

Bluebellite**Cu₆[I⁵⁺O₃(OH)₃](OH)₇Cl**

Crystal Data: Hexagonal. *Point Group:* 3. As curved flattened plates to 20 μm, displaying {0001} and {000 $\bar{1}$ }.

Physical Properties: *Cleavage:* Perfect on {0001}. *Fracture:* Irregular. *Tenacity:* Sectile. Hardness = ~ 1 D(meas.) = n.d. D(calc.) = 4.746

Optical Properties: Transparent. *Color:* Bright bluish green. *Streak:* Pale bluish green. *Luster:* Adamantine.

Optical Class: Uniaxial (-). *n*(ave.) = 1.96 *Pleochroism:* O = bluish green), E = nearly colorless. *Absorption:* O >> E.

Cell Data: *Space Group:* R3. *a* = 8.3017(5) *c* = 13.259(1) *Z* = 3

X-ray Powder Pattern: Blue Bell claims, San Bernardino County, California, USA. 2.516 (100), 4.427 (99), 1.566 (48), 1.899 (47), 2.664 (35), 2.103 (29), 1.479 (29)

Chemistry:	(1)	(2)
CuO	48.62	62.66
Al ₂ O ₃	0.12	
SiO ₂	0.75	
I ₂ O ₅	17.26	21.99
Cl	4.06	4.65
-O = Cl ₂	0.92	1.05
H ₂ O	[9.27]	11.83
Total	79.16	100.00

(1) Blue Bell claims, San Bernardino County, California, USA; average of 5 electron microprobe analyses supplemented by Raman spectroscopy, H₂O from structure analysis, low analytical total due to porosity of sample; corresponding to Cu_{5.82}I_{0.99}Al_{0.02}Si_{0.12}O_{3.11}(OH)_{9.80}Cl_{1.09}.

(2) Cu₆[I⁵⁺O₃(OH)₃](OH)₇Cl.

Occurrence: A secondary copper mineral formed by decomposition of hessite and chalcopyrite under mildly acidic conditions. Source of iodine not known.

Association: Murdochite, calcite, fluorite, hemimorphite, diopside.

Distribution: From the D shaft, Blue Bell claims, Soda Mountains, 11 km west of Baker, San Bernardino County, central Mojave Desert, California, USA.

Name: For the locality that produced the first specimens.

Type Material: Natural History Museum of Los Angeles County, Los Angeles, California, USA (64083-64090), and in the Geosciences collections, Museum Victoria, Melbourne, Victoria, Australia (M52832).

References: (1) Mills, S.J., A.R. Kampf, A.G. Christy, R.M. Housley, G.R. Rossman, R.E. Reynolds and J. Marty (2014) Bluebellite and mojaveite, two new minerals from the central Mojave Desert, California, USA. *Mineral. Mag.*, 78(5), 1325-1340. (2) (2016) *Amer. Mineral.*, 101, 1013-1014 (abs. ref. 1).