

Crystal Data: Orthorhombic or monoclinic. *Point Group:* 2/m (synthetic). Massive, in films. *Twinning:* On (100), synthetic.

Physical Properties: *Cleavage:* One direction, distinct. Hardness = ~3 D(meas.) = 7.35 D(calc.) = 7.53 (synthetic).

Optical Properties: Semitransparent. *Color:* Pale yellow, yellow-orange, to grayish yellow. *Streak:* Pale yellow. *Luster:* Vitreous, may be dull. *Optical Class:* Biaxial (+). $\alpha = \sim 2.05$ $\beta = \text{n.d.}$ $\gamma = \sim 2.20$ 2V(meas.) = ~80° *Orientation:* Extinction || cleavage; OAP \perp to cleavage.

Cell Data: *Space Group:* C2/c (synthetic). $a = 26.069(5)$ $b = 5.8354(11)$ $c = 22.736(4)$ $\beta = 102.612(6)^\circ$ Z = 8

X-ray Powder Pattern: Långban, Sweden. 2.93 (10), 3.88 (8), 1.660 (8), 2.83 (6), 2.12 (6), 2.04 (6), 3.18 (5)

Chemistry:	(1)	(2)
Fe ₂ O ₃		0.49
CuO		0.15
ZnO		0.06
PbO	69.50	60.32
CaO	0.30	
PbCl ₂	30.16	37.01
H ₂ O	0.79	
SO ₃		2.07
Total	100.75	100.10

(1) Långban, Sweden; corresponds to (Pb_{7.80}Ca_{0.08}) $\Sigma=7.88$ O_{5.08}(OH)_{1.64}Cl_{4.08}. (2) Elura deposit, Australia; by electron microprobe, average of two analyses, original analyses elemental, here converted to PbCl₂ and oxides; S probably in anglesite.

Occurrence: In hausmannite-rich dolomite and manganophyllite skarn in a metamorphosed Fe-Mn orebody (Långban, Sweden); a reaction product in slag immersed in sea water (Laurium, Greece).

Association: Dolomite, hausmannite, copper, manganophyllite (Långban, Sweden); mendipite, anglesite (Elura deposit, Australia); brucite, mereheadite, mendipite, cerussite, hydrocerussite, calcite (Merehead Quarry, England).

Distribution: From Långban, Värmland, Sweden. In the Merehead quarry, Mendip Hills, Somerset, England. At Laurium, Greece, in slag. Found in the Elura Zn-Pb-Ag deposit, 43 km northeast of Cobar, New South Wales, Australia.

Name: For Dr. Ragnar Blix (1898-1985), chemist at the Swedish Museum of Natural History, who performed analyses of many Långban minerals.

Type Material: Swedish Museum of Natural History, Stockholm, Sweden, 251539; National Museum of Natural History, Washington, D.C., USA, 114720.

References: (1) Gabrielson, O., A. Parwel, and F.E. Wickman (1958) Blixite, a new lead-oxyhalide mineral from Långban. *Arkiv Mineral. Geol.*, 2(32), 411-415. (2) (1960) *Amer. Mineral.*, 45, 908 (abs. ref. 1). (3) Scott, K.M. (1994) Lead oxychlorides at Elura, western NSW, Australia. *Mineral. Mag.*, 58, 336-338. (4) Krivovichev, S.V. and P.C. Burns (2006) The crystal structure of Pb₈O₅(OH)₂Cl₄, a synthetic analogue of blixite? *Can. Mineral.*, 44, 515-522. (5) (2006) *Amer. Mineral.*, 91(11), 1950 (abs. ref. 4).