Earlandite

\[ \text{Ca}_3(\text{C}_6\text{H}_5\text{O}_7)_2 \cdot 4\text{H}_2\text{O} \]

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Crystal Data: Monoclinic (synthetic).  
Point Group: n.d.  
As warty fine-grained nodules, to \(\sim 1.5\) mm.

Physical Properties:  
Hardness = n.d.  
\(D(\text{meas.}) = 1.80–1.95\)  
\(D(\text{calc.}) = 1.96\)

Optical Properties:  
Semitransparent.  
Color: White to pale yellow. 
Optical Class: Biaxial (+).  
\(\alpha = 1.515\)  
\(\beta = 1.530\)  
\(\gamma = 1.580\)  
\(2V(\text{meas.}) = 60^\circ\)

Cell Data:  
Space Group: n.d.  
\(a = 30.94\)  
\(b = 5.93\)  
\(c = 10.56\)  
\(\beta = 93^\circ 44'\)  
\(Z = 4\)

X-ray Powder Pattern:  
15.5 (100), 7.7 (50), 5.2 (35), 3.09 (6), 8.5 (4), 6.4 (4), 4.74 (4)

Chemistry:

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CaO</td>
<td>28.63</td>
<td>29.49</td>
</tr>
<tr>
<td>H</td>
<td>3.48</td>
<td>3.18</td>
</tr>
<tr>
<td>C</td>
<td>24.01</td>
<td>25.26</td>
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<tr>
<td>O</td>
<td>[43.88]</td>
<td>42.07</td>
</tr>
<tr>
<td>Total</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Weddell Sea, Antarctica; identity of natural and synthetic material proved by X-ray diffraction.  
(2) \(\text{Ca}_3(\text{C}_6\text{H}_5\text{O}_7)_2 \cdot 4\text{H}_2\text{O}\).

Occurrence: In unconsolidated ocean floor sediment at 2580 m depth.

Association: Quartz.

Distribution: From the Weddell Sea, near Antarctica.


Type Material:  

References:  