Omongwaite

Na$_2$Ca$_5$(SO$_4$)$_6$$\cdot$3H$_2$O

**Crystal Data:** Monoclinic.  
*Point Group:* 2.  
Crystals, elongated on [001], with pseudo-hexagonal cross-sections and sphenoidal terminations, to 0.2 mm.

**Physical Properties:**  
*Cleavage:* None.  
*Fracture:* n.d.  
*Tenacity:* n.d.  
*Hardness* = n.d.  
*D(meas.)* = n.d.  
*D(calc.)* = 2.720

**Optical Properties:**  
*Transparent.*  
*Color:* Colorless.  
*Streak:* n.d.  
*Luster:* n.d.  
*Optical Class:* Biaxial.  
*n(calc)* = 1.540  
*2V(meas.)* = n.d.  
*2V(calc.)* = n.d.  
*Orientation:* Z ~ c.

**Cell Data:**  
*Space Group:* C2.  
*a* = 12.08(3)  
*b* = 6.96(1)  
*c* = 6.39(2)  
*β* = 90.2(3)°  
*Z* = 1

**X-ray Powder Pattern:** Omongwa pan, southwestern Kalahari, Namibia.  
3.015 (100), 2.819 (100), 6.005 (75), 3.481 (50), 2.139 (<25), 1.8534 (<25), 1.7437 (<25)

**Chemistry:**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO$_3$</td>
<td>56.16</td>
<td>54.78</td>
</tr>
<tr>
<td>CaO</td>
<td>30.82</td>
<td>31.98</td>
</tr>
<tr>
<td>Na$_2$O</td>
<td>5.25</td>
<td>7.07</td>
</tr>
<tr>
<td>K$_2$O</td>
<td>3.21</td>
<td></td>
</tr>
<tr>
<td>H$_2$O</td>
<td>6.25</td>
<td>6.17</td>
</tr>
<tr>
<td>Total</td>
<td>101.69</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Omongwa pan, southwestern Kalahari, Namibia; average of 175 electron microprobe analyses, H$_2$O calculated from structure analysis, H$_2$O and SO$_4$ confirmed by Raman spectroscopy, corresponding to (Na$_{1.47}$K$_{0.59}$)$_{2.06}$Ca$_{4.76}$S$_{8.05}$O$_{24}$·3H$_2$O.  
(2) Na$_2$Ca$_5$(SO$_4$)$_6$$\cdot$3H$_2$O.

**Occurrence:** As inclusions in gypsum in a dry lake, closed-basin evaporite deposit.

**Association:** Gypsum.

**Distribution:** From the Omongwa pan, near Aminuis, 140 km SSE of Gobabis, southwestern Kalahari, Namibia.

**Name:** For the locality from which the first specimens were obtained, the Omongwa pan, Namibia; “omongwa” meaning “salt” in the Otjiherero language.

**Type Material:** Royal Museum for Central Africa, Tervuren, Belgium (catalog no. RGM 15.908).

**References:**  