Sardignaite

**BiMo$_2$O$_7$(OH)-2H$_2$O**

**Crystal Data:** Monoclinic. *Point Group*: 2/m. As prismatic crystals elongated along [010] and tabular on {100} to 1 mm, as sprays of subparallel crystals.


D(meas.) = n.d.  
D(calc.) = 4.82  
Nonfluorescent.


**Optical Class:** $n$(calc.) = 2.04  
Elongation positive on [010]. *Birefringence*: High.

**Cell Data:** *Space Group*: P2$_1$/m.  
a = 5.7797(7)  
b = 11.567(1)  
c = 6.3344(8)  
$\beta$ = 113.360(9)$^\circ$

**X-ray Powder Pattern:** Su Senargiu, near Sarroch, Sardegna, Italy.

3.206 (100), 5.03 (80), 1.992 (45), 3.120 (32), 2.590 (30), 2.115 (30), 3.327 (28)

**Chemistry:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Formula</th>
<th>Abundance ($%$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PbO</td>
<td></td>
<td>0.41</td>
</tr>
<tr>
<td>Bi$_2$O$_3$</td>
<td></td>
<td>41.21</td>
</tr>
<tr>
<td>MoO$_3$</td>
<td></td>
<td>52.14</td>
</tr>
<tr>
<td>H$_2$O</td>
<td></td>
<td>[8.13]</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>101.89</strong></td>
</tr>
</tbody>
</table>

(1) Su Senargiu, near Sarroch, Sardegna, Italy; average electron microprobe analysis, H$_2$O from structure, high total from minor dehydration under the electron beam; corresponds to Bi$_{0.980}$Pb$_{0.010}$Mo$_{2.007}$O$_7$(OH)$_{1.000}$·2H$_2$O.

**Occurrence:** A secondary mineral formed in the oxidation zone of a molybdenite-bismuthinite deposit in quartz veins within a granite.

**Association:** Bismuthinite, bismoclite, molybdenite, ferrimolybdite, koechlinite, wulfenite, gelosaite.

**Distribution:** From Su Senargiu, near Sarroch, Sardegna, Italy.

**Name:** For Sardigna (in Italian “Sardegna”, in English “Sardinia”), the region in which the mineral was found, as spelt in the local language, which is an independent Romance language.

**Type Material:** Natural History Museum, University of Pisa, Italy (19350).

**References:** (1) Orlandi, P., M. Pasero, and S. Bigi (2010) Sardignaite, a new mineral, the second known bismuth molybdate: description and crystal structure. Mineralogy and Petrology, 100, 17-22.