Aleksite  PbBi$_2$Te$_2$S$_2$

Crystal Data:  Hexagonal.  Point Group:  $\overline{3}2/m$.  Platy grains, to 1 mm.


Cell Data:  Space Group: $P\overline{3}m1$.  $a = 4.2423(25)$  $c = 79.73(5)$  $Z = 6$

X-ray Powder Pattern:  Aleksiev mine, Russia.  3.09 (100), 2.12 (60), 2.25 (40), 1.348 (40), 1.307 (40), 3.63 (30), 1.974 (30)

Chemistry:

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
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<tbody>
<tr>
<td>Pb</td>
<td>20.3</td>
<td>20.5</td>
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<tr>
<td>Bi</td>
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<tr>
<td>Te</td>
<td>27.3</td>
<td>27.3</td>
<td>27.02</td>
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<tr>
<td>S</td>
<td>6.3</td>
<td>6.3</td>
<td>6.79</td>
</tr>
</tbody>
</table>

Total 99.9 99.6 100.00

(1) Aleksiev mine, Russia; by electron microprobe, leading to Pb$_{0.94}$Bi$_{2.11}$Te$_{2.06}$S$_{1.89}$.  (2) Do.; leading to Pb$_{0.95}$Bi$_{2.10}$Te$_{2.06}$S$_{1.89}$.  (3) PbBi$_2$Te$_2$S$_2$.

Occurrence:  Of hydrothermal origin in sulfide-quartz veins (Alekseev mine, Russia).

Association:  Galena, gold, altaite, tetradymite, tsumoite, rucklidgeite, quartz (Alekseev mine, Russia).

Distribution:  From the Alekseev gold mine, Sutam district, Stanovoi Range, southeast Sakha, Russia [TL], in the San-notake district, Fukuoka Prefecture, Japan.  At the St. David’s mine, Dolgellau district, Wales.  In the Ardino deposit, Bulgaria.  From near Tybo, Nye Co., Nevada, USA.  In the Barringer mine, Timmins, Ontario, Canada.  From the Corrego Crininoso gold mining district, Goias, Brazil.

Name:  For the Alekseev mine, Russia.

Type Material:  Gosudarst University, Moscow; Moscow University, Moscow; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 79060.