Oosterboschite 

(Pd, Cu)$_7$Se$_5$

Crystal Data: Orthorhombic, pseudotetragonal. Point Group: n.d. As irregular grains, to 0.4 mm. Twinning: Polysynthetic, two orthogonal sets of fine lamellae always observed in polished section.

Physical Properties: Hardness = 4.5–5 VHN = 340 (100 g load). D(meas.) = n.d. D(calc.) = 8.48


R$_1$–R$_2$: (400) 38.4–45.1, (420) 39.9–46.5, (440) 41.4–47.9, (460) 42.8–49.2, (480) 43.9–50.3, (500) 44.9–51.2, (520) 45.6–51.7, (540) 46.0–51.8, (560) 46.0–51.6, (580) 46.1–51.3, (600) 46.3–51.2, (620) 46.7–51.4, (640) 47.2–51.6, (660) 47.7–51.8, (680) 48.2–52.0, (700) 48.6–52.2

Cell Data: Space Group: n.d. a = 10.42 b = 10.60 c = 14.43 Z = 8

X-ray Powder Pattern: Musonoi mine, Congo. 2.647 (100), 2.600 (80), 1.847 (80), 2.736 (70d), 2.244 (70d), 1.935 (70), 1.903 (70)

Chemistry:

<table>
<thead>
<tr>
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<th>(1)</th>
<th>(2)</th>
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</thead>
<tbody>
<tr>
<td>Pd</td>
<td>44.9</td>
<td>44.1</td>
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<tr>
<td>Cu</td>
<td>17.1</td>
<td>16.7</td>
</tr>
<tr>
<td>Se</td>
<td>38.8</td>
<td>39.2</td>
</tr>
<tr>
<td>Total</td>
<td>100.8</td>
<td>100.0</td>
</tr>
</tbody>
</table>

(1) Musonoi mine, Congo; by electron microprobe, corresponds to (Pd$_{4.28}$Cu$_{2.73}$)$_7$Se$_{5.01}$

(2) Do.; corresponds to (Pd$_{4.17}$Cu$_{2.64}$)$_7$Se$_{5.00}$

Occurrence: In the zone of oxidation (Musonoi mine, Congo).

Association: Verbeekite, trog talite, selenian digenite, covellite (Musonoi mine, Congo); gold, chrissstanleyite, verbeekite (Hope’s Nose, England).

Distribution: From the Musonoi Cu–Co mine, near Kolwezi, Katanga Province, Congo (Shaba Province, Zaire) [TL]. At the Copper Hills prospect, East Pilbara region, Western Australia. From Hope’s Nose, Torquay, Devon, England.

Name: For Robert Oosterbosch (1908– ), Belgian mining engineer, for many years involved in the development of the Shaba mines.

Type Material: National School of Mines, Paris, France.