

Crystal Data: Cubic. *Point Group:* $2/m\bar{3}$. Grains, to 240 μm .

Physical Properties: Hardness = > 3 (harder than clausthalite). D(meas.) = n.d.
D(calc.) = 7.10

Optical Properties: Opaque. *Color:* White in reflected light.

R_1 – R_2 : (400) 50.1–50.4, (420) 50.3–50.6, (440) 50.5–50.7, (460) 50.7–50.8, (480) 50.8–50.9, (500) 50.9–51.0, (520) 51.0–51.1, (540) 51.1–51.1, (560) 51.1–51.2, (580) 51.2–51.3, (600) 51.3–51.3, (620) 51.1–51.4, (640) 51.4–51.3, (660) 51.4–51.3, (680) 51.3–51.3, (700) 51.2–51.1

Cell Data: *Space Group:* $Pa\bar{3}$. $a = 5.831(1)$ $Z = 4$

X-ray Powder Pattern: Shirley Peninsula, Canada.

2.602 (100), 2.378 (80), 1.757 (80), 2.916 (50), 1.559 (50), 1.617 (40), 2.062 (30)

Chemistry:	(1)
	Ni 22.6
	Co 6.0
	As 36.9
	Se 34.9
	S 0.51
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	Total 100.9

(1) Shirley Peninsula, Canada; by electron microprobe, corresponds to $(\text{Ni}_{0.81}\text{Co}_{0.21})_{\Sigma=1.02}\text{As}_{1.03}(\text{Se}_{0.92}\text{S}_{0.03})_{\Sigma=0.95}$.

Mineral Group: Cobaltite group.

Occurrence: From a drill core in a fracture zone near a dolomite–peridotite contact.

Association: Clausthalite, Pb–Bi–Ag selenides, gold, “pitchblende”.

Distribution: From the Fish Hook Bay area, Shirley Peninsula, north shore of Lake Athabaska, 18 km south of Uranium City, Saskatchewan, Canada [TL].

Name: To honor Professor Alfred Watson Jolliffe (1907–1988), Canadian geologist, Queen’s University, Kingston, Ontario, Canada, for his contributions to mineral exploration of northern Saskatchewan, Canada.

Type Material: Canadian Geological Survey, Ottawa, Canada, 65747.

References: (1) Cabri, L.J., J.H.G. Laflamme, A.C. Roberts. A.J. Criddle, and L.J. Hulbert (1991) Jolliffeite and unnamed CoAsSe: two new arsenoselenides from the north shore of Lake Athabasca, Saskatchewan. *Can. Mineral.*, 29, 411–418. (2) (1992) *Amer. Mineral.*, 77, 447 (abs. ref. 1).