Sveite **$KAl_7(NO_3)_4Cl_2(OH)_{16}\cdot 8H_2O$**

Crystal Data: Monoclinic (probable). *Point Group:* n.d. As lumpy aggregates of contorted submicroscopic flakes.

Physical Properties: *Cleavage:* Probably on {001}, perfect. Hardness = ∼1 D(meas.) = 2.0 D(calc.) = 2.185 Gelatinous when moist; highly hygroscopic, forming a residue of $Al(OH)_3$.

Optical Properties: Translucent. *Color:* White; colorless in transmitted light. *Optical Class:* Biaxial (+). $\alpha = 1.503(2)$ $\beta =$ n.d. $\gamma = 1.535(2)$ 2V(meas.) = Small.

Cell Data: *Space Group:* n.d. $a = 10.89$ $b = 13.04$ $c = 30.71$ $\beta = 92.10°$ Z = 6

X-ray Powder Pattern: Autana Cave, Venezuela.
10.20 (100), 2.443 (55), 3.692 (40), 5.995 (35), 6.174 (20), 4.209 (20), 2.752 (20)

Chemistry:

	(1)	(2)
SO_3	2.65	
P_2O_5	0.17	
N_2O_5	18.26	22.43
Al_2O_3	37.12	37.05
K_2O	5.18	4.89
$(NH_4)_2O$	< 0.02	
Cl	8.50	7.36
H_2O	29.25	29.93
$-O = Cl_2$	1.92	1.66
C	< 0.30	
insol.	0.10	
Total	99.31	100.00

(1) Autana Cave, Venezuela; K_2O by flame photometry, $(NH_4)_2O$ by distillation, and C, H, N, S by gas chromatography, insoluble is quartz; corresponds to $K_{1.07}Al_{7.07}(NO_3)_{3.28}(SO_4)_{0.32}(PO_4)_{0.02}Cl_{2.32}(OH)_{15.96}\cdot 7.77H_2O$. (2) $KAl_7(NO_3)_4Cl_2(OH)_{16}\cdot 8H_2O$.

Occurrence: As crusts and efflorescences precipitated from solutions trickling onto cave roofs and walls.

Association: Quartz.

Distribution: From the Autana Cave, Amazonas Territory, Venezuela. On a rock overhang at an unspecified locality in the northeastern San Joaquin Valley, California, USA.

Name: From the first letters of the Sociedad Venezolana de Espeleología, whose members collected the original material studied.

Type Material: University of Central Venezuela, Caracas, Venezuela; The Natural History Museum, London, England, 1985,348; National Museum of Natural History, Washington, D.C., USA, 162532.

References: (1) Martini, J.E.J. (1980) Sveite, a new mineral from Autana Cave, Territorio Federal Amazonas, Venezuela. Trans. Geol. Soc. S. Afr., 83, 239–241. (2) (1982) Amer. Mineral., 67, 1076 (abs. ref. 1). (3) Graham, R.C., J.O. Ervin, and W.M. Graham (1988) The occurrence and properties of sveite in the northeastern San Joaquin Valley, California. Program and Abstracts, Annual Clay Minerals Conference, 25, 50.