

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. As the outermost layer, to $\sim 5\ \mu\text{m}$, on isoferroplatinum-based grains.

Physical Properties: *Cleavage:* n.d. *Tenacity:* n.d. *Fracture:* n.d. *Hardness:* = n.d. $D(\text{meas.}) = \text{n.d.}$ $D(\text{calc.}) = 10.04$

Optical Properties: Opaque. *Color:* Rose gray, pale gray in reflected light. *Streak:* n.d. *Luster:* Metallic.

Optical Class: *Anisotropism:* Moderate, reddish gray to bluish gray. *Pleochroism:* Weak, pinkish pale gray to bluish pale gray.

Cell Data: *Space Group:* $Pnma$. $a = 5.934(7)$ $b = 3.848(3)$ $c = 6.305(4)$ $Z = 4$

X-ray Powder Pattern: Hikawa Dam, Haraigawa, Misato machi, Kumamoto Prefecture, Japan. 2.199 (100), 2.860 (63), 1.843 (51), 1.923 (49), 2.250 (47), 2.162 (38), 2.774 (35)

Chemistry:	(1)	(2)
Rh	46.83	45.80
Sb	48.97	54.20
As	4.08	
Total	99.88	100.00

(1) Hikawa Dam, Haraigawa, Misato machi, Kumamoto Prefecture, Japan; average EDS analysis; corresponds to $\text{Rh}_{0.998}(\text{Sb}_{0.882}\text{As}_{0.120})_{\Sigma=1.002}$. (2) RhSb.

Occurrence: In a platinum-group mineral (PGM) placer in a small stream crossing a clinopyroxenite body in serpentinite mélange.

Association: Isoferroplatinum, cuprorhodsitite, ferhodsitite-like mineral, $\text{Rh}(\text{Ge,Cu,Fe})$ mineral, osmium, erlichmanite, laurite, bowieite, cuprorhodsitite, tulameenite, tetraferroplatinum.

Distribution: From the northeast side of Hikawa Dam, Haraigawa, Misato machi, Kumamoto Prefecture, Japan.

Name: Honors Japanese mineralogist, Professor Tetsuo *Minakawa* (b. 1950) of Ehime University for his contributions to the descriptive mineralogy of Kyushu and Shikoku, Japan.

Type Material: National Museum of Nature and Science, Tsukuba, Japan (NSM-46296 holotype and NSM-46297 cotype).

References: (1) Nishio-Hamane, D., T. Tanaka, and T. Shinmachi (2019) Minakawaite and platinum-group minerals in the placer from the clinopyroxenite area in serpentinite mélange of Kurosegawa belt, Kumamoto Prefecture, Japan. *J. Mineral. and Petrolog. Sci.*, 114(5), 252-262.