

Crystal Data: Monoclinic. *Point Group:* $2/m$. Massive, striations parallel [010].

Physical Properties: *Cleavage:* Good, giving platy appearance. Hardness = 2–2.5
VHN = 45–63 (25 g load). D(meas.) = 7.12 D(calc.) = [6.91]

Optical Properties: Opaque. *Color:* Lead-gray; cream-white in reflected light. *Streak:* Black.
Luster: Metallic.

R₁–R₂: (400) 43.2–45.3, (420) 42.8–44.9, (440) 42.4–44.5, (460) 41.9–44.2, (480) 41.5–43.8, (500) 41.1–43.3, (520) 40.5–42.8, (540) 40.0–42.3, (560) 39.4–41.8, (580) 38.9–41.3, (600) 38.4–40.9, (620) 38.0–40.6, (640) 37.7–40.4, (660) 37.4–40.2, (680) 37.3–39.8, (700) 37.2–39.7

Cell Data: *Space Group:* $P2/m$ subcell: $a = 4.19(1)$ $b = 4.08(1)$ $c = 15.56(4)$
 $\beta = 101.35(16)^\circ$ $Z = [1]$ *Space Group:* $C2/m$ subcell: $a = 7.21(2)$ $b = 4.08(1)$
 $c = 15.50(5)$ $\beta = 98.75(15)^\circ$ $Z = [1]$

X-ray Powder Pattern: Falun, Sweden.

3.004 (s), 2.887 (sb), 2.041 (s), 3.434 (ms), 3.848 (m), 3.607 (m), 3.529 (m)

Chemistry:

	(1)	(2)
Pb	33.2	35.3
Bi	45.5	43.9
Se	9.7	7.7
S	11.8	12.6
Total	100.2	99.5

(1) Falun, Sweden; average of two analyses. (2) Do.; by electron microprobe.

Occurrence: In an amphibolite rock (Falun, Sweden); in garnet tactite (Middlemarch Canyon, Arizona, USA).

Association: Nordströmite, friedrichite, magnetite, pyrite, cordierite, quartz (Falun, Sweden).

Distribution: From Falun, Kopparberg, Sweden. Found in the Gottesehre mine, near Urberg, Black Forest, Germany. At Middlemarch Canyon, Cochise Co., Arizona, USA.

Name: For T. Witt, Swedish mining engineer.

Type Material: Swedish Museum of Natural History, Stockholm, Sweden; Royal Ontario Museum, Toronto, Canada, M12992; National School of Mines, Paris, France.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 451. (2) Mumme, W.G. (1976) Proudite from Tennant Creek, Northern Territory, Australia: its crystal structure and relationship with weibullite and wittite. *Amer. Mineral.*, 61, 839–852. (3) Mumme, W.G. (1980) Seleniferous lead–bismuth sulfosalts from Falun, Sweden: weibullite, wittite and nordströmite. *Amer. Mineral.*, 65, 789–796.