Dickthomssenite

Mg(V$_2$O$_6$)$\cdot$7H$_2$O

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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 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-Pigmay 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:

<table>
<thead>
<tr>
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<th>(1)</th>
<th>(2)</th>
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<tbody>
<tr>
<td>V$_2$O$_5$</td>
<td>73.92</td>
<td>52.22</td>
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<tr>
<td>FeO</td>
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<td>MgO</td>
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<td>H$_2$O</td>
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<td>Total</td>
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</table>

(1) Firefly-Pigmay 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$_{0.95}$Fe$_{0.02}$)$_{\Sigma}$=0.97 (V$_{2.01}$O$_6$)$\cdot$nH$_2$O. (2) Mg(V$_2$O$_6$)$\cdot$7H$_2$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-Pigmay 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, ??.