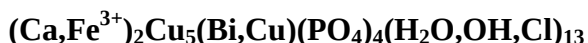


Bleasdaleite

Crystal Data: Monoclinic [pseudotetragonal]. *Point Group:* 2/m. As thin tabular crystals, to 20 μm , that form scaly crusts, rosettes and hemispherical aggregates to 100 μm .

Physical Properties: *Cleavage:* Well developed on {001}. *Fracture:* n.d. *Tenacity:* n.d.
Hardness = 2 D(meas.) = n.d. D(calc.) = 2.77

Optical Properties: Transparent. *Color:* Dark brown. *Streak:* Pale brown. *Luster:* Resinous.
Optical Class: Biaxial (-). $\alpha = 1.718(4)$ $\beta = 1.748(3)$ $\gamma = 1.748(3)$ $2V(\text{calc.}) = \sim 0^\circ$
Orientation: $X = c$, $Y/Z = a/b$. *Pleochroism:* Medium strong, $X = \text{pale yellow-brown}$, $Y = Z = \text{dark yellow-brown}$. *Absorption:* $X < Y = Z$.

Cell Data: *Space Group:* C2/m. $a = 14.200(7)$ $b = 13.832(7)$ $c = 14.971(10)$ $\beta = 102.08(8)^\circ$
 $Z = 4$

X-ray Powder Pattern: Lake Boga, Victoria, Australia.

14.57 (100), 6.95 (40), 6.28 (40), 2.816 (40), 3.469 (30b), 2.507 (30), 2.452 (30)

Chemistry:	(1)
CaO	7.59
CuO	34.79
Bi ₂ O ₃	15.53
Fe ₂ O ₃	3.04
Al ₂ O ₃	0.13
P ₂ O ₅	21.70
As ₂ O ₅	0.34
Cl	1.01
H ₂ O	16.10
-O = Cl	0.23
Total	100.00

(1) Lake Boga, Victoria, Australia; electron microprobe analysis, H₂O by difference; corresponding to $(\text{Ca}_{1.63}\text{Fe}^{3+}_{0.46})_{\Sigma=2.09}\text{Cu}_5(\text{Bi}_{0.80}\text{Cu}_{0.25})_{\Sigma=1.05}[(\text{PO}_4)_{3.67}(\text{AsO}_4)_{0.04}]_{\Sigma=3.71}[\text{Cl}_{0.34}(\text{OH})_{6.15}]\cdot 7.7\text{H}_2\text{O}$.

Occurrence: A secondary mineral from cavities in weathered uraniferous granitic pegmatite containing partly oxidized copper sulfide minerals.

Association: n.d.

Distribution: From Lake Boga, Swan Hill Rural City, Victoria, Australia.

Name: Honors the Reverend John I. Bleasdale (1822-1884) for of his promotion of mineralogy in Victoria.

Type Material: Museum of Victoria, Melbourne (M44699), and in the South Australian Museum, Adelaide, Australia.

References: (1) Birch, W.D., A. Pring, and U. Kolitsch (1999) Bleasdaleite, $(\text{Ca}, \text{Fe}^{3+})_2\text{Cu}_5(\text{Bi}, \text{Cu})(\text{PO}_4)_4(\text{H}_2\text{O}, \text{OH}, \text{Cl})_{13}$, a new mineral from Lake Boga, Victoria, Australia. Austral. J. Mineral., 5(2), 69-75. (2) (2000) Amer. Mineral., 85, 1321 (abs. ref. 1).