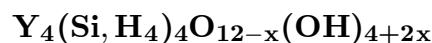


Tombarthite-(Y)

©2001 Mineral Data Publishing, version 1.2

Crystal Data: Monoclinic, partially metamict. *Point Group:* 2/m. Massive, to about 1 cm.**Physical Properties:** *Fracture:* Conchoidal. Hardness = 5–6 D(meas.) = 3.51–3.65
D(calc.) = 3.64–3.68**Optical Properties:** Translucent to opaque. *Color:* Brownish black. *Luster:* Dull.
Optical Class: Isotropic; may be slightly anisotropic. $n = 1.639(2)$ **Cell Data:** *Space Group:* $P2_1/n$. $a = 7.12$ $b = 7.29$ $c = 6.71$ $\beta = 102^\circ 41'$ $Z = 1$ **X-ray Powder Pattern:** Högetveit quarry, Norway.
6.55 (100), 3.42 (80), 3.23 (70b), 2.97 (60), 2.89 (50), 2.40 (40), 7.32 (30)**Chemistry:**

| | |
|--------------------------------|-------|
| | (1) |
| SiO ₂ | 15.90 |
| ThO ₂ | 0.85 |
| UO ₂ | 0.57 |
| Y ₂ O ₃ | 28.00 |
| RE ₂ O ₃ | 19.54 |
| FeO | 5.52 |
| MnO | 1.02 |
| MgO | 0.26 |
| CaO | 4.88 |
| P ₂ O ₅ | 0.00 |
| LOI | 22.71 |
| Total | 99.25 |

(1) Högetveit quarry, Norway; RE by XRF, CaO includes 15% SrO, loss on ignition taken as H₂O; RE₂O₃ = La₂O₃ 0.06%, Ce₂O₃ 0.42%, Pr₂O₃ 0.08%, Nd₂O₃ 0.48%, Sm₂O₃ 0.57%, Eu₂O₃ 0.05%, Gd₂O₃ 1.53%, Tb₂O₃ 0.47%, Dy₂O₃ 3.85%, Ho₂O₃ 0.90%, Er₂O₃ 3.91%, Tm₂O₃ 0.64%, Yb₂O₃ 5.79%, Lu₂O₃ 0.79%; corresponds to (Y, RE, Ca, Fe, Mn, Mg, Th, U)₄Si_{1.96}H_{8.16}O_{8.11}(OH)_{10.45}.

Occurrence: In pegmatite dikes cutting amphibolites.**Association:** Thalenite, feldspar.**Distribution:** In the Högetveit quarry, near Setesdal, Evje, and at Reiarssdal, Norway.**Name:** For Professor Thomas Fredrik Weiby Barth (1899-1971), mineralogist and petrologist, Oslo University, Oslo, Norway, who studied the area of first occurrence, and for its *yttrium* content.**Type Material:** Oslo University, Oslo, Norway.**References:** (1) Neumann, H. and B. Nilssen (1968) Tombarthite, a new mineral from Högetveit, Evje, south Norway. *Lithos*, 1, 113–123. (2) (1969) *Amer. Mineral.*, 54, 327–328 (abs. ref. 1).