

Sarmientite

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Crystal Data: Monoclinic. *Point Group:* $2/m$. Crystals, prismatic [001] and flattened on {010}, showing {010}, {110}, {011}, to 20 μm , aggregated into nodular masses.

Physical Properties: Hardness = n.d. $D(\text{meas.}) = 2.58$ $D(\text{calc.}) = 2.58$

Optical Properties: Semitransparent. *Color:* Pale yellow-orange.

Optical Class: Biaxial (+). *Orientation:* $Y = b$; $Z \wedge c = 12^\circ$. $\alpha = 1.628$ $\beta = 1.635$
 $\gamma = 1.698$ $2V(\text{meas.}) = \text{n.d.}$ $2V(\text{calc.}) = 38^\circ$

Cell Data: *Space Group:* $P2_1/c$. $a = 6.55$ $b = 18.55$ $c = 9.70$ $\beta = 97^\circ 39'$ $Z = 4$

X-ray Powder Pattern: Santa Elena mine, Argentina.

9.29 (100), 4.64 (90), 4.26 (80), 3.06 (70), 2.60 (48), 3.43 (40), 4.87 (38)

Chemistry:

	(1)	(2)
SO ₃	18.28	17.64
As ₂ O ₅	22.68	25.33
Fe ₂ O ₃	36.57	35.19
CaO	0.27	
H ₂ O	22.86	21.84
Total	100.66	100.00

(1) Santa Elena mine, Argentina. (2) $\text{Fe}_2(\text{AsO}_4)(\text{SO}_4)(\text{OH}) \cdot 5\text{H}_2\text{O}$.

Occurrence: A rare mineral in oxidized pyritic veins in diabase.

Association: Fibroferrite, copiapite, botryogen, szomolnokite, zincian melanterite, slavíkite, epsomite, gypsum.

Distribution: From the Santa Elena mine, Quebrada de La Alcaparrosa, between San Juan and Calingasta, San Juan Province, Argentina.

Name: To honor Domingo Faustino Sarmiento (1811-1888), former President of Argentina.

Type Material: n.d.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 1013-1014. (2) de Abeledo, M.E.J. and M.A.R. de Benyacar (1968) New data on sarmientite. *Amer. Mineral.*, 53, 2077-2082.