Veatchite-A $Sr_2B_{11}O_{16}(OH)_5 \cdot H_2O$

Crystal Data: Triclinic. *Point Group:* $\overline{1}$ or 1. Crystals are platy on {100}, with rhombic outline showing {100}, {011}, {$01\overline{1}$}, to 2 mm, in stacked aggregates. *Twinning:* On {100}, polysynthetic lamellae observed optically.

Physical Properties: *Cleavage:* Perfect on {100}; good on {011} and {$01\overline{1}$}. Hardness = n.d. D(meas.) = 2.73(2) D(calc.) = 2.77

Optical Properties: Transparent. *Color:* Colorless. *Luster:* Pearly on cleavages. *Optical Class:* Biaxial (+). *Orientation:* $X = c$; $Z = b$. *Dispersion:* $r < v$, strong. $\alpha = 1.549(2)$ $\beta = [1.551]$ $\gamma = 1.621(2)$ 2V(meas.) = 25(1)°

Cell Data: *Space Group:* $A\overline{1}$ or $A1$. $a = 20.80(62)$ $b = 11.72(35)$ $c = 6.63(20)$ $\alpha = 90°00(05)'$ $\beta = 90°48(5)'$ $\gamma = 91°57(5)'$ Z = 4

X-ray Powder Pattern: Emet, Turkey.
10.40 (vs), 3.32 (vs), 2.592 (vs), 3.45 (s), 2.84 (s), 4.09 (m), 2.191 (m)

Chemistry:

	(1)	(2)
B_2O_3	58.15	58.62
MgO	0.04	
CaO	0.25	
SrO	30.88	31.73
H_2O^+	9.63	
H_2O^-	0.15	
H_2O		9.65
rem.	0.06	
Total	99.16	100.00

(1) Emet, Turkey; MgO and CaO by AA. (2) $Sr_2B_{11}O_{16}(OH)_5 \cdot H_2O$.

Polymorphism & Series: Trimorphous with *p*-veatchite and veatchite.

Occurrence: Uncommon in evaporite borate deposits formed by volcanic activity.

Association: Realgar, orpiment, colemanite, hydroboracite, montmorillonite.

Distribution: From the Killik, Hisarcık, and Espey borate mines, near Emet, Kütahya Province, Turkey.

Name: As a polytype of *veatchite*, crystallizing in the anorthic (triclinic) system.

Type Material: Mining Department, Istanbul Technical University, Istanbul, Turkey; National Museum of Natural History, Washington, D.C., USA, 145911.

References: (1) Kumbasar, I. (1979) Veatchite-A, a new modification of veatchite. Amer. Mineral., 64, 362–366.