Atlasovite

KCu₆Fe³⁺BiO₄(SO₄)₅Cl

Crystal Data: Tetragonal (by analogy to nabokoite). Point Group: 4/m 2/m 2/m.
Eight-sided crystals are tabular with prominent {001} modified by {110}, {012} and {014}, to 1 mm; typically intergrown with nabokoite.


Cell Data: Space Group: P4/ncc. a = 9.86(2) c = 20.58(2) Z = 4

X-ray Powder Pattern: Tolbachik volcano, Russia.
10.41 (10), 10.75 (9), 2.446 (8), 3.431 (7), 2.890 (7), 4.57 (5), 7.14 (4)

Chemistry:

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₃</td>
<td>32.21</td>
<td>31.65</td>
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<tr>
<td>TeO₂</td>
<td>1.29</td>
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<tr>
<td>V₂O₅</td>
<td>0.68</td>
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<tr>
<td>Bi₂O₃</td>
<td>12.82</td>
<td>18.42</td>
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<tr>
<td>Fe₂O₃</td>
<td>6.26</td>
<td>6.31</td>
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<tr>
<td>CuO</td>
<td>38.15</td>
<td>37.73</td>
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<tr>
<td>ZnO</td>
<td>1.02</td>
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<tr>
<td>PbO</td>
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<tr>
<td>K₂O</td>
<td>3.85</td>
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<td>Cs₂O</td>
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<tr>
<td>Cl</td>
<td>2.92</td>
<td>2.80</td>
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<tr>
<td>−O = Cl₂</td>
<td>0.66</td>
<td>0.63</td>
</tr>
</tbody>
</table>

Total 100.90 100.00

(1) Tolbachik volcano, Russia; by electron microprobe, average of four analyses, total Fe as Fe₂O₃; corresponding to K₁₁₀(Cu₅.₉₉Zn₀.₁₅)Σ=6.05(Fe₀.₉₇V₀.₁₁)Σ=1.₀₅(Bi₁₀.₆₈Pb₀.₁₂Te₀.₁₀)Σ=0.₉₀O₄.₁₉(SO₄)₄.₉₅Cl₁.₀₁. (2) KCu₆FeBiO₄(SO₄)₅Cl.

Polymorphism & Series: Forms a series with nabokoite.

Occurrence: As a volcanic sublimate.

Association: Nabokoite, anglesite, dolerophanite, euchlorine, chloroxiphite, atacamite, piypite, chalcocyanite, alarsite, fedotovite, lammerite, klyuchevskite, langbeinite, hematite, tenorite.

Distribution: From the Tolbachik fissure volcano, Kamchatka Peninsula, Russia.

Name: For Vladimir Vasil’evich Atlasov (1661/1664–1711), Russian traveller who first explored the Kamchatka Peninsula.

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


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