

## Maricopaite

## Pb<sub>7</sub>Ca<sub>2</sub>Al<sub>12</sub>Si<sub>36</sub>O<sub>100</sub>•32H<sub>2</sub>O

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**Crystal Data:** Orthorhombic. *Point Group:*  $2/m\ 2/m\ 2/m$ ,  $mm2$ , or  $222$ . As thin bundles of crystals elongated along [001]; in radial sprays, to 1 mm.

**Physical Properties:** *Cleavage:* {010}, imperfect. *Tenacity:* Friable. Hardness = Extremely soft.  $D(\text{meas.}) = 2.94$   $D(\text{calc.}) = 2.90$

**Optical Properties:** Translucent to transparent. *Color:* White, colorless. *Luster:* Silky to vitreous.

*Optical Class:* Biaxial (-). *Orientation:*  $X = a$ ;  $Y = c$ ;  $Z = b$ . *Dispersion:*  $r > v$ , strong.  $\alpha = 1.563(3)$   $\beta = 1.582(3)$   $\gamma = [1.592]$   $2V(\text{meas.}) = 70(10)^\circ$

**Cell Data:** *Space Group:*  $Cmmm$ ,  $Cm2m$ ,  $Cmm2$ , or  $C222$ .  $a = 19.434(2)$   $b = 19.702(2)$   $c = 7.538(1)$   $Z = 1$

**X-ray Powder Pattern:** Moon Anchor mine, Arizona, USA.

13.7 (100), 3.216 (50), 9.86 (40), 3.357 (40), 2.978 (40), 2.845 (40), 4.35 (30)

### Chemistry:

	(1)
SiO <sub>2</sub>	42.0
Al <sub>2</sub> O <sub>3</sub>	11.4
PbO	30.8
CaO	2.4
H <sub>2</sub> O	11.0
Hydrocarbons	0.5
Total	98.1

(1) Moon Anchor mine, Arizona, USA; by electron microprobe, H<sub>2</sub>O by TGA; corresponds to Pb<sub>7.2</sub>Ca<sub>2.2</sub>(Al<sub>11.6</sub>Si<sub>36.4</sub>)<sub>Σ=48.0</sub>O<sub>99.6</sub>•31.8H<sub>2</sub>O.

**Mineral Group:** Zeolite group.

**Occurrence:** In a hydrothermal Pb-Cu ore vein, coating and filling fractures in quartz.

**Association:** Cerussite, mimetite, fornacite, phoenicochroite, duftite, chrysocolla, wickenburgite, calcite, fluorite, quartz.

**Distribution:** From the Moon Anchor mine, near Tonopah, Maricopa Co., Arizona, USA.

**Name:** For Maricopa Co., Arizona, USA, where it was discovered.

**Type Material:** National Museum of Natural History, Washington, D.C., USA, 163247, 163248.

**References:** (1) Peacor, D.R., P.J. Dunn, W.B. Simmons, F.J. Wicks, and M. Raudsepp (1988) Maricopaite, a new hydrated Ca-Pb, zeolite-like silicate from Arizona. *Can. Mineral.*, 26, 309-313. (2) (1989) *Amer. Mineral.*, 74, 947 (abs. ref. 1). (3) Rouse, R.C. and D.R. Peacor (1994) Maricopaite, an unusual lead calcium zeolite with an interrupted mordenite-like framework and intrachannel Pb<sub>4</sub> tetrahedral clusters. *Amer. Mineral.*, 79, 175-184.