

**Crystal Data:** Monoclinic. *Point Group:* 2/m. As subparallel intergrowths of bent lamellae, to 50  $\mu\text{m}$ , and elongated probably along [100].

**Physical Properties:** *Cleavage:* n.d. *Fracture:* Sub-conchoidal. *Tenacity:* Brittle.  
*Hardness* = 2-3 *D(meas.)* = n.d. *D(calc.)* = 4.77 Soluble in H<sub>2</sub>O.

**Optical Properties:** Translucent. *Color:* Colorless to white. *Streak:* White.  
*Luster:* Adamantine to greasy (on exposure to air).  
*Optical Class:* Biaxial (+).  $\alpha = 2.004(2)$   $\beta = 2.010(2)$   $\gamma = 2.024(3)$   $2V(\text{meas.}) = \text{n.d.}$   
 $2V(\text{calc.}) = 67^\circ$

**Cell Data:** *Space Group:*  $P2_1/c$ .  $a = 8.864(8)$   $b = 7.932(8)$   $c = 12.491(11)$   $\beta = 90.153(5)^\circ$   $Z = 4$

**X-ray Powder Pattern:** Challacollo mine, Atacama Desert, northern Chile.  
 3.686 (100), 3.609 (49), 2.669 (42), 8.855 (39), 3.961 (31), 2.548 (18), 2.095 (16)

Chemistry:	(1)	(2)
K	5.45	6.4
Pb	66.30	66.1
Cl	28.69	28.2
Total	100.44	100.7

(1) Challacollo mine, Atacama Desert, northern Chile; average of 8 electron microprobe analyses supplemented by IR spectroscopy; corresponds to K<sub>0.88</sub>Pb<sub>2.02</sub>Cl<sub>5.00</sub>. (2) Vesuvius, Italy; average of 7 electron microprobe analyses supplemented by IR spectroscopy; corresponds to K<sub>0.88</sub>Pb<sub>2.02</sub>Cl<sub>5.00</sub>.

**Occurrence:** A hydrothermal mineral in an epithermal vein-type silver deposit (Chile). Also as a sublimate near volcanic fumaroles (Italy).

**Association:** Cotunnite, boleite, pseudoboleite, hemimorphite, caracoite, anglesite, nitratine, anhydrite, fluorite.

**Distribution:** From the Challacollo silver mine, south east of Iquique, Atacama desert, northern Chile. From Vesuvius, Naples, Campania, and La Fossa crater, Vulcano, Aeolian Archipelago, Sicily, Italy.

**Name:** For the *Challacollo* mine, where the specimens for description of the species were collected.

**Type Material:** The Mineralogical Museum, University of Hamburg, Germany.

**References:** (1) Schlüter, J., D. Pohl, and S. Britvin (2005) The new mineral challacolloite, K<sub>0.88</sub>Pb<sub>2.02</sub>Cl<sub>5.00</sub>, the natural occurrence of a technically known laser material. *N. Jb. Miner. Abh.*, 182, 95-101. (2) (2006) *Amer. Mineral.*, 91, 1452-153 (abs. ref. 1). (3) Mitolo D., D. Pinto, A. Garavelli, L. Bindi, and F. Vurro (2009) The role of the minor substitutions in the crystal structure of natural challacolloite, K<sub>0.88</sub>Pb<sub>2.02</sub>Cl<sub>5.00</sub>, and hephaistosite, TIPb<sub>2</sub>Cl<sub>5</sub>, from Vulcano (Aeolian Archipelago, Italy). *Mineralogy and Petrology*, 96, 121-128.