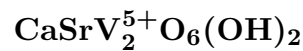


Metadelrioite



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Crystal Data: Triclinic. *Point Group:* $\bar{1}$ or 1. Intimately intergrown in parallel orientation with delrioite, in radial fibrous aggregates of tiny acicular crystals.

Physical Properties: Hardness = ~ 2 D(meas.) = 4.3 D(calc.) = 4.21 Readily soluble in H_2O .

Optical Properties: Translucent. *Color:* Light yellow-green to darker green on exposed surfaces, probably the result of photoreduction of some of the vanadium. *Luster:* Vitreous to pearly.

Optical Class: Biaxial (-); properties composite with delrioite. *Pleochroism:* X = colorless; Y = pale yellow; Z = deeper yellow. *Orientation:* Z = elongation; extinction parallel. $\alpha = 1.783(3)$ $\beta = 1.834(3)$ $\gamma = 1.866(3)$ 2V(meas.) = Medium to large.

Cell Data: *Space Group:* $P\bar{1}$ or $P1$. $a = 7.343(7)$ $b = 8.382(3)$ $c = 5.117(4)$
 $\alpha = 111^\circ 39(2)'$ $\beta = 90^\circ 16(5)'$ $\gamma = 102^\circ 49(4)'$ Z = 2

X-ray Powder Pattern: Jo Dandy mine, Colorado, USA.
4.94 (s), 3.46 (s), 4.73 (ms), 2.683 (ms), 2.547 (m), 2.516 (m), 1.885 (m)

| Chemistry: | (1) | (2) |
|------------------------|---------|--------|
| V_2O_5 | 46.6 | 50.58 |
| CaO | 13.5 | 15.59 |
| SrO | 24.8 | 28.82 |
| H_2O^+ | 5.7 | 5.01 |
| H_2O^- | 9.4 | |
| Total | [100.0] | 100.00 |

(1) Jo Dandy mine, Colorado, USA; an estimated 1:5 mixture with delrioite, $\text{CaSrV}_2\text{O}_6(\text{OH})_2 \cdot 3\text{H}_2\text{O}$, recalculated to 100% after deduction of quartz 1.30%.

(2) $\text{CaSrV}_2\text{O}_6(\text{OH})_2$.

Occurrence: An efflorescence on sandstone of the Salt Wash member of the Jurassic Morrison Formation associated with a U-V deposit.

Association: Delrioite, rossite, metarossite, quartz.

Distribution: From a dump at the Hummer portal of the Jo Dandy mine, Bull Canyon district, Paradox Valley, Montrose Co., Colorado, USA.

Name: For its relation to *delrioite* and its lesser H_2O content.

Type Material: National Museum of Natural History, Washington, D.C., USA, 128296.

References: (1) Smith, M.L. (1970) Delrioite and metadelrioite from Montrose County, Colorado. *Amer. Mineral.*, 55, 185–200. (2) Thompson, M.E. and A.M. Sherwood (1959) Delrioite, a new calcium strontium vanadate from Colorado. *Amer. Mineral.*, 44, 261–264.