Haydeeite $Cu_3Mg(OH)_6Cl_2$

Crystal Data: Hexagonal. *Point Group*: $\bar{3}$ 2/*m*. As short prismatic crystals, to 1 mm, displaying {0001}, {10$\bar{1}$ 0}, {10$\bar{1}$ 1}.

Physical Properties: *Cleavage*: Perfect {0001}. *Fracture*: Uneven. *Tenacity*: Brittle. Hardness = 2 VHN = 57.8 (15/25 g load). D(meas.) = 3.27(1) D(calc.) = 3.24

Optical Properties: Transparent. *Color*: Greenish blue. *Streak*: Bright greenish-blue. *Luster*: Vitreous.
Optical Class: Uniaxial (–). ω = 1.753(5) ε = 1.710(5)
Pleochroism: *O* = greenish blue; *E* = faint greenish-blue.

Cell Data: *Space Group*: $P\bar{3}\,m1$. a = 6.2733(4) c = 5.7472(5) Z = 1

X-ray Powder Pattern: Haydee mine, Atacama Desert, northern Chile.
5.745 (100), 2.872 (17), 1.915 (9), 2.455 (6), 1.972 (4), 2.750 (3), 2.540 (3)

Chemistry:

	(1)	(2)
CuO	61.83	61.52
MgO	10.06	10.39
Cl	17.91	18.28
H_2O	14.97	13.94
-O = Cl	4.05	4.12
Total	100.72	100.00

(1) Haydee mine, Atacama Desert, northern Chile; average of 10 electron microprobe and combustion element analyzer analyses, corresponding to $Cu_{2.95}Mg_{0.95}H_{6.30}Cl_{1.92}O_{6.08}$.
(2) $Cu_3Mg(OH)_6Cl_2$.

Distribution: Haydee mine, western border of the southern end of Salar Grande, 110 km SE of Iquique, Atacama Desert, Tarapacá Province, northern Chile.

Name: For the Haydee mine, where the first specimens were collected.

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

References: (1) Schlüter, J. and T. Malcherek (2007) Haydeeite, $Cu_3Mg(OH)_6Cl_2$, a new mineral from the Haydee mine, Salar Grande, Atacama desert, Chile. Neus Jb. Mineral. Abh., 184, 39–43. (3) (2008) Amer. Mineral., 93, 1942-1943 (abs. ref. 1).