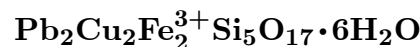


Creaseyite



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Crystal Data: Orthorhombic. *Point Group:* $[2/m\ 2/m\ 2/m\ \text{or}\ mm2.]$ Fibrous crystals, elongated along $[001]$ and flattened on $\{010\}$, to 0.5 mm. As densely packed spherules of crystals; in masses of matted and tangled fibers.

Physical Properties: *Cleavage:* Poor on $\{010\}$. Hardness = 2.5 for spherules, greater for crystals. $D(\text{meas.}) = 4.1(1)$ $D(\text{calc.}) = 4.01$

Optical Properties: Transparent to translucent. *Color:* Pale green to yellow-green; yellow in thin section. *Streak:* Light green.

Optical Class: Biaxial (+). *Pleochroism:* $X = \text{yellow-green}$; $Y = \text{green}$; $Z = \text{yellow-green}$.

Orientation: $X = a$; $Y = b$; $Z = c$. *Absorption:* $Z = X > Y$. $\alpha = 1.737(2)$ $\beta = 1.747(2)$

$\gamma = 1.768(2)$ $2V(\text{meas.}) = 69^\circ$ $2V(\text{calc.}) = 70^\circ$

Cell Data: *Space Group:* $mmmC_b$ [diffraction symbol]. $a = 12.483\text{--}12.497$
 $b = 21.375\text{--}21.395$ $c = 7.283$ $Z = 4$

X-ray Powder Pattern: Tiger, Arizona, USA.

10.726 (100), 6.024 (50), 4.067 (50), 3.555 (50b), 3.013 (50), 2.982 (50), 2.696 (50)

Chemistry:

	(1)	(2)
SiO ₂	25.5	25.59
Fe ₂ O ₃	12.3	13.61
Al ₂ O ₃	2.1	
CuO	13.5	13.56
ZnO	1.2	
PbO	37.0	38.03
H ₂ O	8.8	9.21
Total	100.4	100.00

(1) Tiger, Arizona, USA; average of several microchemical analyses, corresponding to $\text{Pb}_{1.98}(\text{Cu}_{2.02}\text{Zn}_{0.18})_{\Sigma=2.20}(\text{Fe}_{1.85}^{3+}\text{Al}_{0.05})_{\Sigma=1.90}\text{Si}_{5.08}\text{O}_{17.18}\cdot 5.85\text{H}_2\text{O}$. (2) $\text{Pb}_2\text{Cu}_2\text{Fe}_2\text{Si}_5\text{O}_{17}\cdot 6\text{H}_2\text{O}$.

Occurrence: In the oxidized zone of a base-metal deposit, in andesite breccia loosely cemented with iron oxides and wulfenite (Tiger, Arizona, USA).

Association: Mimetite, diopside, fluorite, willemite, wulfenite, descloizite, murdochite (Tiger, Arizona, USA); ajoite, fluorite (Potter-Cramer property, Arizona, USA).

Distribution: In the USA, in Arizona, from the Mammoth-St. Anthony mine, Tiger, Pinal Co., at the Potter-Cramer property and Tonopah-Belmont mine, near Wickenburg, Maricopa Co., from near Artillery Peak, Mohave Co., and in the the Copper Point prospect, Amole district, Pima Co.; from near Gold Point, Esmeralda Co., Nevada. In Mexico, at Caborca and Munihuaza, near Alamos, Sonora. In the Cruz del Sur mine, Rio Negro Province, Argentina.

Name: To honor Dr. Saville Cyrus Creasey (1917–), economic geologist, U.S. Geological Survey, expert on Arizona mineral deposits.

Type Material: The Natural History Museum, London, England, 1976,412; University of Arizona, Tucson, Arizona; Harvard University, Cambridge, Massachusetts, 117000; National Museum of Natural History, Washington, D.C., USA, 147661.

References: (1) Williams, S.A. and R.A. Bideaux (1975) Creaseyite, $\text{Cu}_2\text{Pb}_2(\text{Fe},\text{Al})_2\text{Si}_5\text{O}_{17}\cdot 6\text{H}_2\text{O}$. Mineral. Mag., 40, 227–231. (2) (1976) Amer. Mineral., 61, 503 (abs. ref. 1).