Oscarkempffite

\[ \text{Ag}_{10}\text{Pb}_4(\text{Sb}_{17}\text{Bi}_9)_{\Sigma=26}\text{S}_{48} \]

**Crystal Data**: Orthorhombic.  *Point Group*: 2/m 2/m 2/m.  As irregular grains to several mm.

Hardness = 3-3.5  VHN = 200 (50 g load).  D(meas.) = n.d.  D(calc.) = 5.8

R\(_1\)-R\(_2\): (470) 39.93-42.6 (24.1-39.9)\(\text{oil}\), (546) 38.6-41.7 (22.6-38.6)\(\text{oil}\), (589) 38.1-41.2 (22.1-38.1)\(\text{oil}\), (650) 37.3-40.6 (21.4-37.3)\(\text{oil}\)

**Cell Data**:  *Space Group*: Pnca.  
\[ a = 13.199(2) \quad b = 19.332(3) \quad c = 8.249(1) \quad Z = 1 \]

**X-ray Powder Pattern**: Colorada vein, Animas mine, Chocaya Province, Bolivia.  
3.34 (100), 2.881 (86), 3.37 (70), 2.982 (55), 3.66 (35), 2.062 (31), 2.733 (29)

**Chemistry**:  
\[
\begin{array}{lll}
\text{Cu} & 0.24 & \\
\text{Ag} & 14.50 & 14.58 \\
\text{Pb} & 11.16 & 11.20 \\
\text{Sb} & 28.72 & 27.98 \\
\text{Bi} & 24.56 & 25.43 \\
\text{S} & 20.87 & 20.81 \\
\hline
\text{Total} & 100.05 & 100.00 \\
\end{array}
\]

(1) Colorado vein, Animas mine, Chocaya Province, Bolivia; average of 4 electron microprobe analyses; corresponds to Cu\(_{0.24}\)Ag\(_{9.92}\)Pb\(_{4.00}\)Sb\(_{17.36}\)Bi\(_{8.64}\)S\(_{47.84}\).  
(2) Ag\(_{10}\)Pb\(_4\)Sb\(_{17}\)Bi\(_9\)S\(_{48}\).

**Polymorphism & Series**: Lillianite homologous series with N = 4.

**Occurrence**: In a hydrothermal Ag-Sn vein deposit in strongly-altered dacitic volcanic rocks.

**Association**: Aramayoite, stannite, miargyrite, pyrargyrite, tetrahedrite.

**Distribution**: From the Colorada vein, Animas mine, Chocaya Province, Department of Potosí, Bolivia.

**Name**: Honors Oscar Kempff Bacigalupo (b.1948), Bolivian mineralogist and economic geologist, who discovered several large mineral deposits in Bolivia (e.g., the deposit of Don Mario).

**Type Material**: Natural History Museum, Vienna, Austria (N 9593) and the Natural History Museum, London, England (BM 20, 3).

(2) (2017) Amer. Mineral., 102, 697 (abs. ref. 1).