Miassite

**Crystal Data:** Cubic.  *Point Group: 4/m 3 2/m.*  As rounded inclusions to 100 µm.


VHN = 724-736, 730 average (10 g load).  
D(meas.) = n.d.  
D(calc.) = 7.42


R: (460) 38.3, (500) 39.0, (540) 39.0, (580) 39.1, (660) 38.8

**Cell Data:**  
*Space Group:* Pm3m (probable).  
*Pm3m*  
*a* = 10.024(5)  
Z = 2

**X-ray Powder Pattern:** Miass River, southern Urals, Russia.  
1.774 (100), 3.02 (90), 2.24 (90), 1.931 (80), 3.17 (70), 2.68 (50), 3.33 (20)

**Chemistry:**

<table>
<thead>
<tr>
<th>Element</th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ru</td>
<td>0.4</td>
<td>7.72</td>
</tr>
<tr>
<td>Rh</td>
<td>59.3</td>
<td>56.90</td>
</tr>
<tr>
<td>Pd</td>
<td>6.4</td>
<td></td>
</tr>
<tr>
<td>Os</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>Ir</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>Pt</td>
<td>6.8</td>
<td>4.54</td>
</tr>
<tr>
<td>Fe</td>
<td>1.4</td>
<td>4.24</td>
</tr>
<tr>
<td>Ni</td>
<td>1.9</td>
<td>2.22</td>
</tr>
<tr>
<td>Cu</td>
<td>1.8</td>
<td>1.82</td>
</tr>
<tr>
<td>S</td>
<td>21.0</td>
<td>21.90</td>
</tr>
<tr>
<td>Total</td>
<td>99.8</td>
<td>99.39</td>
</tr>
</tbody>
</table>

(1) Miass River, southern Urals, Russia; average electron microprobe analysis; corresponding to

(Rh12.98Pd1.36Pb0.79Ni0.73Cu0.66Fe0.45Ru0.09Ir0.060.00.4S17.2eS14.76.  
(2) Anabar Basin, northeastern Siberian Platform, Russia; average electron microprobe analysis; corresponding to

(Rh11.94Ru1.65Fe1.66Ni0.82Cu0.68Pb0.52)Σ=17.17S14.83.

**Occurrence:** In heavy-mineral concentrates from fluvial placer deposits derived from ophiolites or layered mafic intrusions.

**Association:** Isoferroplatinum, cuprorhodsite, bowieite, vasilite, cooperite, keithconnite.

**Distribution:** From the upper part of the Miass River, near Zlatoust, southern Urals, Russia [TL].  
From Burwash Creek, a tributary of the Klune River, southeastern Yukon Territory, Canada.  
In the Anabar Basin placer, northeastern Siberian Platform, Russia.  From the Moopetsi River and its subsidiary creeks, farm Maandagshoeek, eastern Bushveld, South Africa.

**Name:** For the Miass River, Russia.  Similar material formally named “prassoite”.

**Type Material:** Mining Museum, Saint Petersburg Mining Institute, Russia (3073/2).

**References:**  