

**Crystal Data:** Orthorhombic. *Point Group:* 2/m 2/m 2/m. As tabular crystals elongated along [100], to several mm.

**Physical Properties:** *Cleavage:* Perfect on {001} and {010}. *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = 2-3 D(meas.) = 2.66(3) D(calc.) = 2.76

**Optical Properties:** Translucent. *Color:* White to colorless. *Streak:* White.

*Luster:* Vitreous to pearly.

*Optical Class:* Biaxial (+).  $\alpha = 1.537(2)$   $\beta = 1.538(2)$   $\gamma = 1.541(2)$   $2V(\text{meas.}) = 59.2(5)^\circ$   
 $2V(\text{calc.}) = 60^\circ$  *Dispersion:* moderate;  $r < v$ . *Pleochroism:* None. *Orientation:*  $X = b, Y = a, Z = c$ .

**Cell Data:** Space Group: *Pnma*.  $a = 5.0453(8)$   $b = 9.044(1)$   $c = 18.366(5)$   $Z = 4$

**X-ray Powder Pattern:** Big Creek, Fresno County, California, USA.

5.068 (100), 4.054 (85), 2.257 (75), 2.706 (60), 2.974 (45), 2.327 (40), 9.19 (30)

Chemistry:	(1)	(2)
Na <sub>2</sub> O	0.11	
CaO	0.03	
SrO	0.02	
BaO	48.88	44.37
SiO <sub>2</sub>	38.16	34.78
H <sub>2</sub> O	[22.94]	20.85
Total	110.14	100.00

(1) Big Creek, Fresno County, California, USA; average of 4 electron microprobe analyses supplemented by IR spectroscopy, H<sub>2</sub>O calculated from stoichiometry; corresponding to Ba<sub>1.00</sub>Na<sub>0.01</sub>Si<sub>2.00</sub>O<sub>5</sub>·4H<sub>2</sub>O. (2) BaSi<sub>2</sub>O<sub>5</sub>·4H<sub>2</sub>O.

**Occurrence:** Filling fractures in gneiss near the margins of a granodiorite pluton.

**Association:** Sanbornite, quartz, diopside, pyrrhotite.

**Distribution:** From the Esquire #7 claim, west side of Big Creek, eastern Fresno County, and on the northwestern slope of Trumbull Peak, Mariposa County, California, USA.

**Name:** For the locality that provided the first specimens, Big Creek, California, USA.

**Type Material:** M.Y. Williams Museum, University of British Columbia, Vancouver, British Columbia, Canada.

**References:** (1) Basciano, L.C., L.A. Groat, A.C. Roberts, R.A. Gault, G.E. Dunning, and R.E. Walstrom (2001) Bigcreekite: a new barium silicate mineral species from Fresno County, California. *Can. Mineral.*, 39, 761-768. (2) (2002) *Amer. Mineral.*, 87, 355 (abs. ref. 1).