

**Crystal Data:** Triclinic. *Point Group:*  $\bar{1}$ . Triangular tabular crystals, to 2 mm, exhibit  $\{11\bar{1}\}$ ,  $\{\bar{1}11\}$ ,  $\{100\}$ , and  $\{\bar{1}11\}$ . *Twinning:* Pseudo-merohedral twinning.

**Physical Properties:** *Cleavage:* Good on  $\{11\bar{1}\}$ . *Fracture:* Conchoidal. *Tenacity:* Brittle. Hardness = 4-4.5 VHN = 350 (50 g load). D(meas.) = n.d. D(calc.) = 3.725

**Optical Properties:** Transparent. *Color:* Emerald-green. *Streak:* Pale green. *Luster:* Vitreous. *Optical Class:* Biaxial.  $n = 1.80$  (calculated) *Pleochroism:* None.

**Cell Data:** *Space Group:*  $P\bar{1}$ .  $a = 9.1646(9)$   $b = 9.2029(8)$   $c = 9.2102(8)$   $\alpha = 95.858(6)^\circ$   $\beta = 96.290(7)^\circ$   $\gamma = 96.507(2)^\circ$   $Z = 8$

**X-ray Powder Pattern:** La Vendida mine, Sierra Gorda mining district, near Antofagasta, Chile. 5.432 (100), 2.747 (94), 2.257 (56), 2.889 (31), 1.702 (29), 1.812 (21)

Chemistry:	(1)	(2)
CuO	74.24	74.49
ZnO	0.02	
NiO	0.99	
Cl	16.98	16.65
H <sub>2</sub> O	[12.74]	12.62
-O=Cl	3.84	3.76
Total	101.13	100.00

(1) La Vendida mine, Sierra Gorda mining district, near Antofagasta, Chile; electron microprobe analysis, H<sub>2</sub>O calculated from stoichiometry; corresponding to Cu<sub>1.97</sub>Ni<sub>0.03</sub>(OH)<sub>2.99</sub>Cl.

(2) Cu<sub>2</sub>(OH)<sub>3</sub>Cl.

**Polymorphism & Series:** Polymorphous with atacamite, botallackite and clinoatacamite.

**Occurrence:** In the oxidation zone of a polymetallic sulfide deposit

**Association:** Atacamite, belloite, as well as alunite, clinoatacamite, chalcantite, coquimbite, eriochalcite, jarosite, kröhnkite, magnesioaubertite, tamarugite, voltaite.

**Distribution:** La Vendida mine (an abandoned open pit copper mine), Sierra Gorda mining district, northeast of Antofagasta, Chile.

**Name:** For its triclinic symmetry and polymorphism with *atacamite*.

**Type Material:** Mineralogical Museum, University of Hamburg, Germany (MD 199).

**References:** (1) Malcherek, T. and J. Schlüter (2010) Anatacamite from La Vendida mine, Sierra Gorda, Atacama desert, Chile: a triclinic polymorph of Cu<sub>2</sub>(OH)<sub>3</sub>Cl. *Neues Jahrbuch für Mineralogie Abhandlungen*, 187, 307-312. (2) (2014) *Amer. Mineral.*, 99, 551 (abs. ref. 1).