Empressite 

Crystal Data: Orthorhombic. Point Group: 2/m 2/m 2/m. As compact, granular masses; crystals rare, to 400 µm.


Cell Data: Space Group: Pmnb. a = 8.882(1) b = 20.100(5) c = 4.614(1) Z = 16

X-ray Powder Pattern: Empress Josephine mine, Colorado, USA. 2.70 (100), 2.23 (80), 3.81 (60), 3.33 (60), 3.18 (50), 2.14 (50), 2.04 (50)

Chemistry:

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
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<tbody>
<tr>
<td>Ag</td>
<td>45.17</td>
<td>44.9</td>
<td>45.2</td>
<td>45.81</td>
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<tr>
<td>Fe</td>
<td>0.22</td>
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<tr>
<td>Te</td>
<td>54.75</td>
<td>55.8</td>
<td>54.9</td>
<td>54.19</td>
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<tr>
<td>insol</td>
<td>0.39</td>
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</tbody>
</table>

Total 100.53 100.7 100.1 100.00

(1) Empress Josephine mine, Colorado, USA; average of two analyses, corresponding to Ag_{50.98}Te_{1.00}.
(2) Do.; by electron microprobe, corresponding to Ag_{50.95}Te_{1.00}.
(3) Do.; by electron microprobe, corresponding to Ag_{50.97}Te_{1.00}.
(4) AgTe.

Distribution: In low-temperature gold-poor hydrothermal vein deposits.

Association: Tellurium, sylvanite, petzite, hessite, rickardite, altaite, galena (Empress Josephine mine, Colorado, USA); pyrite, rodalquilarite (Tombstone, Arizona, USA); gold, tellurium, hessite, petzite, rickardite (Pitman, Canada).

Occurrence: In the USA, in Colorado, from the Empress Josephine mine, Kerber Creek district [TL], and the Klondike mine, Finley Gulch, both in Saguache Co.; the May Day mine, La Plata Co.; and the Red Cloud, Rex, and other mines, Boulder Co.; from Tombstone, Cochise Co., Arizona. In Canada, from the Grotto group of pits, near Pitman, British Columbia, and the Quetico intrusions, northwestern Ontario. At Kalgoorlie, Western Australia. From the Emperor mine, Vatukoula, Viti Levu, Fiji Islands. At the Kawazu mine, Shizuoka Prefecture, Japan. In the Kochbulak gold deposit, Chatkal-Kuramin Mountains, eastern Uzbekistan. At Sulitjelma, Norway. From the Huangshaping Pb–Zn deposit, Guiyang, Hunan Province, China.

Name: For the Empress Josephine mine, Colorado, USA.
