Hügelite Pb₂(UO₂)₃O₂(AsO₄)₂·5H₂O

Crystal Data: Monoclinic. Point Group: 2/m or 2. Prismatic crystals, flattened on {100}, elongated and striated along [001], showing {001}, {100}, {011}, {110}, to 3 mm.


Optical Class: Biaxial (+) to uniaxial (+). Pleochroism: Moderately strong; X = yellow; Y = yellow with orange tint; Z = colorless to pale yellow. Orientation: Y = c. Dispersion: r ≪ v; extreme, showing anomalous interference colors and incomplete extinction. α = 1.898(5) β = 1.915(5) γ = n.d. 2V(meas.) = Small [red] to large [blue]; 0°–25°.

Cell Data: Space Group: P2₁/m or P2₁. a = 8.13(20) b = 17.27(20) c = 7.01(20) β = 109.0° Z = 2

X-ray Powder Pattern: Michael mine, Germany.
3.73 (10b), 3.06 (9), 3.00 (7), 2.89 (7), 1.833 (7), 4.33 (6b), 2.70 (6)

Chemistry: (1) Michael mine, Germany; microchemical tests show Pb, U, As as the main components, H₂O determined as 5.3%; from X-ray data, presumed to be the arsenate analog of dumontite.

Occurrence: A rare secondary mineral in cavities in hornstone breccia.

Association: Hallimondite, widenmannite, zeunerite, mimetite, cerussite.

Distribution: From the Michael mine, Weiler, near Lahr, Black Forest, Germany.

Name: To honor Baron Friedrich von Hügel (1852–1925), Austrian-British theologian.

Type Material: n.d.