

**Crystal Data:** Monoclinic. *Point Group:* 2/m. Crystals are needlelike to prismatic platy, with basal terminations, to 1.5 mm.

**Physical Properties:** *Cleavage:* Perfect on {100}. *Fracture:* Hackly. *Tenacity:* Brittle. Hardness = 2.5 D(meas.) = > 1.96 to < 2.09 D(calc.) = 2.037(1)

**Optical Properties:** Translucent. *Color:* Pale golden brown. *Streak:* White. *Luster:* Vitreous.

*Optical Class:* Biaxial (-). *Orientation:* Z = b; Y ∧ c = 17°. *Dispersion:* r < v. α = 1.612 β = 1.674 γ = 1.710 2V(meas.) = 74° 2V(calc.) = 72.7°

**Cell Data:** *Space Group:* C2/c. a = 38.954(2) b = 7.201(4) c = 16.3645(9) β = 97.602(1)° Z = 16

**X-ray Powder Pattern:** Firefly-Pigmy mine, Utah, USA. 9.704 (100), 5.843 (100), 3.139 (90), 8.117 (60), 2.920 (60), 4.061 (50), 2.707 (50)

| Chemistry:                    | (1)   | (2)    |
|-------------------------------|-------|--------|
| V <sub>2</sub> O <sub>5</sub> | 73.92 | 52.22  |
| FeO                           | 0.46  |        |
| MgO                           | 15.38 | 11.57  |
| H <sub>2</sub> O              |       | 36.21  |
| Total                         |       | 100.00 |

(1) Firefly-Pigmy mine, Utah, USA; by electron microprobe, total Fe as FeO, highly volatilized in the electron beam due to rapid dehydration; atomic ratios correspond to (Mg<sub>0.95</sub>Fe<sub>0.02</sub>)<sub>Σ=0.97</sub>(V<sub>2.01</sub>O<sub>6</sub>)·nH<sub>2</sub>O. (2) Mg(V<sub>2</sub>O<sub>6</sub>)·7H<sub>2</sub>O as established by crystal-structure analysis.

**Occurrence:** In the oxidized zone of a sandstone U–V deposit.

**Association:** Pascoite, sherwoodite, selenium.

**Distribution:** From the Firefly-Pigmy U–V mine, 16 km east of La Sal, San Juan Co., Utah, USA.

**Name:** To honor Richard Wyatt?? Thomssen (1933–), American economic geologist and collector of microscopic mineral specimens, Dayton, Nevada, USA.

**Type Material:** National Museum of Natural History, Washington, D.C., USA, ??.

**References:** (1) Hughes, J.M., F.E. Cureton, J. Marty, R.A. Gault, M.E. Gunter, C.F. Campana, J. Rakovan, A. Sommer, and M.E. Brueseke (2001) Dickthomssenite, Mg(V<sub>2</sub>O<sub>6</sub>)·7H<sub>2</sub>O, a new mineral species from the Firefly-Pigmy mine, Utah: descriptive mineralogy and arrangement of atoms. *Can. Mineral.*, 39, 1691–1700. (2) (2002) *Amer. Mineral.*, 87, 1731–1732 (abs. ref. 1).