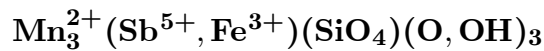


**Örebroite**

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**Crystal Data:** Hexagonal. *Point Group:* 3. As fine-grained, polycrystalline intergrowths and massive.

**Physical Properties:** *Fracture:* Irregular. Hardness = ~4 D(meas.) = n.d. D(calc.) = 4.77 Weakly magnetic, probably due to inclusions of magnetite.

**Optical Properties:** Nearly opaque. *Color:* Dark brown. *Streak:* Reddish brown.

*Luster:* Vitreous.

*Optical Class:* Uniaxial (+).  $\omega = 1.857(3)$   $\epsilon = 1.875(3)$

**Cell Data:** *Space Group:* *P*3 (probable).  $a = 8.183(7)$   $c = 4.756(9)$   $Z = 2$

**X-ray Powder Pattern:** Sjö mine, Sweden.

3.096 (100), 1.778 (90), 2.334 (70), 2.838 (50), 1.550 (50), 2.680 (40), 4.08 (30)

**Chemistry:**

	(1)
SiO <sub>2</sub>	15.2
WO <sub>3</sub>	0.0
Al <sub>2</sub> O <sub>3</sub>	0.3
Fe <sub>2</sub> O <sub>3</sub>	9.2
Sb <sub>2</sub> O <sub>5</sub>	15.8
As <sub>2</sub> O <sub>5</sub>	1.6
V <sub>2</sub> O <sub>5</sub>	0.0
MnO	54.6
MgO	0.8
H <sub>2</sub> O	[2.8]
Total	[100.3]

(1) Sjö mine, Sweden; by electron microprobe, H<sub>2</sub>O by analogy to welinite; corresponds to  $\text{Mn}_{3.04}(\text{Fe}_{0.46}^{3+}\text{Sb}_{0.38}\text{Mg}_{0.08}\text{As}_{0.06}\text{Al}_{0.02})_{\Sigma=1.00}\text{Si}_{1.00}[\text{O}, (\text{OH})]_{\Sigma=\sim 7}$ .

**Occurrence:** A fine-grained aggregate with antimonates.

**Association:** Calcite, hausmannite, magnetite, dolomite.

**Distribution:** At the Sjö mine, near Grythyttan, Örebro, Sweden.

**Name:** For the town of Örebro, Sweden, about 60 km southeast of the Sjö mine.

**Type Material:** Swedish Museum of Natural History, Stockholm, Sweden, RM 93:0255; National Museum of Natural History, Washington, D.C., USA, 163008.

**References:** (1) Dunn, P.J., D.R. Peacor, R.C. Erd, and R.A. Ramik (1986) Franciscanite and örebroite, two new minerals from California and Sweden, related to redefined welinite. *Amer. Mineral.*, 71, 1522–1526.