

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. As irregular and subhedral grains, to 130 μm .

Physical Properties: Hardness = n.d. VHN = 654–763 (100 g load). D(meas.) = 6.9 D(calc.) = 6.97

Optical Properties: Opaque. *Color:* White with a faint grayish tinge. *Luster:* Metallic. *Pleochroism:* Weak. *Anisotropism:* Weak, faint pink to pale buff.

R_1 – R_2 : (400) 47.8–47.9, (420) 48.0–48.5, (440) 48.2–48.9, (460) 48.2–49.2, (480) 48.2–49.4, (500) 48.4–49.6, (520) 48.7–49.6, (540) 48.9–49.4, (560) 49.0–49.3, (580) 49.2–49.2, (600) 49.5–49.3, (620) 49.7–49.6, (640) 49.9–49.9, (660) 50.2–50.3, (680) 50.3–50.6, (700) 50.5–50.9

Cell Data: *Space Group:* $Pbca$. $a = 5.842(3)$ $b = 5.951(3)$ $c = 11.666(4)$ $Z = 8$

X-ray Powder Pattern: Trout Bay, Canada.
2.555 (10), 2.035 (8), 5.81 (8), 1.853 (8), 2.826 (7), 2.654 (7), 2.976 (4)

Chemistry:	(1)	(2)	(3)
Co	26.4	25.0	27.70
Fe	0.4	0.4	
Ni	0.8	1.0	
Sb	56.8	57.6	57.23
As		2.1	
S	14.9	14.5	15.07
Total	99.3	100.6	100.00

(1) Trout Bay, Canada; by electron microprobe, average of five analyses; corresponds to $(\text{Co}_{0.96}\text{Ni}_{0.03}\text{Fe}_{0.02})_{\Sigma=1.01}\text{Sb}_{1.00}\text{S}_{1.00}$. (2) Wheal Cock, England; by electron microprobe; corresponds to $(\text{Co}_{0.91}\text{Ni}_{0.04}\text{Fe}_{0.01})_{\Sigma=0.96}(\text{Sb}_{1.01}\text{As}_{0.06})_{\Sigma=1.07}\text{S}_{0.97}$. (3) CoSbS.

Polymorphism & Series: Dimorphous with costibite.

Occurrence: In drill core from a massive base-metal sulfide deposit in a carbonatized chlorite-anthophyllite schist that is most likely an altered mafic rock, in a sequence of metavolcanics and metasediments (Trout Bay, Canada); in Pb–Zn–Cu–Ag ore deposits remobilized by hydrothermal solutions from younger granite emplacement (Bergslagen, Sweden).

Association: Sphalerite, chalcopyrite, galena, pyrargyrite, pyrrhotite, antimonial silver (Trout Bay, Canada); costibite, nisbite, chalcopyrite, pyrrhotite, galena, sphalerite, gersdorffite, ullmannite (Bergslagen, Sweden).

Distribution: In drill core from Trout Bay, 32 km west of Red Lake, Kenora district, Ontario, Canada [TL]. At Wheal Cock, Botallack, St. Just, Cornwall, England. In the Gruvåsen and Getön deposits, Bergslagen metallic province, Sweden.

Name: For CObalt and antimony, STIBium, in the chemical composition and probable structural relation to pararammelsbergite.

Type Material: Canadian Museum of Nature, Ottawa; Canadian Geological Survey, Ottawa, 12163; Royal Ontario Museum, Toronto, Canada.

References: (1) Cabri, L.J., D.C. Harris, and J.M. Stewart (1970) Paracostibite (CoSbS) and nisbite (NiSb_2), new minerals from the Red Lake Area, Ontario, Canada. *Can. Mineral.*, 10, 232–246. (2) (1971) *Amer. Mineral.*, 56, 631 (abs. ref. 1). (3) Rowland, J.F., E.J. Gabe, and S.R. Hall (1975) The crystal structures of costibite (CoSbS) and paracostibite (CoSbS). *Can. Mineral.*, 13, 188–196. (4) Criddle, A.J. and C.J. Stanley, Eds. (1993) Quantitative data file for ore minerals, 3rd ed. Chapman & Hall, London, 411.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without the prior written permission of Mineral Data Publishing.