

Crystal Data: Orthorhombic, possibly monoclinic or triclinic. *Point Group:* n.d. As aggregates of minute plates, to 1.5 mm, which may be in parallel to subparallel stacks, and as efflorescences.

Physical Properties: Hardness = 1–1.5 D(meas.) = 1.95 D(calc.) = 2.01 Easily soluble in H_2O .

Optical Properties: Semitransparent. *Color:* Aquamarine-blue to deep cobalt-blue. *Streak:* White.

Optical Class: Biaxial (+). *Pleochroism:* Moderate; $X = Y =$ blue; $Z =$ very pale blue to colorless. *Orientation:* Extinction at up to 15° to the length. *Absorption:* $X = Y > Z$. $\alpha = 1.505$ $\beta = 1.519$ $\gamma = 1.533$ $2V(\text{meas.}) =$ Large.

Cell Data: *Space Group:* n.d. $a = 12.12$ $b = 9.71$ $c = 14.92$ $Z = 8$

X-ray Powder Pattern: Minasragna, Peru; shows some preferred orientation. 4.20 (100), 4.98 (90), 4.69 (80), 4.41 (60), 3.81 (60), 3.73 (60), 3.09 (20)

Chemistry:	(1)	(2)
SO_3	29.0	29.53
V_2O_4	30.6	30.60
H_2O	38.0	39.87
rem.	1.8	
Total	99.4	100.00

(1) Minasragna, Peru; by electron microprobe, average of nine analyses, SO_3 and H_2O by TGA, remnant = SiO_2 0.3%, TiO_2 0.1%, Al_2O_3 0.2%, FeO 0.2%, NiO 0.3%, MgO 0.1%, CaO 0.1%, K_2O 0.4%, Cl 0.1%; corresponds to $V_{1.01}O_{1.01}S_{0.99}O_{3.99} \cdot 5.78H_2O$. (2) $VO(SO_4) \cdot 6H_2O$.

Occurrence: Initially found on a museum specimen of patronite from a rich vanadium deposit.

Association: Patronite, pyrite, potassium alum, quartz.

Distribution: From Minasragna, 46 km from Cerro de Pasco, Peru.

Name: To honor Henry Morton Stanley (1841–1904), noted Welsh–American journalist-explorer.

Type Material: Royal Scottish Museum, Edinburgh, Scotland, 1922.11.6; National Museum of Natural History, Washington, D.C., USA, 160386.

References: (1) Livingstone, A. (1982) Stanleyite, a new vanadium sulphate mineral from Peru. *Mineral. Mag.*, 45, 163–166. (2) (1983) *Amer. Mineral.*, 68, 644–645 (abs. ref. 1).