Pavonite

Crystal Data: Monoclinic. Point Group: 2/m. As tiny bladed crystals elongated parallel to [010]; typically intergrown with homologous species, and massive.

Physical Properties: Cleavage: Indistinct. Hardness = 2 VHN = 188 (50 g load). D(meas.) = 6.8 (synthetic). D(calc.) = 6.80


Cell Data: Space Group: C2/m. a = 13.35 b = 4.03 c = 16.34 \( \beta = 94.5^\circ \) Z = 4

X-ray Powder Pattern: Synthetic AgBi\(_3\)S\(_5\) (easily confused with benjaminite). 2.858 (100), 3.59 (90), 3.38 (80), 3.46 (40), 5.45 (35), 2.259 (35), 4.08 (30)

Chemistry:

\[
\begin{array}{ccc}
\text{Ag} & 11.1 & 12.05 \\
\text{Cu} & 1.7 & \text{S} \\
\text{Pb} & 3.5 &
\end{array}
\]

(1) Porvenir mine, Bolivia; by electron microprobe, corresponding to \((\text{Ag}_{0.90}\text{Cu}_{0.23})\Sigma=1.13\) \((\text{Bi}_{2.70}\text{Pb}_{0.15})\Sigma=2.85\) \(\Sigma=5.00\). (2) AgBi\(_3\)S\(_5\).

Occurrence: In hydrothermal base-metal sulfide vein deposits.

Association: Cupropavonite, bismuthinite, chalcopryite, aikinite, hodrudite.

Distribution: In Bolivia, from the Porvenir [TL] and Bolivar mines, Cerro Bonete, about 75 km south-southwest of Esmeraca, Potosí. In the Pirquitas deposit, Riconada Department, Jujuy Province, Argentina. In the USA, in Colorado, in the Silver Bell mine, Red Mountain, Ouray Co.; at the Old Lout, Gladiator, and Alaska mines, Poughkeepsie Gulch, near Ouray, San Juan Co.; and at several other minor occurrences. In Nevada, at Manhattan, and from the Outlaw mine, Round Mountain district, Nye Co., and Pioche, Lincoln Co.; and in the Apache Hills mine, southeast of Hachita, Grant Co., New Mexico. In Canada, in the Keeley mine, South Lorrain Township, Ontario. From Portugal, at Panasqueira and in the Vale das Gatas tungsten mine, near Vila Real. From the Waschgang Au–Cu deposit, Goldberg Mountains, Upper Carinthia, Austria. At the Ikuno mine, Hyogo Prefecture, Japan. From the Shanhu W–Sn deposit, Guangxi Province, China.

Name: From the Latin pavo, peacock, honoring Professor Martin Alfred Peacock (1898–1950), Canadian mineralogist, University of Toronto, Toronto, Canada.

Type Material: University of Toronto, Toronto, Canada; Harvard University, Cambridge, Massachusetts, USA.


All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without the prior written permission of Mineral Data Publishing.