

Crystal Data: Monoclinic. *Point Group:* 2/m, 2 or m. As compact aggregates of fibers, to 0.2 mm.

Physical Properties: *Cleavage:* None. *Fracture:* Uneven. *Tenacity:* Sectile.
Hardness = 1.5 D(meas.) = 2.29(3) D(calc.) = 2.24

Optical Properties: Transparent. *Color:* White. *Streak:* White. *Luster:* Vitreous.
Optical Class: Biaxial (-). $\alpha = 1.532(3)$ $\beta = 1.537(1)$ $\gamma = 1.540(1)$ $2V(\text{meas.}) = 75(15)^\circ$
 $2V(\text{calc.}) = 75^\circ$ *Dispersion:* Moderate, $r > v$. *Orientation:* $Z \wedge b = 5^\circ$.

Cell Data: *Space Group:* P2/m, P2 or Pm. $a = 14.10$ $b = 19.53$ $c = 14.05$ $\beta = 120.39^\circ$ $Z = 4$

X-ray Powder Pattern: Solongo deposit, Buryatia, Transbaikal region, Russia.
12.2 (100), 2.720 (70), 3.036 (60), 3.45 (50), 1.992 (50), 4.42 (40), 2.911 (40)

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|-------------------------------|-------------|
| Chemistry: | (1) |
| CaO | 31.25 |
| B ₂ O ₃ | 43.51 |
| SO ₃ | 7.16 |
| <u>H₂O</u> | <u>18.9</u> |
| Total | 100.82 |

(1) Solongo deposit, Buryatia, Transbaikal region, Russia; average of 6 electron microprobe analyses, H₂O by TGA; corresponding to Ca_{6.23}B_{13.98}O_{19.24}(SO₄)(OH)_{13.91}·4.78H₂O.

Occurrence: A low-temperature hydrothermal mineral in veinlets in a skarn-type boron deposit.

Association: Calcite, priceite, federovskite, kurchatovite, ludwigite, magnetite, sphalerite, pyrite (Solongo); calcite, uralborite, serpentine (Novofrolovskoe).

Distribution: At the Solongo boron deposit, Buryatia, Transbaikal region, and in the Novofrolovskoe copper deposit, Polar Urals, Russia.

Name: For the *Vitim* plateau, in the southern part of which the first specimens were collected.

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia.

References: (1) Chukanov, N.V., I.V. Pekov, S.V. Malinko, A.E. Zadov, and V.T. Dubinchuk (2001) Vitimite, Ca₆B₁₄O₁₉[SO₄](OH)₁₄·5H₂O, a new mineral, and conditions of its formation in the Solongo deposit, Buryatia. *Zap. Vseross. Mineral. Obshch.*, 131(4), 41-46 (in Russian with English abs.). (2) (2003) *Amer. Mineral.*, 88, 1839 (abs. ref. 1). (3) (2004) *Can. Mineral.*, 42, 943 (abs. ref. 1).