Luzonite  
\( \text{Cu}_3\text{AsS}_4 \)  

Crystal Data:  
- **Tetragonal.**  
- **Point Group:** 42m.  
- Crystals rare, to 2 mm; commonly coarse-grained, fine-grained, massive, intimately intergrown with enargite.  
- **Twinning:** Common on \{112\}, also polysynthetic in polished section.

Physical Properties:  
- **Cleavage:** Good on \{101\}, distinct on \{100\}.  
- **Hardness:** 3.5  
- **VHN:** n.d.  
- **D(meas.):** 4.38  
- **D(calc.):** 4.53

Optical Properties:  
- **Opaque.**  
- **Color:** Deep pinkish brown, similar to bornite, although darker; in polished section, pale brownish pink.  
- **Streak:** Black.  
- **Luster:** Metallic, dull.  
- **Pleochroism:** Weak.  
- **Anisotropism:** Strong, in greenish yellow and purplish.  

Cell Data:  
- **Space Group:** I4\(_2\)m.  
- **a:** 5.332(5)  
- **c:** 10.57(1)  
- **Z:** 2

X-ray Powder Pattern:  
- Mankayan, Philippines.  
- 3.046 (10), 1.855 (9), 1.592 (7), 1.578 (6), 1.204 (6), 1.078 (6), 1.321 (5)

Chemistry:  
<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cu</td>
<td>48.32</td>
<td>48.4</td>
<td>48.42</td>
</tr>
<tr>
<td>As</td>
<td>17.35</td>
<td>17.4</td>
<td>19.02</td>
</tr>
<tr>
<td>Sb</td>
<td>1.48</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>32.85</td>
<td>32.2</td>
<td>32.56</td>
</tr>
</tbody>
</table>

Total (100.00) 99.0 100.00

(1) Mankayan, Philippines; recalculated to 100.00% after deduction of 0.97% insol. and 0.56% pyrite.  
(2) Huaron, Peru; by electron microprobe.  
(3) Cu\(_3\)AsS\(_4\). 

Polymorphism & Series:  
- Dimorphous with enargite; forms a series with famatinite.

Mineral Group:  
- Stannite group.

Occurrence:  
- In hydrothermal Cu–As–Sb-rich vein and disseminated deposits, formed at low to medium temperatures.

Association:  
- Enargite, tetrahedrite–tennantite, colusite, stannoidite, pyrite, chalcopyrite, covellite, sphalerite, bismuthinite, silver sulfosalts, silver, gold, marcasite, alunite, barite, quartz.

Distribution:  
- From the Lepanto mine, Mankayan, Luzon, Philippines [TL], as an ore mineral.  
- In the Chinkuashi mine, Keelung, Taiwan.  
- In Japan, at the Teine, Morino, and Date mines, Hokkaido; the Kasuga and Akeshi mines, Kagoshima Prefecture; and other localities.  
- From the Sierra Famatina, La Rioja Province, Argentina.  
- In the Julcani district, at Cerro de Pasco, and at Huaron, Peru.  
- In the USA, in Nevada, at Goldfield, Esmeralda Co., from the Golden Chariot mine, Jamestown district, Nye Co., and in the Burrus vein, Pyramid district, Washoe Co.; from Butte, Silver Bow Co., Montana; and at Summitville, Rio Grande Co., Colorado.  
- At the Chelopech deposit, Sofia, Bulgaria.  
- From Calabona, Sardinia, Italy.  
- At the Kadzhahan deposit, Armenia.  
- From Pirul lui Avram, Romania.  
- In the Lahőca Hill mine, Recsk, Mátra Mountains, Hungary.  
- Numerous additional localities are now known.

Name:  
- For Luzon Island in the Philippines.

References:  