

Crystal Data: Triclinic, probable; pseudo-orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$, apparent. As grains, to 1.5 mm. *Twinning:* Polysynthetic, the trace of the composition plane parallel to {100}.

Physical Properties: *Cleavage:* Perfect on {100}. *Tenacity:* Brittle. Hardness = n.d. VHN = 147 (50 g load). D(meas.) = n.d. D(calc.) = 5.323 (for Sb:As=3:2).

Optical Properties: Opaque. *Color:* Black; white in polished section. *Streak:* Black, with a slightly brownish tint. *Luster:* Metallic. *Pleochroism:* Strong, displaying twin lamellae. R₁–R₂: (400) 39.1–45.2, (420) 38.2–44.7, (440) 37.3–44.2, (460) 36.6–43.7, (480) 36.2–43.2, (500) 35.8–42.9, (520) 35.5–42.5, (540) 35.0–42.0, (560) 34.4–41.4, (580) 34.0–40.8, (600) 33.5–40.0, (620) 33.2–39.4, (640) 32.8–38.7, (660) 32.3–38.1, (680) 31.7–37.5, (700) 31.0–37.0

Cell Data: *Space Group:* $Pn\bar{m}n$ pseudocell. $a = 19.6(2)$ $b = 7.99(5)$ $c = 8.60(5)$
 $\alpha = 90^\circ$ $\beta = 90^\circ$ $\gamma = 90^\circ$ $Z = 8$

X-ray Powder Pattern: Madoc, Canada.

3.51 (100), 2.344 (80), 2.78 (70), 4.18 (50), 3.91 (50), 2.689 (50), 2.645 (50)

Chemistry:	(1)	(2)	(3)
Pb	41	39.3	38.7
Sb	28	28.1	24.8
As	11	8.9	12.0
S	23	23.7	23.9
Total	103	100.0	99.4

(1) Madoc, Canada; by electron microprobe, corresponding to $Pb_{1.10}(Sb_{1.28}As_{0.82})_{\Sigma=2.10}S_{4.00}$.
(2) Do.; by electron microprobe, corresponding to $Pb_{1.03}(Sb_{1.25}As_{0.64})_{\Sigma=1.89}S_{4.00}$. (3) Novoye, Kyrgyzstan; by electron microprobe, corresponding to $Pb_{1.00}(Sb_{1.09}As_{0.86})_{\Sigma=1.95}S_{4.00}$.

Polymorphism & Series: Dimorphous with guettardite.

Occurrence: In marble with other lead sulfantimonides (Madoc, Canada).

Association: Chabournéite, pierrotite, parapierrotite, stibnite, pyrite, sphalerite, zinkenite, madocite, andorite, smithite, laffittite, routhierite, aktashite, wakabayashilite, realgar, orpiment (Jas Roux, France); sphalerite, pyrite, galena, playfairite, sorbyite, guettardite, baumhauerite, realgar, orpiment, cinnabar, fluorite, quartz (Novoye, Kyrgyzstan).

Distribution: In Canada, from near Madoc [TL], and in the Hemlo gold deposit, Thunder Bay district, Ontario. In France, from the Jas Roux deposit, 10 km east of Chapelle-en-Valgaudemar, Hautes-Alpes. At the Rujevac Sb–Zn–Pb deposit, western Serbia. From Novoye, Khaydarkan, Fergana Valley, Alai Range, Kyrgyzstan.

Name: In honor of Robert Mitchell Thompson (1918–1967), Canadian mineralogist, University of British Columbia, Vancouver, Canada. Thompson is “son of Thomas”; the latter is Aramaic for “a twin”. The name is doubly appropriate in alluding to the polysynthetic twinning present in the mineral.

Type Material: Canadian Geological Survey, Ottawa, 12175; Canadian Museum of Nature, Ottawa, Canada.

References: (1) Jambor, J.L. (1967) New lead sulfantimonides from Madoc, Canada. Part 2 — Mineral descriptions. *Can. Mineral.*, 9, 191–213. (2) (1968) *Amer. Mineral.*, 53, 1424 (abs. ref. 1). (3) Jambor, J.L., J.H.G. Laflamme, and D.A. Walker (1982) A re-examination of the Madoc sulfosalts. *Mineral. Record*, 13, 93–100. (4) Mozgova, N.N., N.S. Bortnikov, Y.S. Borodaev, and A.I. Tzépine (1982) Sur la non-stoechiométrie des sulfosels antimonieux arséniques de plomb. *Bull. Minéral.*, 105, 3–10 (in French with English abs.).

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