Elsmoreite $WO_3 \bullet 0.5H_2O$

Crystal Data: Isometric. *Point Group:* 4/*m* $\bar{3}$ 2/*m*. As microcrystalline powder.

Physical Properties: (Synthetic material) *Cleavage:* None. *Fracture*: Splintery. *Tenacity*: Brittle. Hardness = 3 D(meas.) = n.d. D(calc.) = 6.025

Optical Properties: (Synthetic material) Translucent. *Color:* Colorless. *Streak:* White. *Luster:* Adamantine.
Optical Class: Isotropic. $n = 2.24$

Cell Data: Space Group: *Fd*3*m*. $a = 10.203(1)$ Z = 16

X-ray Powder Pattern: Elsmore Hill, New England region, New South Wales, Australia. 5.88 (100), 2.944 (78), 3.08 (62), 1.804 (23), 1.964 (17), 1.725 (14), 1.538 (14)

Chemistry:

	(1)	(2)
WO_3	96.0	96.26
H_2O	3.3	3.74
Total	99.3	100.00

(1) Elsmore Hill, New England region, New South Wales, Australia; average of 5 electron microprobe analyses, H_2O by TGA; corresponds to $WO_3 \bullet 0.44H_2O$. (2) $WO_3 \bullet 0.5H_2O$.

Mineral Group: Pyrochlore supergroup, elsmoreite group.

Occurrence: By oxidation of ferberite in the oxidized zone of weakly mineralized Sn, W, Mo, Bi granitic pegmatite dikes associated with pegmatitic greisen veins in a granitic stock.

Association: Quartz, white mica, cassiterite, arsenopyrite, native bismuth, chalcopyrite, ferberite, molybdenite.

Distribution: From the Elsmore tin deposit, Elsmore Hill, 17 km east of Inverell and adjacent to the village of Elsmore, New England region, New South Wales, Australia. Also reported from the Wolfram Wonder prospect, 15 km north of Cathcart, New South Wales and Pittong, Victoria, Australia.

Name: For the locality, *Elsmore*, Australia, that produced the first specimens.

Type Material: Australian Museum, Sydney, New South Wales, Australia (D53020).

References: (1) Williams, P.A., P. Leverett, J.L. Sharpe, D.M. Colchester, and J. Rankin (2005) Elsmoreite, cubic $WO_3 \bullet 0.5H_2O$, a new mineral species from Elsmore, New South Wales, Australia. Can. Mineral., 43, 1061-1064. (2) (2006) Amer. Mineral., 91, 217 (abs. ref. 1).