

Crystal Data: Monoclinic. *Point Group:* 2/m. As terminated, prismatic crystals with {001} and {011} dominant. Typically as needles elongated and striated parallel to [100], forming parallel to sub-parallel intergrowths or divergent sprays to 2 mm or as very tightly intergrown broad blade-like aggregates in flat-lying “star bursts” to 2 mm.

Physical Properties: *Cleavage:* Perfect on {001}, others possible parallel [100]. *Tenacity:* Brittle. *Fracture:* Irregular to splintery. Hardness = 2.5 D(meas.) = n.d. D(calc.) = 2.451-2.503 Soluble in water.

Optical Properties: Transparent. *Color:* Colorless, tan to reddish brown, brown. *Streak:* White. *Luster:* Subadamantine (crystals), silky (aggregates). *Optical Class:* Biaxial (+). $\alpha = 1.733(3)$ $\beta = 1.775(3)$ $\gamma = 1.825(3)$ 2V(meas.) = 87.3(9)° 2V(calc.) = 87° *Orientation:* $X = b$, $Z \approx a$. *Pleochorism:* None.

Cell Data: *Space Group:* I2/a. $a = 14.6389(10)$ $b = 6.9591(4)$ $c = 17.052(2)$ $\beta = 102.568(9)^\circ$ $Z = 8$

X-ray Powder Pattern: West Sunday mine, Colorado, USA.
6.450 (100), 3.027 (50), 2.560 (28), 3.489 (18), 1.786 (18), 3.215 (17), 4.350 (16)

Chemistry:	(1)	(2)	(3)
Na ₂ O	0.34	0.08	
K ₂ O	0.22	0.02	
CaO	15.83	13.39	18.09
SrO	2.31	6.87	
V ₂ O ₅	58.13	56.96	58.67
H ₂ O	[23.16]	[22.66]	23.24
Total	99.99	99.98	100.00

(1) West Sunday mine, Colorado, USA; average of 11 electron microprobe analyses, H₂O calculated from structure refinement, results normalized to account for dehydration during analysis; corresponding to (Ca_{0.88}Sr_{0.07}Na_{0.04}K_{0.01}) $\Sigma=1.00$ (V_{1.00}O₃)₂(H_{2.01}O)₄. (2) West Sunday mine, Colorado, USA; average of 10 electron microprobe analyses, H₂O calculated from structure refinement, results normalized to account for dehydration during analysis; corresponding to (Ca_{0.76}Sr_{0.21}Na_{0.01}) $\Sigma=0.98$ (V_{1.00}O₃)₂(H_{2.01}O)₄. (3) Ca(VO₃)₂(H₂O)₄.

Polymorphism & Series: Forms a series with delrioite; dimorphous with rossite.

Occurrence: A secondary mineral as crystalline crusts on fracture surfaces in the oxidized portions of corvusite- and montroseite-impregnated sandstone.

Association: Gypsum, rossite, metarossite, celestine, huemulite, pascoite (West Sunday mine); delrioite, hendersonite, pascoite, powellite, schindlerite (St. Jude mine); delrioite, huemulite, hummerite, magnesiopascoite, powellite, K- and Mg-bearing decavanadate (Blue Streak mine); huemulite (Little Eva mine).

Distribution: From the West Sunday and St. Jude mines, Slick Rock district, San Miguel County; and at the Blue Streak mine, Bull Canyon, Montrose County, Colorado; and also at the Little Eva mine, Yellow Cat district, Grand County, Utah, USA.

Name: As the calcium (Ca) analog of *delrioite*.

Type Material: Natural History Museum of Los Angeles County, California, USA (# 63837, 63838, and 63839).

References: (1) Kampf, A.R., J. Marty, B.P. Nash, J. Plášil, A.V. Kasatkin, and R. Škoda (2012) Calciodelrioite, Ca(VO₃)₂(H₂O)₄, the Ca analog of delrioite, Sr(VO₃)₂(H₂O)₄. Mineral. Mag., 76(7), 2803-2817. (2) (2014) Amer. Mineral., 99, 2437-2438 (abs. ref. 1).