Sidwillite $MoO_3 \cdot 2H_2O$

Crystal Data: Monoclinic. *Point Group:* $2/m$. Crystals are pseudohexagonal, flattened on {010}, with {101}, {103}, {$\bar{1}$01}, {111}, and {11$\bar{1}$}, to 0.2 mm.

Physical Properties: *Cleavage:* Perfect on {010}. Hardness = 2.5 D(meas.) = 3.12 D(calc.) = 3.11

Optical Properties: Semitransparent. *Color:* Canary-yellow. *Streak:* Pale yellow. *Luster:* Resinous to adamantine.
Optical Class: Biaxial (–). *Pleochroism:* Strong; X = colorless; $Y = Z$ = yellow. *Orientation:* $X = b$; $Z \wedge a = 47°$. $\alpha = 1.70(1)$ $\beta = 2.21(2)$ $\gamma = 2.38(2)$ 2V(meas.) = n.d. 2V(calc.) = 48°

Cell Data: *Space Group:* $P2_1/n$. $a = 10.618(5)$ $b = 13.825(7)$ $c = 10.482(5)$ $\beta = 91.61(4)°$ Z = 16

X-ray Powder Pattern: Lake Como, Colorado, USA.
3.322 (100), 3.248 (93), 6.94 (84), 3.680 (58), 3.79 (53), 2.656 (51), 2.620 (41)

Chemistry:

	(1)	(2)
MoO_3	78.60	79.98
Fe_2O_3	trace	
H_2O	[21.40]	20.02
Total	[100.00]	100.00

(1) Lake Como, Colorado, USA; by electron microprobe, average of 15 analyses, H_2O by difference. (2) $MoO_3 \cdot 2H_2O$.

Occurrence: An oxidation product of jordisite in a quartz vein.

Association: Jordisite, quartz.

Distribution: From near Lake Como, Hinsdale Co., Colorado, USA.

Name: To honor Dr. Sidney Arthur Williams (1933–), American mineralogist and petrologist of Douglas, Arizona, USA, for his contributions to the mineralogy of oxidation zones of ore deposits.

Type Material: National School of Mines, Paris, France.

References: (1) Cesbron, F. and D. Ginderow (1985) La sidwillite, $MoO_3.2H_2O$; une nouvelle espèce minérale de Lake Como, Colorado, USA. Bull. Minéral., 108, 813–823 (in French with English abs.). (2) (1986) Amer. Mineral., 71, 1546 (abs. ref. 1).