Roggianite $Ca_2BeAl_2Si_4O_{13}(OH)_2 \cdot 2.5H_2O$

Crystal Data: Tetragonal. *Point Group:* $4/m\ 2/m\ 2/m$. Crystals prismatic, to 50 μm; in fibrous aggregates.

Physical Properties: *Cleavage:* Perfect on {110}. Hardness = n.d. D(meas.) = 2.02 D(calc.) = [2.34]

Optical Properties: Semitransparent. *Color:* Pale yellow.
Optical Class: Uniaxial (+). $\omega = 1.527(1)$ $\epsilon = 1.535(1)$

Cell Data: *Space Group:* $I4/mcm$. $a = 18.33(2)$ $c = 9.16(1)$ Z = 8

X-ray Powder Pattern: Alpe Rosso, Italy.
12.990 (100), 3.411 (68), 9.230 (49), 3.154 (43), 6.150 (42), 3.605 (41), 3.198 (34)

Chemistry:

	(1)	(2)
SiO_2	40.22	44.30
Al_2O_3	18.32	18.80
BeO	3.19	4.61
CaO	19.24	20.67
SrO	0.02	
Na_2O	0.28	
K_2O	0.63	
H_2O	[18.10]	11.62
Total	[100.00]	100.00

(1) Alpe Rosso, Italy; by electron microprobe, H_2O by difference.
(2) $Ca_2BeAl_2Si_4O_{13}(OH)_2 \cdot 2.5H_2O$.

Occurrence: Coating fractures in a sodic feldspar dike which cuts gneiss (Alpe Rosso, Italy).

Association: Thomsonite (Alpe Rosso, Italy); bertrandite, chrysoberyl, scheelite, molybdenite (Pizzo Marcio, Italy).

Distribution: At Alpe Rosso and Pizzo Marcio, Val Vigezzo, Piedmont, Italy.

Name: For Aldo G. Roggiani, Italian teacher of natural sciences, who first found the mineral.

Type Material: University of Modena, Modena, Italy; National School of Mines, Paris, France; National Museum of Natural History, Washington, D.C., USA, 122280.

References: (1) Passaglia, E. (1969) Roggianite, a new silicate mineral. Clay Minerals, 8, 107–111. (2) Gard, J.A. (1969) An electron microscope and diffraction study of roggianite. Clay Minerals, 8, 112–113. (3) (1970) Amer. Mineral., 55, 322–323 (abs. refs. 1 and 2). (4) Passaglia, E. and G. Vezzalini (1988) Roggianite: revised chemical formula and zeolitic properties. Mineral. Mag., 52, 201–206. (5) Giuseppetti, G., F. Mazzi, C. Tadini, and E. Galli (1991) The revised crystal structure of roggianite: $Ca_2[Be(OH)_2Al_2Si_4O_{13}] < 2.5H_2O$. Neues Jahrb. Mineral., Monatsh., 307–314.