Langisite $(Co, Ni)As$

Crystal Data: Hexagonal. *Point Group:* $6/m\ 2/m\ 2/m$. As irregular grains and lamellae in safflorite.

Physical Properties: Hardness = n.d. VHN = 780–857 (50 g load). D(meas.) = n.d. D(calc.) = 8.174

Optical Properties: Opaque. *Color:* In reflected light, pinkish buff. *Luster:* Metallic. *Pleochroism:* Weak. *Anisotropism:* Moderate, in bluish gray and light brown. *Bireflectance:* Weak.
R_1–R_2: n.d.

Cell Data: *Space Group:* $P6_3/mmc$. a = 3.538 $c = 5.127$ Z = 2

X-ray Powder Pattern: Langis mine, Canada.
2.631 (10), 1.966 (9), 1.770 (8), 1.493 (4), 1.470 (3), 1.315 (3), 1.141 (3)

Chemistry:

	(1)
Co	35.5
Ni	7.0
As	56.0
Total	98.5

(1) Langis mine, Canada; by electron microprobe, corresponding to $(Co_{0.84}Ni_{0.16})_{\Sigma=1.00}As_{1.04}$.

Mineral Group: Nickeline group.

Occurrence: In pockets of ore minerals, mineralized fault gouge, and breccia cemented with calcite and quartz.

Association: Cobalt pentlandite, siegenite, parkerite, bravoite, safflorite, maucherite, pyrite, marcasite.

Distribution: From the Langis mine, Casey Township, Cobalt-Gowganda area, Ontario, Canada [TL].

Name: For the Langis mine in Canada, where it was discovered.

Type Material: Canadian Geological Survey, Ottawa, 12140; Royal Ontario Museum, Toronto, Canada.

References: (1) Petruk, W., D.C. Harris, and J.M. Stewart (1969) Langisite, a new mineral, and the rare minerals cobalt pentlandite, siegenite, parkerite and bravoite from the Langis mine, Cobalt–Gowganda area, Ontario. Can. Mineral., 9, 597–616. (2) (1972) Amer. Mineral., 57, 1910–1911 (abs. ref. 1).