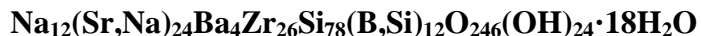


**Rogermitchellite**

**Crystal Data:** Hexagonal. *Point Group:*  $\bar{3} 2/m$ . Crystals are flattened perpendicular to [001] displaying {100}, {001} and a very shallow ditrigonal scalenohedron {10l}, to 0.25 mm.

**Physical Properties:** *Cleavage:* None. *Fracture:* Conchoidal to splintery. *Tenacity:* Brittle. *Hardness* = 5 D(meas.) = n.d. D(calc.) = 3.34

**Optical Properties:** Transparent. *Color:* Colorless to gray. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Uniaxial (+).  $\omega = 1640(1)$   $\varepsilon = 1.663(1)$

**Cell Data:** *Space Group:*  $P\bar{3} c1$ .  $a = 26.509(4)$   $c = 9.975(2)$   $Z = 1$

**X-ray Powder Pattern:** Poudrette quarry, Mont Saint-Hilaire, Quebec, Canada. 2.760 (100), 3.761 (90), 1.991 (70), 3.150 (50), 5.762 (40), 3.924 (30), 3.968 (25)

<b>Chemistry:</b>	(1)
Na <sub>2</sub> O	3.45
CaO	0.10
SrO	18.54
BaO	5.18
B <sub>2</sub> O <sub>3</sub>	2.34
SiO <sub>2</sub>	39.12
ZrO <sub>2</sub>	26.39
TiO <sub>2</sub>	0.63
<u>H<sub>2</sub>O</u>	<u>6.96</u>
Total	102.71

(1) Poudrette quarry, Mont Saint-Hilaire, Canada; average of 4 electron microprobe analyses supplemented by IR spectroscopy; corresponds to  $\text{Na}_{12}(\text{Sr}_{21.16}\text{Na}_{1.17}\text{Ca}_{0.21})_{\Sigma=22.54}\text{Ba}_{4.00}(\text{Zr}_{25.33}\text{Ti}_{0.93})_{\Sigma=26.26}(\text{Si}_{77.02}\text{B}_{0.98})_{\Sigma=78}\text{B}_{12}\text{O}_{246}(\text{OH})_{24}\cdot 18\text{H}_2\text{O}$ .

**Occurrence:** In vugs in late-stage igneous breccia in an alkaline igneous complex.

**Association:** Aegirine, annite, galena, a labuntsovite-group mineral, maganoneptunite, microcline, pyrrhotite, sodalite, zircon.

**Distribution:** From the Poudrette quarry, Mont Saint-Hilaire, Quebec, Canada.

**Name:** Honors Roger Howard Mitchell (b. 1941), Department of Geology, Lakehead University, Thunder Bay, Ontario, Canada, in recognition of his work on the mineralogy and petrology of alkaline rocks.

**Type Material:** Canadian Museum of Nature, Ottawa, Ontario, Canada (CMNMC 860087).

**References:** (1) McDonald, A.M. and G.Y. Chao (2010) Rogermitchellite,  $\text{Na}_{12}(\text{Sr}, \text{Na})_{24}\text{Ba}_4\text{Zr}_{26}\text{Si}_{78}(\text{B},\text{Si})_{12}\text{O}_{246}(\text{OH})_{24}\cdot 18\text{H}_2\text{O}$ , a new mineral species from Mont Saint-Hilaire, Quebec: description, structure determination and relationship with HFSE-bearing cyclosilicates. *Can. Mineral.*, 48, 267-278. (2) (2011) *Amer. Mineral.*, 96, 944-945 (abs. ref. 1).