Crystal Data: Hexagonal. *Point Group*: $\bar{3}\,2/m$. As grains to 20 μm among droplet-like inclusions of platinum-group minerals to 50 μm.

Physical Properties: *Cleavage*: None. *Tenacity*: n.d. *Fracture*: None. Hardness = n.d.
D(meas.) = n.d. D(calc.) = 5.93

Optical Properties: Opaque. *Color* Gray to brownish gray in reflected light. *Streak*: n.d.
Luster: Metallic.
Optical Class: Weakly anisotropic. Very weakly bireflectant. *Pleochroism*: None or weak, grayish to light brown.

Cell Data: *Space Group: R*$\bar{3}$ *m*. *a* = 7.069(2) *c* = 34.286(11) Z = 3

X-Ray Diffraction Pattern: Derived from synchrotron micro-Laue diffraction.
2.795 (100), 5.714 (61), 1.767 (44), 5.765 (39), 3.049 (39), 2.596 (38), 1.503 (35)

Chemistry:

	(1)	(2)	(3)
Ir	18.68	1.35	
Rh	18.34	29.10	32.44
Pt	0.64	0.715	
Ru	0.03		
Os	0.07	0.125	
Fe	14.14	15.875	35.21
Ni	13.63	12.925	
Cu	4.97	6.49	
Co	0.09	1.43	
Ag		0.01	
S	29.06	31.58	32.34
Total	99.66	99.60	100.00

(1) River Ko deposit, Sisim placer zone, Krasnoyarskiy kray, central Siberia, Eastern Sayans, Russia; average electron microprobe analysis; corresponds to $(Rh_{3.16}Ir_{1.72}Pt_{0.06}Ru_{0.01}Os_{0.01})_{\Sigma=4.95}(Fe_{4.48}Ni_{4.11}Cu_{1.38}Co_{0.03})_{\Sigma=10.00}S_{16.05}$. (2) Marathon deposit, Ontario, Canada; average of four analyses; corresponds to $(Rh_{4.59}Ir_{0.11}Pt_{0.06})_{\Sigma=4.76}(Fe_{4.62}Ni_{3.58}Cu_{1.66}Co_{0.39})_{\Sigma=10.24}S_{15.99}$. (3) $Rh_5Fe_{10}S_{16}$.

Polymorphism & Series: Probable solid solution series with torryweiserite.

Occurrence: In fluvial placers likely derived from chromitites within ultramafic rocks of a layered complex of dunite-peridotite-gabbro.

Association: Oberthürite or Rh-bearing pentlandite, laurite, a Pt-Pd-Fe alloy (likely isoferroplatinum and Fe-Pd-enriched platinum), hosted by grains of Os-Ir alloy (River Ko); torryweiserite, oberthürite (Coldwater).

Distribution: From the River Ko deposit, Sisim placer zone, Krasnoyarskiy kray, central Siberia, southwestern Eastern Sayans, Russia. In the Marathon Cu-Pd deposit, Coldwell Complex, Ontario, Canada.

Name: The prefix indicates the Fe-analogue of *torryweiserite*.

Type Material: Central Siberian Geological Museum, Sobolev Institute of Geology and Mineralogy, Novosibirsk, Russia (III-105/1).

References: (1) Barkov, A.Y., N.D. Tolstykh, N. Tamura, R.F. Martin, A.M. McDonald, and L.J. Cabri (2021) Ferrotorryweiserite, $Rh_5Fe_{10}S_{16}$, a new mineral species from the Sisim Placer Zone, Eastern Sayans, Russia, and the torryweiserite-ferrotorryweiserite series. Minerals, 11, 1420, 1-14.