Kojonenite Pd_6SnTe_2

Crystal Data: Tetragonal. *Point Group*: 4/*m* 2/*m* 2/*m*. As grains, to 40 μm; in clusters to 100 μm.

Physical Properties: *Cleavage*: n.d. *Fracture*: n.d. *Tenacity*: n.d. Hardness = n.d.
D(meas.) = n.d. D(calc.) = n.d.

Optical Properties: Opaque. *Color*: Pinkish off-white in reflected light. *Streak*: n.d.
Luster: n.d.
Optical Class: Uniaxial (-). *Birefrengence:* Weak. *Anisotropism:* Distinct, shades of dark greenish brown.
R_1-R_2: (470) 55.0-52.7, (546) 58.5-56.5, (589) 61.0-58.3, (650) 63.9-60.1

Cell Data: Space Group: *I*4/*mmm*. a = 4.001(1) c = 20.929(3) Z = 2

X-ray Powder Pattern: Synthetic. (PDF 01-073-5652).
2.1986 (100), 2.496 (52), 2.0025 (48), 10.465 (29), 2.0930 (18), 1.4469 (17), 1.1905 (17)

Chemistry:	(1)	(2)
Pd	62.48	63.1
Sn	11.74	11.7
Te	25.63	24.7
Total	99.85	100.0

(1) Howland Reef, Stillwater Complex , Montana, USA; average of 20 electron microprobe analyses; corresponds to $Pd_{5.96}Sn_{1.00}Te_{2.04}$. (2) Pd_6SnTe_2.

Occurrence: In a sulfide-rich intercumulus segregation in a Pt-bearing zone in a layered mafic igneous intrusion.

Association: Kotulskite, more rarely, intergrown with moncheite and palarstanide as inclusions in chalcopyrite, cubanite, pentlandite, and pyrrhotite.

Distribution: From the first crosscut of the Minneapolis adit, Howland Reef, lower part of the Banded zone, Stillwater Complex, Montana, USA.

Name: Honors Kari K. Kojonen (b. 1949), senior research scientist, Bedrock Geology and Resources Group, Geological Survey of Finland, for contributions to the mineralogy of the platinum group minerals and to ore mineralogy in general. Kojonen also served as Vice-Chair of the Commission on Ore Mineralogy of the International Mineralogical Association.

Type Material: Natural History Museum, London, England, (BM 1981,134).

References: (1) Stanley, C.J. and A. Vymazalová (2015) Kojonenite, a new palladium tin telluride mineral from the Stillwater Layered Igneous Intrusion, Montana, U.S.A. Amer. Mineral., 100, 447-450.