Fluorocronite PbF_2

Crystal Data: Cubic. *Point Group*: 4/*m* $\bar{3}$ 2/*m*. As flattened leaf-like crystals, to 20 μm, displaying {100} and perhaps {111}. Sn-bearing variety is prismatic to 15 μm.

Physical Properties: *Cleavage*: Perfect on {111}. *Fracture*: n.d. *Tenacity*: n.d. Hardness = 3-4 D(meas.) = n.d. D(calc.) = 7.619; 7.462-7.210 (Sn-bearing samples)

Optical Properties: Translucent. *Color*: White. *Streak*: White. *Luster*: Pearly. *Optical Class*: Isotropic. n = 1.766 (synthetic β-PbF_2)

Cell Data: *Space Group*: *Fm*3*m*. a = 5.9306(5) Z = 4

X-ray Powder Pattern: Kupol'noe deposit, Sakha Republic, Russian Federation. 3.437 (100), 2.976 (46), 2.103 (44), 1.794 (42), 1.717 (21), 1.366 (20), 1.329 (20)

Chemistry:	(1)	(2)	(3)
Pb	84.02	72.75	84.50
Sn		10.42	
F	15.9	16.94	15.50
Total	99.92	100.11	100.00

(1) Kupol'noe deposit, northern Sarychev range, Sakha Republic, Russian Federation; average of 10 electron microprobe analyses; corresponds to $Pb_{0.98}F_{2.02}$. (2) Kupol'noe deposit, northern Sarychev range, Sakha Republic, Russian Federation; electron microprobe analysis; corresponding to $(Pb_{0.80}Sn^{2+}_{0.20})F_2$. (3) PbF_2.

Occurrence: A weathering product of hydrothermal Sn-Ag polymetallic veins.

Association: Cassiterite, quartz, anglesite, cerussite, galena, hocartite, bindheimite, chlorargyrite.

Distribution: From the Kupol'noe deposit, northern Sarychev range, Sakha Republic, Russian Federation.

Name: For the composition, *fluoro* (for fluorine) and *cron* (the alchemical name for lead).

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (3987/1) and the Mineral Sciences Department, Natural History Museum of Los Angeles County, Los Angeles, California, USA (63316).

References: (1) Mills, S.J., P.M. Kartashov, G.N. Gamyanin, P.S. Whitfield, A. Kern, H. Guerault, A.R. Kampf, and M. Raudsepp (2011) Fluorocronite, the natural analogue of β-PbF_2, from the Sakha Republic, Russian Federation. Eur. J. Mineral. 23, 695-700. (2) (2012) Amer. Mineral., 98, 2067 (abs. ref. 1).