Argentopentlandite Ag(Fe, Ni)₈S₈

Crystal Data: Cubic. Point Group: 4/m 3 2/m. As euhedral crystals with well developed octahedral faces; as patches in other sulfides; massive.


X-ray Powder Pattern: Vuonos, Finland.

3.170 (10), 1.858 (10), 2.018 (4), 1.072 (3), 6.06 (2), 5.25 (2), 3.71 (2)

Chemistry:

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ag</td>
<td>13.3</td>
<td>12.1</td>
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<tr>
<td>Fe</td>
<td>34.7</td>
<td>35.6</td>
</tr>
<tr>
<td>Ni</td>
<td>21.3</td>
<td>20.0</td>
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<tr>
<td>Cu</td>
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<tr>
<td>S</td>
<td>31.4</td>
<td>31.5</td>
</tr>
</tbody>
</table>

(1) Oktyabry mine, Russia; by electron microprobe, corresponds to Ag₁₃.₀₁(Fe₅.₀₈Ni₂.₉₇)Σ=₈.₀₅S₈.₀₀.
(2) Talnotry mine, Scotland; by electron microprobe, corresponds to Ag₁₂.₉₁(Fe₅.₁₉Ni₂.₇₈)Σ=₇.₉₇S₈.₀₀.

Mineral Group: Pentlandite group.

Occurrence: In pyrite and cubanite-chalcopyrite hydrothermal veins in ultramafic rocks and in skarn; in hydrothermal veins in acidic volcanics; rare in carbonatites.

Association: Pyrite, pyrrhotite, mackinawite, cubanite, chalcopyrite, stannite, galena, sphalerite, calcite, quartz.

Distribution: In Russia, in the Oktyabry mine, Talnakh area, Noril’sk region, western Siberia [TL], and the Khovu-Aksy Co–Ni deposit, Tuva [TL]. In the Vuonos, Miihlkali, Hietajärvi, and Outokumpu deposits, Finland. In Scotland, at the Talnotry mine, Newton Stewart, Kirkcudbrightshire. From El Charcón, Murcia Province, Spain. At Koronuda, Macedonia, Greece. From Bottino, Tuscany, Italy. In the Loolekop carbonatite, Phalaborwa, Transvaal, South Africa. From Bird River, and the Agassiz gold deposit, Lynn Lake region, Manitoba, Canada. In the USA, from near Silver City, Ontonogan Co., Michigan. From Windair, Western Australia. In the Juimao tin mine, Guangxi Province, China.

Name: For the similarity in composition to pentlandite.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 74159.


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