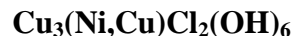


Paratacamite-(Ni)

Crystal Data: Hexagonal. *Point Group:* $\bar{3}$. Crystals exhibit {10 $\bar{1}$ 1}, {02 $\bar{2}$ 1}, and {0001} as equant rhombohedra, to 0.25 mm; also in aggregates to ~2 mm.

Physical Properties: *Cleavage:* Good on {10 $\bar{1}$ 1}. *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = 3 D(meas.) = 3.70 D(calc.) = 3.735

Optical Properties: Transparent. *Color:* Dark green. *Streak:* Light green. *Luster:* Vitreous. *Optical Class:* Uniaxial (-). ω and $\epsilon > 1.8$

Cell Data: *Space Group:* $R\bar{3}$. $a = 13.682(2)$ $c = 13.916(2)$ $Z = 12$

X-ray Powder Pattern: Carr Boyd Rocks Ni mine, Western Australia. 2.751 (100), 5.445 (81), 2.254 (65), 2.894 (21), 1.815 (14), 4.637 (13), 4.505 (8)

Chemistry:	(1)
CuO	62.43
NiO	12.61
MgO	0.03
CoO	0.31
Cl	17.60
H ₂ O	[13.04]
<u>-O = Cl₂</u>	<u>3.98</u>
Total	102.04

(1) Carr Boyd Rocks Ni mine, Western Australia; average of 5 electron microprobe analyses, H₂O from stoichiometry; corresponding to Cu₃(Ni_{0.71}Cu_{0.25}Co_{0.02}) $\Sigma=0.98$ Cl_{2.06}(OH)₆.

Occurrence: A secondary mineral formed by the oxidation of pentlandite in a saline environment.

Association: Gillardite, spangolite, gypsum.

Distribution: From the Carr Boyd Rocks Ni mine, Western Australia.

Name: As the nickel analogue of *paratacamite*.

Type Material: Western Australian Museum, Perth, Australia (WAM M365.2003).

References: (1) Sciberras, M.J., P. Leverett, P.A. Williams, D.E. Hibbs, P.J. Downes, M.D. Welch, and A.R. Kampf (2013) Paratacamite-(Ni), Cu₃(Ni,Cu)Cl₂(OH)₆, a new mineral from the Carr Boyd Rocks mine, Western Australia. *Australian J. Mineral.*, 17(1), 39-44. (2) (2015) *Amer. Mineral.*, 100, 2357 (abs. ref. 1).