**Crystal Data**: Orthorhombic. *Point Group*: 2/m 2/m. As prismatic crystals and irregular grains to 15  $\mu$ m.

**Physical Properties**: *Cleavage*: None. *Tenacity*: Brittle. *Fracture*: Uneven. Hardness = n.d. D(meas.) = n.d. D(calc.) = 5.245

**Optical Properties**: Transparent. *Color*: Bright red, light gray in reflected light, with abundant bright red internal reflections. *Streak*: n.d. *Luster*: Adamantine. *Optical Class*: *Pleochroism*: Moderate in transmitted light, orange-red to dark red. Weakly bireflectant. *Anisotropism*: Distinct, light gray to brown. R<sub>1</sub>-R<sub>2</sub>: (470) 25.2-27.1, (546) 24.0-25.5, (589) 23.7-24.7, (650) 23.0-24.0

**Cell Data**: Space Group: Cmce. a = 15.328(1) b = 7.662(7) c = 16.633(1) Z = 8

**X-Ray Diffraction Pattern**: Calculated pattern. 3.374 (100), 2.993 (62), 3.831 (34), 3.480 (33), 6.337 (22), 2.576 (19), 2.532 (18)

Chemistry:		(1)	(2)
	Mn	7.34	7.10
	Tl	51.89	52.81
	Pb	0.50	
	As	18.79	19.37
	S	20.70	20.72
	Total	99.22	100.00

(1) Vorontsovskoe gold deposit, Sverdlovskaya Oblast, Northern Urals, Russia.; electron microprobe analysis supplemented by Raman spectroscopy; corresponds to Mn<sub>1.04</sub>Tl<sub>1.97</sub>Pb<sub>0.02</sub>As<sub>1.95</sub>S<sub>5.02</sub>.
(2) MnTl<sub>2</sub>As<sub>2</sub>S<sub>5</sub>.

**Occurrence**: Formed by complex hydrothermal-metasomatic processes with successive telescoping of ore mineral assemblages in breccias, developed in limestones and volcanic-sedimentary rocks, cemented by realgar, orpiment, and pyrite.

**Association**: Alabandite, bernardite, christite, cinnabar, coloradoite, dalnegroite, gillulyite, gold, hutchinsonite, imhofite, lorándite, metacinnabar, philrothite, rebulite, routhierite, sphalerite, vrbaite.

**Distribution**: From the Vorontsovskoe gold deposit, Auerbakh ore district, ~13 km south of Krasnoturinsk, Sverdlovskaya Oblast, Northern Urals, Russia.

**Name**: Honors Russian mining engineer, manufacturer, and mineralogist Alexander Andreevitch *Auerbakh* (1844-1916) for contributions to the development of the ore district in the Northern Urals named for him.

**Type Material**: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (5579/1).

**References**: (1) Kasatkin, A.V., J. Plášil, E. Makovicky, N.V. Chukanov, R. Škoda, A.A. Agakhanov, S.Y. Stepanov, and R.S. Palamarchuk (2021) Auerbakhite, MnTl<sub>2</sub>As<sub>2</sub>S<sub>5</sub>, a new thallium sulfosalt from the Vorontsovskoe gold deposit, Northern Urals, Russia. J. Geosciences, 66, 89-96.