

Cerotungstite-(Ce)**CeW₂O₆(OH)₃**

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Crystal Data: Monoclinic. *Point Group:* 2 or 2/*m*. As bladed crystals, to 100 μm, with {001}, {101}, {100}, {011}, and {110}; as parallel platy and radiating groups. *Twining:* On {001}.

Physical Properties: *Cleavage:* {100}, perfect. Hardness = ~1 D(meas.) = n.d. D(calc.) = [6.23]

Optical Properties: Semitransparent. *Color:* Yellow-orange; yellow with a slight greenish tint in thin section.

Optical Class: Biaxial (-). *Orientation:* Z = b; X ≈ (100); Y ≈ ⊥ (001). α = 1.89(1) (α') β = 1.95(1) (β') γ = 2.02(1) 2V(meas.) = n.d.

Cell Data: *Space Group:* P2₁ or P2₁/*m*. a = 5.874(5) b = 8.700(5) c = 7.070(5) β = 105°27(5)' Z = 2

X-ray Powder Pattern: Uganda.

3.405 (100), 2.273 (52), 6.83 (36), 1.767 (21), 3.337 (18), 2.627 (17), 3.117 (14)

Chemistry:

	(1)	(2)
WO ₃	70.68	70.81
Al ₂ O ₃	0.05	
Ce ₂ O ₃		25.06
RE ₂ O ₃	24.12	
Fe ₂ O ₃	0.15	
CaO	0.17	
H ₂ O ⁺	4.80	4.13
Total	99.97	100.00

(1) Nyamulilo mine, Uganda; RE = La 5.5%, Ce 41.8%, Pr 6.0%, Nd 24.8%, Sm 6.8%, Eu 1.1%, Gd 3.4%, Tb 0.3%, Dy 1.6%, Ho 0.2%, Er 0.3%, Tm 0.07%, Yb 0.3%, Lu 0.07%, Y 7.7%; corresponds to (RE_{0.94}Ca_{0.02})_{Σ=0.96}(W_{1.94}Fe_{0.01})_{Σ=1.95}[O_{5.60}(OH)_{3.40}]_{Σ=9.00}. (2) CeW₂O₆(OH)₃.

Occurrence: In oxidized tungsten deposits.

Association: Ferberite.

Distribution: In the Kirwa and Nyamulilo mines, Kigezi district, southwestern Uganda.

Name: For CERium and TUNGSten in the composition.

Type Material: University of Helsinki, Helsinki, Finland.

References: (1) Sahama, T.G., O. von Knorring, and M. Lehtinen (1970) Cerotungstite, a cerian analogue to yttrotungstite, from Uganda. Bull. Geol. Soc. Finland, 42, 223–228. (2) (1972) Amer. Mineral., 57, 1558–1559 (abs. ref. 1). (3) Sahama, T.G. (1981) The secondary tungsten minerals, a review. Mineral. Record, 12, 81–87.