Livingstonite

Crystal Data: Monoclinic. Point Group: 2/m. As needles elongated [010], to 12 cm; also fibrous, massive, columnar, and in globular masses and interlaced needles. Twinning: Twin gliding postulated. Polysynthetic-twinninglike features noted in polished section.

Physical Properties: Cleavage: Perfect on {001}, poor on {010} and {100}. Tenacity: Flexible. Hardness = 2 VHN = 96–125 (100 g load). D(meas.) = 4.8(2); 4.88(2) (synthetic). D(calc.) = 4.98


R₁–R₂: (400) 35.0–44.3, (420) 34.2–44.3, (440) 33.2–44.4, (460) 32.8–44.9, (480) 32.6–44.9, (500) 32.3–43.8, (520) 31.8–42.3, (540) 31.2–41.0, (560) 30.7–40.0, (580) 30.4–39.2, (600) 29.9–38.1, (620) 29.1–36.8, (640) 28.4–35.7, (660) 27.8–34.9, (680) 27.4–34.2, (700) 26.9–33.6


X-ray Powder Pattern: Huitzuco, Mexico (may show preferred orientation). 3.00 (100), 3.74 (70), 3.48 (70), 2.28 (60), 1.734 (50), 5.16 (40), 2.67 (30)

Chemistry:

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
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<tbody>
<tr>
<td>Hg</td>
<td>22.52</td>
<td>21.0</td>
<td>21.25</td>
</tr>
<tr>
<td>Sb</td>
<td>53.75</td>
<td>51.6</td>
<td>51.58</td>
</tr>
<tr>
<td>S</td>
<td>23.73</td>
<td>28.6</td>
<td>27.17</td>
</tr>
</tbody>
</table>

Total 100.00 101.2 100.00

(1) Huitzuco, Mexico; recalculated after deduction of 13-16% impurities. (2) Do.; by electron microprobe. (3) HgSb₄S₈.

Occurrence: In low-temperature hydrothermal veins.

Association: Cinnabar, stibnite, sulfur, gypsum.

Distribution: In Mexico, from the La Cruz mine, Huitzuco, Guerrero [TL]; and at the Trinidad mine, Guadalcazar, San Luis Potosí. From the Matsuo mine, Iwate Prefecture, Japan. At Khaydarkan, Fergana Valley, Alai Range, Kyrgyzstán. From Pedrosa del Rey, León, Spain.

Name: Honors David Livingstone (1813–1873), Scottish explorer and missionary in Africa.