Mitrofanovite Pt_3Te_4

Crystal Data: Hexagonal. *Point Group*: $\bar{3}$ 2/*m*. As anhedral grains to 50 μm intergrown with moncheite.

Physical Properties: *Cleavage*: Good on {00*1}. *Tenacity*: Brittle. *Fracture*: n.d. Hardness = n.d. D(meas.) = n.d. D(calc.) = 11.18

Optical Properties: Opaque. *Color*: Bright white in reflected light. *Streak*: Gray. *Luster*: Metallic. *Optical Class*: Medium to strong bireflectance. Slight pleochroism. Strongly anisotropic on non-basal sections with grayish brown tints. No internal reflections.
R_1-R_2: (470) 58.4-54.6, (546) 62.7-58.0, (589) 63.4-59.1, (650) 63.6-59.5

Cell Data: *Space Group*: $R\bar{3}$ *m*. *a* = 3.9874(1) *c* = 35.361(1) Z = 3

X-Ray Diffraction Pattern: East Chuarvy deposit, Fedorovo-Pana complex, Kola Peninsula, Russia. 5.891 (100), 2.851 (26), 1.574 (24), 11.790 (23), 1.3098 (21), 2.039 (18), 2.137 (16)

Chemistry:

	(1)
Pt	52.08
Pd	0.19
Te	47.08
Bi	0.91
Total	100.27

(1) East Chuarvy deposit, Fedorovo-Pana complex, Kola Peninsula, Russia; average electron microprobe analysis; corresponds to $(Pt_{2.91}Pd_{0.02})_{\Sigma=2.93}(Te_{4.02}Bi_{0.05})_{\Sigma=4.07}$.

Occurrence: In low-sulfide disseminated Cu-Ni-PGE ore in olivine-bearing gabbronorite in a layered igneous complex.

Association: Moncheite, lukkulaisvaaraite, kotulskite, vysotskite, braggite, keithconnite, rustenburgite, Pt-Fe alloys, chalcopyrite, pentlandite, pyrrhotite, orthopyroxene, augite, olivine, amphiboles, plagioclase.

Distribution: From the East Chuarvy deposit, Fedorovo-Pana complex, Kola Peninsula, Russia.

Name: Honors Dr. Felix P. *Mitrofanov*, a Russian geologist who was among the first to discover platinum-group element mineralization in the Fedorova-Pana complex.

Type Material: A.E. Fersman Mineralogical Museum, RAS, Moscow, Russia (5141/1).

References: (1) Subbotin, V.V., A. Vymazalová, F. Laufek, Y.E. Savchenko, C.J. Stanley, D.A. Gabov, and J. Plášil (2019) Mitrofanovite, Pt_3Te_4, a new mineral from the East Chuarvy deposit, Fedorovo-Pana intrusion, Kola Peninsula, Russia. Mineral. Mag., 83, 523-530.