Sahlinite $Pb_{14}O_9(AsO_4)_2Cl_4$

Crystal Data: Monoclinic, pseudotetragonal. *Point Group*: 2/*m*. Crystals are thin, scaly, to 2 mm, in seams and aggregates.

Physical Properties: *Cleavage*: On {010}, perfect. Hardness = 2-3 D(meas.) = 7.38-8.00 D(calc.) = 8.096

Optical Properties: Semitransparent. *Color*: Pale sulfur-yellow, pale greenish yellow, bright yellow, to orange.
Optical Class: Biaxial (–). *n* = Very high. 2V(meas.) = 96.5° *Orientation*: *X* = *b*.

Cell Data: *Space Group*: *C*2/*c*. *a* = 12.710(13) *b* = 22.498(8) *c* = 11.360(9) β = 118.99(3)° Z = 4

X-ray Powder Pattern: Långban, Sweden; close to kombatite.
3.011 (10), 2.946 (10), 2.814 (9), 1.754 (8), 2.249 (7), 1.985 (5), 2.021 (4)

Chemistry:

	(1)	(2)	(3)
As_2O_5	6.57	5.3	6.63
CO_2	0.43		
PbO	89.33	91.1	90.20
CaO	0.46		
Cl	4.05	4.0	4.09
H_2O	0.10		
$-O = Cl_2$	0.91	0.9	0.92
Total	100.03	99.5	100.00

(1) Långban, Sweden, average of two analyses; after deduction of Ca and CO_2 as calcite, corresponds to $Pb_{13.70}O_{8.85}(AsO_4)_{1.95}Cl_{3.92}$. (2) Do.; by electron microprobe. (3) $Pb_{14}O_9(AsO_4)_2Cl_4$.

Occurrence: In a metamorphosed Fe-Mn orebody (Långban, Sweden); in layered hausmannite-barite ore (Kombat mine, Namibia).

Association: Hausmannite, manganhumite, forsterite, dolomite (Långban, Sweden); copper, jacobsite, hausmannite, baryte (Kombat mine, Namibia).

Distribution: From Långban, Värmland, Sweden. At the Kombat Cu-Pb-Ag mine, 49 km south of Tsumeb, Namibia.

Name: To honor Dr. Carl *Sahlin* (1861-1943), General Manager of the iron works at Laxå, Sweden.

Type Material: Swedish Museum of Natural History, Stockholm, Sweden; National Museum of Natural History, Washington, D.C., USA, B13892.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 775. (2) Rouse, R.C. and P.J. Dunn (1985) A re-examination of sahlinite from Långban, Sweden. Neues Jahrb. Mineral., Monatsh., 127-131. (3) Bonaccorsi, E. and M. Pasero (2003) Crystal structure refinement of sahlinite, $Pb_{14}(AsO_4)_2O_9Cl_4$. Mineral. Mag., 67, 15-21. (4) (2004) Amer. Mineral., 89, 471 (abs. ref. 3).