Pascoite

\[ \text{Ca}_3\text{V}_{10}^{5+}\text{O}_{28} \cdot 17\text{H}_2\text{O} \]

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Crystal Data: Monoclinic. Point Group: 2. Crystals minute, lathlike with oblique terminations, in granular crusts.

Physical Properties: Cleavage: \( \{010\} \), distinct. Fracture: Conchoidal. Hardness = \( \sim 2.5 \)

\[ D(\text{meas.}) = 2.455 \quad D(\text{calc.}) = 2.465 \quad \text{Soluble in } \text{H}_2\text{O}. \]


Optical Class: Biaxial (−). Pleochroism: \( X = \) light cadmium yellow; \( Y = \) cadmium yellow; \( Z = \) orange. Orientation: OAP \( \perp \) \( \{010\} \). Dispersion: Crossed, strong. Absorption: \( Z > Y > X \).

\[ \alpha = 1.775(5) \quad \beta = 1.815(5) \quad \gamma = 1.825(5) \quad 2\text{V}(\text{meas.}) = 50°–56° \]

Cell Data: Space Group: \( C2 \). \( a = 16.834(3) \) \( b = 10.156(2) \) \( c = 10.921(2) \) \( \beta = 93°8(3)' \) \( Z = 2 \)

X-ray Powder Pattern: Minasragra, Peru.

5.5 (10), 4.67 (10), 5.1 (8), 7.3 (7), 3.01 (7), 8.8 (6), 4.45 (6)

Chemistry:

\[
\begin{array}{ccc}
\text{Chemical} & (1) & (2) \\
\text{Composition} & & \\
\text{V}_2\text{O}_5 & 64.6 & 65.71 \\
\text{MoO}_3 & 0.3 & \\
\text{CaO} & 12.6 & 12.16 \\
\text{H}_2\text{O}^+ & 7.8 & \\
\text{H}_2\text{O}^- & 13.8 & \\
\text{H}_2\text{O} & 22.13 & \\
\text{undetermined} & 0.9 & \\
\text{Total} & 100.0 & 100.00 \\
\end{array}
\]

(1) Minasragra, Peru. (2) \( \text{Ca}_3\text{V}_{10}\text{O}_{28} \cdot 17\text{H}_2\text{O} \).

Occurrence: Leached out of near-surface vanadium oxides by ground waters; as efflorescences in mine tunnels.

Association: Carnotite.

Distribution: At Minasragra, 46 km from Cerro de Pasco, Peru. From the Urca deposit, La Rioja Province, Argentina. In the USA, in Colorado, from the Hawkeye, Burro, and Deremo-Snyder mines, near Slick Rock, San Miguel Co.; in the Bitter Creek, Mill No. 1, and Peanut mines, Uravan district, Montrose Co.; at the Corvusite and La Sal No. 2 mines, Gateway district, Mesa Co.; and from the Rifle mine, Garfield Co. At the Black Ape mine, Thompsons district, Grand Co., the Crescent No. 3 claim, Crescent Creek, Garfield Co., and the Mi Vida mine, Big Indian district, San Juan Co., Utah. In Arizona, at the Monument No. 2 mine, Monument Valley: in the Mesa No. 1, No. 5, and No. 6 mines, Lukachukai Mountains, and the Zona No. 1 claim, Carrizo Mountains, Apache Co. From the Ambrosia Lakes district, McKinley Co., New Mexico.

Name: For the original locality, near Cerro de Pasco, Peru.

Type Material: Harvard University, Cambridge, Massachusetts, 101701; National Museum of Natural History, Washington, D.C., USA, 87062, 93297.


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