abs. ref. 1). (3) Topa, D., E. Makovicky, J. Sejkora, and H. Dittrich (2010) The crystal structure of watkinsonite, Cu₂PbBi₄Se₈, from the Zálesí uranium deposit, Czech Republic. *Can. Mineral.*, 48, 1109-1118. (4) Förster, H.-J., G. Tischendorf, and D. Rhede (2005) Mineralogy of the Niederschlema-Alberoda U-Se-polymetallic deposit, Erzgebirge, Germany. V. Watkinsonite, nevkite, bohdanowiczite, and other bismuth minerals. *Can. Mineral.*, 43, 899-908. (5) (2006) *Amer. Mineral.*, 91(1), 224 (abs. ref. 4). (6) Förster, H.-J., L. Bindi, G. Grundmann, and C.J. Stanley (2018) Cerro-mojonite, CuPbBiSe₃, from El Dragón (Bolivia): A new member of the bournonite group. *Minerals*, 8(10), 420 [locality for watkinsonite].