## Bergslagite $CaBe(AsO_4)(OH)$



**Crystal Data:** Monoclinic or triclinic, pseudomonoclinic. *Point Group:* $2/m$ or $\overline{1}$. As elongated, flattened crystals, to 1 cm, showing {100} and {001}; in crusts.

**Physical Properties:** *Fracture:* Uneven. Hardness = 5 D(meas.) = 3.40(2) D(calc.) = 3.40 Fluoresces pale shades of yellowish brown, greenish, or bluish under SW UV.

**Optical Properties:** Translucent. *Color:* Colorless, white or gray, dark gray-brown, brownish black; may be green or pink. *Luster:* Vitreous to greasy.
*Optical Class:* Biaxial (–). *Orientation:* $X \simeq a$; $Y = b$; $Z \simeq c$. *Dispersion:* $r \gg v$.
$\alpha = 1.659$–$1.660$ $\beta = 1.678$–$1.681$ $\gamma = 1.690$–$1.694$ 2V(meas.) = ∼70° 2V(calc.) = 74°–78°

**Cell Data:** *Space Group:* $P2_1/c$. $a = 4.8818(9)$ $b = 7.809(1)$ $c = 10.127(1)$ $\beta = 90.16(1)°$ Z = 4

**X-ray Powder Pattern:** Långban, Sweden.
3.200 (10), 3.519 (8), 4.879 (7), 3.905 (7), 3.046 (7), 2.917 (7), 2.409 (6)

**Chemistry:**

| | (1) | (2) |
|---|---|---|
| $As_2O_5$ | 51.58 | 56.06 |
| $SiO_2$ | 2.48 | |
| BeO | 13.0 | 12.20 |
| CaO | 28.57 | 27.35 |
| $H_2O$ | 6.0 | 4.39 |
| Total | 101.63 | 100.00 |

(1) Långban, Sweden; by electron microprobe, average of ten analyses, BeO from average of three determinations, by AA, emission spectroscopy, and the Weisz Ring-Oven technique, $H_2O$ by TGA; corresponds to $Ca_{0.99}Be_{1.02}[(AsO_4)_{0.87}(SiO_4)_{0.08}]_{\Sigma=0.95}(OH)_{1.30}$. (2) $CaBe(AsO_4)(OH)$.

**Occurrence:** In thin veins in pieces of hematite ore found on mine dumps from a metamorphosed Fe–Mn orebody (Långban, Sweden); in rhyolite (Sailauf, Germany).

**Association:** Manganoan diopside, manganberzeliite, tilasite, svabite, hematite, calcite, barite (Långban, Sweden); hematite, muscovite (Sailauf, Germany).

**Distribution:** From Långban, Värmland, Sweden. In Switzerland, in the Falotta mine, Oberhalbstein, and in the Fianel mine, Val Ferrera, Graubünden; on the west flank of Cherbadung [Pizzo Cervandone], Binntal, Valais. At Sailauf, northeast of Aschaffenburg, Spessart Mountains, Bavaria, Germany.

**Name:** For the occurrence at Långban, which is in the *Bergslagen* region of Sweden.

**Type Material:** University of Copenhagen, Copenhagen, Denmark; National Museum of Natural History, Washington, D.C., USA, 162582.

**References:** (1) Hansen, S., L. Fälth, O.V. Petersen, and O. Johnsen (1984) Bergslagite, a new mineral species from Långban, Sweden. Neues Jahrb. Mineral., Monatsh., 257–262. (2) Hansen, S., L. Fälth, and O. Johnsen (1984) Bergslagite, a mineral with tetrahedral berylloarsenate sheet anions. Zeits. Krist., 166, 73–80. (3) (1985) Amer. Mineral., 70, 436 (abs. refs. 1 and 2). (4) Kolitsch, U. (1996) Bergslagit aus dem Rhyolith-Steinbruch bei Sailauf im Spessart. Mineralien Welt, 7(5), 45–46 (in German).