

Anorthominasragrite



TRICLINIC

Locality: North Mesa mine group (west $\frac{1}{2}$, southwest $\frac{1}{4}$ of section 35, Township 24 South, Range 11 East), Temple Mountain mining district, Emery County, Utah, USA.

Occurrence: In a silicified tree approximately 46 cm wide by 30 cm high surrounded by a rim of coal 6 to 25 mm thick. Associated minerals are: orthominasragrite and bobjonosite.

General appearance: Crusts and spherical granular aggregates (<1 mm across) of irregular grains (<0.1 mm).

Physical, chemical and crystallographic properties: *Luster:* vitreous. *Diaphaneity:* not stated, but probably transparent. *Color:* pale blue. *Streak:* white. *Luminescence:* nonfluorescent. *Hardness:* approximately 1. *Tenacity:* not given. *Cleavage:* none. *Fracture:* not given. *Density:* could not be measured, 2.12 g/cm³ (calc.). **Crystallography:** Triclinic, $P\bar{1}$, a 7.548, b 7.805, c 7.821 Å, α 79.03°, β 71.94°, γ 65.31°, V 397.1 Å³, $Z = 2$, $a:b:c = 0.9671:1:1.0020$. *Morphology:* no forms were observed. *Twinning:* none mentioned. **X-ray powder-diffraction data:** 7.053(80)(010), 6.617(100)(100), 5.314(30)(011), 4.116(80)(110), 3.712(80)(121,002,211), 3.206(70)(221), 2.934(50)(1 $\bar{1}$ 2,102), 2.555(30)(131). **Optical data:** Biaxial (+), α 1.548, β 1.555, γ 1.574, $2V(\text{meas.})$ 86°, $2V(\text{calc.})$ 63°; dispersion not mentioned; nonpleochroic; $X \wedge c$. 18° in obtuse angle β , Y . $a, Z \wedge b$. 19° in obtuse angle γ . **Chemical analytical data:** Electron-microprobe data: VO₂ 33.93, SO₃ 30.78, H₂O (35.52), Total (100.23) wt.%. Empirical formula: V_{1.04}O_{1.08}(SO₄)_{0.98}•5.00H₂O. **Relationship to other species:** It is the triclinic polymorph of V⁴⁺O(SO₄•5H₂O); minasragrite is monoclinic, and orthominasragrite is orthorhombic.

Name: Reflects the relationship to minasragrite and orthominasragrite.

Comments: IMA No. 2001–040.

COOPER, M.A., HAWTHORNE, F.C., GRICE, J.D. & HAYNES, P. (2003): Anorthominasragrite, V⁴⁺O(SO₄(H₂O)₅), a new mineral species from Temple Mountain, Emery County, Utah, U.S.A.: description, crystal structure and hydrogen bonding. *Canadian Mineralogist* **41**, 959-980.