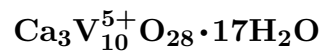


# Pascoite



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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 = ~2.5  
D(meas.) = 2.455 D(calc.) = 2.465 Soluble in H<sub>2</sub>O.

**Optical Properties:** Translucent. *Color:* Dark red-orange to yellow-orange, dirty yellow on partial dehydration. *Streak:* Cadmium-yellow. *Luster:* Vitreous to subadamantine.  
*Optical Class:* Biaxial (-). *Pleochroism:* X = light cadmium yellow; Y = cadmium yellow; Z = orange. *Orientation:* OAP  $\perp$  {010}. *Dispersion:* Crossed, strong. *Absorption:* Z > Y > X.  
 $\alpha = 1.775(5)$   $\beta = 1.815(5)$   $\gamma = 1.825(5)$   $2V(\text{meas.}) = 50^\circ\text{--}56^\circ$

**Cell Data:** *Space Group:* C2.  $a = 16.834(3)$   $b = 10.156(2)$   $c = 10.921(2)$   $\beta = 93^\circ 8(3)'$   
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:	(1)	(2)
V <sub>2</sub> O <sub>5</sub>	64.6	65.71
MoO <sub>3</sub>	0.3	
CaO	12.6	12.16
H <sub>2</sub> O <sup>+</sup>	7.8	
H <sub>2</sub> O <sup>-</sup>	13.8	
H <sub>2</sub> O		22.13
undetermined	0.9	
Total	100.0	100.00

(1) Minasragra, Peru. (2) Ca<sub>3</sub>V<sub>10</sub>O<sub>28</sub>·17H<sub>2</sub>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 Urcal 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, 87662, 93297.

**References:** (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 1055–1056. (2) Weeks, A.D. and M.E. Thompson (1954) Identification and occurrence of uranium and vanadium minerals from the Colorado Plateaus. U.S. Geol. Sur. Bull. 1009-B, 54–55. (3) Swallow, A.G., F.R. Ahmed, and W.H. Barnes (1966) The crystal structure of pascoite, Ca<sub>3</sub>V<sub>10</sub>O<sub>28</sub>·17H<sub>2</sub>O. Acta Cryst., 21, 397–405. (4) Traill, R.J. and A.P. Sabina (1960) Catalogue of X-ray diffraction patterns and specimen mounts on file at the Geological Survey of Canada. Geol. Sur. of Canada, Paper 60-4, 76–77.

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