Cervelleite (Ag₄TeS)

**Crystal Data:** Cubic. **Point Group:** n.d. Rimming acanthite, to 30 µm thick, and as vermiform inclusions in hessite, also intergrown with benleonardite.

**Physical Properties:** Hardness = n.d. VHN = 26 (10 g load). D(meas.) = n.d. D(calc.) = 8.53(2) Photosensitive.

**Optical Properties:** Opaque. **Color:** Black; pale blue to pale green in reflected light. **Luster:** Metallic. **Optical Class:** Isotropic.

R: (400) 39.8, (420) 40.0, (440) 40.1, (460) 40.0, (480) 39.7, (500) 39.3, (520) 38.9, (540) 38.3, (560) 37.8, (580) 37.2, (600) 36.8, (620) 36.3, (640) 35.8, (660) 35.4, (680) 34.9, (700) 34.4

**Cell Data:** **Space Group:** n.d. **a = 14.03(1) Z = 24**

**X-ray Powder Pattern:** Moctezuma mine, Mexico. 5.00 (vvs), 4.24 (vs), 6.29 (s), 3.766 (ms), 4.64 (m), 5.74 (w), 2.596 (w)

**Chemistry:**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
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</thead>
<tbody>
<tr>
<td>Ag</td>
<td>73.0</td>
<td>72.99</td>
</tr>
<tr>
<td>Cu</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Te</td>
<td>22.2</td>
<td>21.59</td>
</tr>
<tr>
<td>S</td>
<td>5.3</td>
<td>5.42</td>
</tr>
</tbody>
</table>

Total 100.6 100.00

(1) Moctezuma mine, Mexico; by electron microprobe, average of eight analyses; corresponds to Ag₃.99Cu₀.01Te₁.02S₀.97. (2) Ag₄TeS.

**Occurrence:** In fracture fillings in highly altered and silicified rhyolite vitrophyre in a hydrothermal Au–Te deposit.

**Association:** Silver, acanthite, hessite, benleonardite, pyrite, sphalerite, dolomite, quartz.

**Distribution:** From the Moctezuma (Bambolla) mine, 12 km south of Moctezuma, Sonora, Mexico [TL]. A number of additional localities are suggested to host this species, but so far in amounts too small for complete confirmation.

**Name:** To honor Dr. Bernard Cervelle (1940– ), French mineralogist, University of Paris, Paris, France, for his work in ore microscopy.
