

**Crystal Data:** Triclinic. *Point Group:*  $\bar{1}$ . As tabular, lamellar, equant or short prismatic crystals to 0.1 mm and as pseudomorphs after urusovite crusts to 2 cm.

**Physical Properties:** *Cleavage:* Distinct, one direction (observed under the microscope).  
*Fracture:* Uneven. *Tenacity:* Brittle. Hardness = ~ 3.5 D(meas.) = n.d. D(calc.) = 5.036

**Optical Properties:** Transparent. *Color:* Green to dark green. *Streak:* Light green.  
*Luster:* Vitreous.

*Optical Class:* Biaxial (-).  $\alpha = 1.870(10)$   $\beta = 1.900(10)$   $\gamma = 1.915(10)$   $2V(\text{meas.}) = 60(15)^\circ$   
 $2V(\text{calc.}) = 70^\circ$  *Pleochroism:* Strong; Z = bright green, Y = green, X = very pale green.  
*Absorption:*  $Z > Y > X$ . *Dispersion:* Weak,  $r > v$ .

**Cell Data:** *Space Group:*  $P\bar{1}$ .  $a = 6.4271(4)$   $b = 7.6585(4)$   $c = 8.2249(3)$   $\alpha = 98.396(4)^\circ$   
 $\beta = 112.420(5)^\circ$   $\gamma = 98.397(5)^\circ$   $Z = 2$

**X-ray Powder Pattern:** Arsenatnaya fumarole, Tolbachik volcano, Kamchatka, Russia.  
 3.685 (100), 2.777 (98), 3.063 (71), 2.957 (58), 2.201 (51), 3.868 (46), 2.698 (46)

Chemistry:	(1)	(2)
CuO	57.55	58.06
ZnO	0.90	
Fe <sub>2</sub> O <sub>3</sub>	0.26	
P <sub>2</sub> O <sub>5</sub>	0.23	
V <sub>2</sub> O <sub>5</sub>	0.14	
As <sub>2</sub> O <sub>5</sub>	40.57	41.94
SO <sub>3</sub>	0.17	
Total	99.82	100.00

(1) Arsenatnaya fumarole, Tolbachik volcano, Kamchatka, Russia; average of 6 electron microprobe analyses supplemented by Raman spectroscopy; corresponding to  $(\text{Cu}_{3.97}\text{Zn}_{0.06}\text{Fe}_{0.02})_{\Sigma=4.05}(\text{As}_{1.94}\text{P}_{0.02}\text{V}_{0.01}\text{S}_{0.01})_{\Sigma=1.98}\text{O}_9$ . (2) Cu<sub>4</sub>O(AsO<sub>4</sub>)<sub>2</sub>.

**Occurrence:** As complex incrustations on the surface of basalt scoria or in open pockets. Deposited directly from volcanic gas or as the result of gas-rock interactions at temperatures > 380 °C.

**Association:** Kozyrevskite, urusovite, lammerite, lammerite-β, popovite, alarsite.

**Distribution:** From Arsenatnaya fumarole, Second scoria cone of the Northern Breakthrough of the Great Tolbachik Fissure Eruption, Tolbachik volcano, Kamchatka, Russia.

**Name:** Honors the Russian mineralogist, geologist, geographer, biologist and chemist Eric Laxman (1737-1796) for his contributions to the study of the natural history of Eastern Siberia.

**Type Material:** A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (94132).

**References:** (1) Pekov, I.V., N.V. Zubkova, V.O. Yapaskurt, D.I. Belakovskiy, M.F. Vigasina, E.G. Sidorov, and D.Yu. Pushcharovsky (2014) New arsenate minerals from the Arsenatnaya fumarole, Tolbachik volcano, Kamchatka, Russia. II. Ericlaxmanite and kozyrevskite, two natural modifications of Cu<sub>4</sub>O(AsO<sub>4</sub>)<sub>2</sub>. Mineral. Mag., 78(7), 1553-1569. (2) (2016) Amer. Mineral., 101, 1242-1243 (abs. ref. 1).