Cherepanovite RhAs

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. As grains, up to 0.5 mm, in aggregates.

Physical Properties: *Cleavage:* One distinct. Hardness = n.d. VHN = 726–754 (50 g load). D(meas.) = n.d. D(calc.) = 9.72

Optical Properties: Opaque. *Color:* Pale gray; in reflected light, white with an orange tint. *Streak:* Grayish black. *Luster:* Metallic. *Pleochroism:* Weak, in yellow to pinkish hue and bluish white. *Anisotropism:* Green to gray-brown.
R_1–R_2: (400) — , (420) 39.2–40.5, (440) 39.6–41.0, (460) 40.3–41.9, (480) 41.0–42.9, (500) 41.9–43.8, (520) 42.7–44.7, (540) 43.6–45.5, (560) 44.1–46.1, (580) 44.5–46.6, (600) 44.9–47.1, (620) 45.1–47.3, (640) 45.2–47.4, (660) 45.3–47.6, (680) 45.5–47.6, (700) 45.4–47.6

Cell Data: *Space Group: Pnma.* $a = 5.70(2)$ $b = 3.59(1)$ $c = 6.00(1)$ $Z = 4$

X-ray Powder Pattern: Northern Pekul'nei River, Russia.
3.01 (10), 2.10 (6b), 1.813 (2), 1.771 (2b), 1.501 (2b), 1.354 (2b)

Chemistry:

	(1)	(2)
Rh	55.9	57.87
Ru	1.45	
Pt	0.61	
Ni	0.20	
As	41.6	42.13
Total	99.76	100.00

(1) Northern Pekul'nei River, Russia; by electron microprobe, average of 16 grains; corresponds to $(Rh_{0.98}Ru_{0.03}Pt_{0.01}Ni_{0.01})_{\Sigma=1.03}As_{1.00}$. (2) RhAs.

Occurrence: In a placer with other platinum group element minerals derived from an ultramafic massif in an ophiolite belt (Northern Pekul'nei River, Russia).

Association: Isoferroplatinum, tetraferroplatinum, ferronickelplatinum, rutheniridosmine, laurite, irarsite, cooperite, sperrylite, hollingworthite, chromite, olivine (Northern Pekul'nei River, Russia); isoferroplatinum, rhodian irarsite, hongshiite, sperrylite, tulameenite (Upper Miask River, Russia); laurite, erlichmannite, cuproiridisite, kashinite, rhodian pentlandite, irarsite, chromite, olivine (Ray-Iz complex, Russia).

Distribution: In Russia, from a placer of the Northern Pekul'nei River, Pekul'nei Range, eastern Chukot Peninsula [TL]; in a placer in the Upper Miask River, Ural Mountains; and at the Ray-Iz ophiolite complex, Polar Ural Mountains. In the Onverwacht pipe, in the Merensky Reef, Bushveld complex, Transvaal, South Africa.

Name: In honor of Vladimir Aleksandrovich Cherepanov (1927–1983), Russian geologist and mineralogist, Karpinskii All-Union Research Institute of Geology, St. Petersburg, Russia.

Type Material: Mining Institute, St. Petersburg, Russia, 2103/1.

References: (1) Rudashevskii, N.S., A.G. Mochalov, N.V. Trubkin, N.I. Shumskaya, V.I. Shkurskii, and T.L. Evstigneeva (1985) Cherepanovite RhAs – a new mineral. Zap. Vses. Mineral. Obshch., 114, 464–469 (in Russian). (2) (1986) Amer. Mineral., 71, 1544 (abs. ref. 1). (3) (1986) Mineral. Abs., 37, 529 (abs. ref. 1).