

Crystal Data: Tetragonal. *Point Group:* 4/m. As anhedral grains to 40 μm; as rims on other minerals.

Physical Properties: *Cleavage:* None. *Fracture:* None observed. *Tenacity:* Brittle. Hardness = ~ 4 VHN = 355 (20 g load). D(meas.) = n.d. D(calc.) = 9.993

Optical Properties: Opaque. *Color:* Gray; light gray with a brownish tinge in reflected light.

Streak: Gray. *Luster:* Metallic.

Optical Class: n.d. *Anisotropism:* Distinct to strong. *Birefractance:* Strong.

Pleochroism: Light brownish gray to grayish brown.

R₁-R₂: (470) 40.9-48.3, (546) 47.6-56.4, (589) 52.1-61.0, (650) 57.5-65.2

Cell Data: *Space Group:* I4/m. *a* = 8.9599(6) *c* = 11.822(1) *Z* = 2

X-ray Powder Pattern: Lukkulaisvaara intrusion, northern Karelia, Russia.

2.045 (100), 2.809 (92), 2.554 (66), 2.003 (63), 2.832 (58), 2.137 (57), 2.1015 (52)

Chemistry:	(1)	(2)
Pd	52.17	52.20
Ag	7.03	7.56
Te	40.36	40.24
Bi	0.05	.
Total	99.61	100.00

(1) Lukkulaisvaara intrusion, northern Karelia, Russia; average of 5 electron microprobe analyses; corresponding to Pd_{14.05}Ag_{1.88}Te_{9.06}. (2) Pd₁₄Ag₂Te₉.

Occurrence: In veins, veinlets and pods in sulfide-bearing, pegmatoid pyroxenites in a layered gabbro-norite intrusion, formed under post-magmatic conditions.

Association: Tulameenite, telargpalite, Bi-rich kotulskite, chalcopyrite, millerite, bornite, hematite, moncheite, hongshiite, telluropalladinite, sperrylite, palarstanide, platinum-group minerals.

Distribution: From the Lukkulaisvaara layered intrusion, northern Karelia, Russia.

Name: For the locality that produced the first specimens, the Lukkulaisvaara intrusion.

Type Material: Department of Mineralogy, National Museum, Prague, Czech Republic (PIP 15/2013).

References: (1) Vymazalová, A., T.L. Grokhovskaya, F. Laufek and V.A. Rassulov (2014) Lukkulaisvaaraita, Pd₁₄Ag₂Te₉, a new mineral from Lukkulaisvaara intrusion, northern Russian Karelia, Russia. *Mineral. Mag.*, 78(7), 1743-1754. (2) (2016) *Amer. Mineral.*, 101, 2127 (abs. ref. 1).