Vozhminite $(Ni, Co)_4(As, Sb)S_2$

Crystal Data: Hexagonal. *Point Group:* n.d. Massive (?).

Physical Properties: *Cleavage:* One, distinct. Hardness = n.d. VHN = 240–300, 270 average, to 376–480, 436 average (100 g load), depending on orientation. D(meas.) = n.d. D(calc.) = 6.2

Optical Properties: Opaque. *Color:* Yellowish with a brown tint; in reflected light, rose-orange. *Streak:* Black. *Luster:* Metallic.

R_1–R_2: (400) — , (420) 35.0–41.2, (440) 37.0–43.0, (460) 39.2–45.0, (480) 41.7–47.0, (500) 44.0–48.6, (520) 45.9–49.8, (540) 47.5–50.9, (560) 48.9–51.9, (580) 50.2–52.7, (600) 51.1–53.3, (620) 52.1–54.2, (640) 52.8–55.0, (660) 53.4–55.8, (680) 53.7–56.6, (700) 54.1–57.1

Cell Data: *Space Group:* n.d. $a = 17.46(4)$ $c = 7.20(1)$ $Z = 18$

X-ray Powder Pattern: Vozhmin massif, Russia.
8.7 (10), 1.776 (10b), 3.07 (9), 2.111 (9), 2.303 (7), 2.717 (6)

Chemistry:

	(1)
Ni	52.7
Co	5.56
Fe	0.05
As	13.1
Sb	11.3
S	16.8
Total	99.51

(1) Vozhmin massif, Russia; by electron microprobe, average of 22 points on 2 samples, corresponding to $(Ni_{3.43}Co_{0.36})_{\Sigma=3.79}(As_{0.67}Sb_{0.35})_{\Sigma=1.02}S_{2.00}$.

Occurrence: In heazlewoodite ore in serpentinites.

Association: Heazlewoodite, tučekite, magnetite, geversite, copper.

Distribution: From the Vozhmin massif, Segezha district, central Karelia, Russia.

Name: For its occurrence in the Vozhmin massif, Karelia, Russia.

Type Material: Mining Institute, St. Petersburg, Russia, 1139/1.

References: (1) Rudashevskii, N.S., Y.P. Men'shikov, A.A. Lentsi, N.I. Shumskaya, A.B. Lobanova, G.N. Goncharov, and A.G. Tutov (1982) Vozhminite, $(Ni, Co)_4(As, Sb)S_2$, a new mineral. Zap. Vses. Mineral. Obshch., 111, 480–485 (in Russian). (2) (1983) Amer. Mineral., 68, 645 (abs. ref. 1).