Browneite

Crystal Data: Cubic.  Point Group: 4 3m.  As a fractured grain to 20 μm.


Cell Data: Space Group: F 4 3m.  a = 5.601  Z = 4

X-ray Powder Pattern: Calculated pattern.  3.234 (100), 1.980 (63), 1.689 (39), 1.143 (19), 1.285 (14), 0.947 (14), 0.886 (14)

Chemistry:  

<table>
<thead>
<tr>
<th>Element</th>
<th>S</th>
<th>Fe</th>
<th>Ca</th>
<th>Mn</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>36.46</td>
<td>0.62</td>
<td>0.10</td>
<td>62.31</td>
<td>99.49</td>
</tr>
</tbody>
</table>

(1) Zakłodzie meteorite; average of 6 electron microprobe analyses supplemented by micro-Raman spectroscopy; corresponds to (Mn$_{0.993}$Fe$_{0.010}$Ca$_{0.002}$)$_{2-1.005}$S$_{0.995}$.

Mineral Group: Sphalerite group.

Polymorphism & Series: Polymorphous with alabandite and rambergite.

Occurrence: In an enstatite-rich achondrite meteorite, postdates the impact melting and subsequent crystallization of an enstatite-rich rock.

Association: Plagioclase, enstatite, troilite.

Distribution: From the Zakłodzie meteorite.

Name: Honors Patrick R.L. Browne (b. 1941), Professor at the University of Auckland, New Zealand, for his contributions to low-temperature mineralogy and petrology.
