Potarite

Crystal Data: Tetragonal. Point Group: 4/m 2/m 2/m. As small grains or nuggets, up to 1 cm, exhibiting octahedral points and having indistinct, slightly divergent columnar or fibrous structure.

Physical Properties: Tenacity: Brittle. Hardness = 3.5 VHN = 126–137 (100 g load) on granula material. D(meas.) = 14.88 D(calc.) = 15.09


R1–R2: (400) 41.6–41.6, (420) 42.5–43.5, (440) 43.8–45.2, (460) 45.7–47.0, (480) 47.8–48.8, (500) 49.4–50.4, (520) 50.9–52.0, (540) 52.2–53.2, (560) 53.4–54.4, (580) 54.4–55.4, (600) 55.4–56.4, (620) 56.3–57.3, (640) 57.2–58.4, (660) 58.2–59.5, (680) 59.2–60.7, (700) 60.2–62.1

Cell Data: Space Group: P4/mmm. a = 3.026 c = 3.702 Z = 1

X-ray Powder Pattern: Potaro River area, Guyana. 2.33 (100), 1.269 (70), 0.849 (50), 0.818 (50), 1.395 (40), 0.957 (20), 0.924 (20)

Chemistry:

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<tr>
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<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
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<tbody>
<tr>
<td>Pd</td>
<td>34.5</td>
<td>33.2</td>
<td>34.66</td>
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<tr>
<td>Hg</td>
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<td>67.0</td>
<td>65.34</td>
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<tr>
<td>Cu</td>
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<tr>
<td>Total</td>
<td>99.3</td>
<td>100.3</td>
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(1) Potaro River area, Guyana; by electron microprobe. (2) Do.; by electron microprobe (2) PdHg.

Occurrence: In chromitite and dunite ultramafics; in placers for gold and diamonds.

Association: Platinum, palladium, gold, Pd–Hg compounds; pentlandite, chalcopyrite, pyrrhotite, millerite.

Distribution: In Guyana, in placers in the Kangaruma district, Potaro River area, and at Amu Creek, Essequibo River. From Morro de Pilar, and in placers in the Bom Succeso Stream, northwest of Serro, Minas Gerais, Brazil. From Fox Gulch, Goodnews Bay, Alaska, and in the Boss mine, Goodsprings district, Clark Co., Nevada, USA. In the Starchrome chromitite, Thetford Mines ophiolite, Quebec, Canada. From the Kytlym and Uktus complexes, Ural Montains, Russia. At the Herbeira ultramafic massif, Cabo Ortegal, Spain. From the Brancaga massif, northern Portugal. On the Island of Zabargad (Zabirget or St. Johns), in the Red Sea, Egypt. At the Copper Hills prospect, East Pilbara region, and in the Munni Munni layered intrusive, West Pilbara region, Western Australia. From the Inazumi-yama ultramafic complex, Honshu, Japan. A few additional occurrences have been noted.

Name: For the locality on the Potaro River, Guyana.


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