NOTES AND NEWS

THE RELATION OF PYRITE TO WOLFRAMITE

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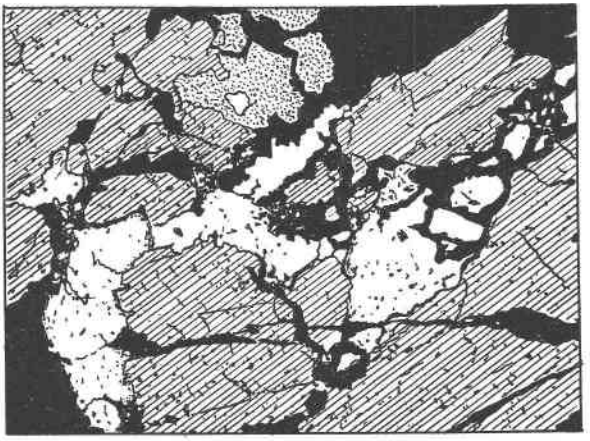
The microscopic study of polished surfaces of ores has emphasized the fact that pyrite is the first ore mineral to be deposited in the more common types of metalliferous veins. In some deposits, approaching what has been termed high temperature veins, it may be preceded by arsenopyrite, though the literature on polished surfaces seems to show some difference of opinion in this respect, some placing arsenopyrite later. In the samples studied by the writer, however, arsenopyrite is thought to be earlier than pyrite. Moreover Lindgren,[1] in a general discussion of gold-arsenopyrite deposits states that it is always the oldest deposited ore mineral. The other minerals included in his discussion were pyrite, chalcopyrite, pyrrhotite, zinc blende, galena, realgar and stibnite.



A tracing of a photomicrograph of polished surface from Las Guijas, Arizona, showing pyrite to be later than wolframite. Pyrite, white; wolframite, lined; quartz, dotted; holes, black. Some of the holes were formed in preparing the specimen (×30.)

The accompanying illustration is a tracing from a photograph of a polished specimen from the tungsten mines of Las Guijas, near Arivaca, Arizona, and about 50 miles south-west of Tucson. The ore is in white seams in granite, the predominating gangue mineral being pegmatite quartz. Some of these vein-dikes are intimately associated with very dark, in fact nearly black dikes of augitic minette. Considerable search is required to find specimens containing both pyrite and wolframite. A study of the illustration plainly shows pyrite to be later than the wolframite. This relation, however, is purely structural as there is no evidence that any reaction took place between the tungsten mineral and the pyrite. In

[1] Lindgren, *Mineral Deposits*, 3d Ed., p. 637, (quoting J. E. Spurr).

fact the latter quite likely has replaced quartz which had previously replaced the tungsten mineral along the fractured surfaces of the wolframite.

Minerals thought to be earlier than wolframite from a consideration of their zonal distribution or otherwise, are not easy to arrange in a satisfactory sequence as a result of microscopic work as it is difficult, or perhaps impossible, to find them associated with each other. Lindgren (*Mineral Deposits*, p. 744) states that cassiterite when accompanied with wolframite is apparently the earlier mineral. We may thus assume the following sequence to represent the order of deposition of a few of these higher temperature minerals: cassiterite-wolframite-arsenopyrite-pyrite.

NOMINATIONS FOR OFFICERS OF THE MINERALOGICAL SOCIETY OF AMERICA FOR 1931

The Council has nominated the following for officers of the Mineralogical Society of America for the year 1931:

PRESIDENT: Alexander H. Phillips, Princeton Uuniversity, Princeton, New Jersey.

VICE-PRESIDENT: William F. Foshag, United States National Museum, Washington, D. C.

SECRETARY: Frank R. Van Horn, Case School of Applied Science, Cleveland, Ohio.

TREASURER: Waldemar T. Schaller, United States Geological Survey, Washington, D. C.

EDITOR: Walter F. Hunt, University of Michigan, Ann Arbor, Michigan.

COUNCILOR (1931–1934): William S. Bayley, University of Illinois, Urbana, Illinois.

The eleventh annual meeting of the Society will be held December 29–31, 1930, at the University of Toronto, Toronto, Canada. It is planned to publish in the December issue of the Journal a *preliminary* list of titles of papers to be presented before the Society at its annual meeting. In order to appear on the advance program, titles of papers should be in the hands of the Secretary by *November 10.*

FRANK R. VAN HORN, *Secretary*

PROCEEDINGS OF SOCIETIES

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences, Philadelphia, May 6th, 1930.

A stated meeting of the Philadelphia Mineralogical Society was held on the above date with Mr. Toothaker presiding. Upon favorable recommendation of the Council, Mr. Henry Welkey was elected to membership. May 22nd was announced as the date of the annual exhibition of minerals by the Junior members of the Society, at North East High School.

Dr. Benjamin L. Miller, of Lehigh University, addressed the Society on "Minerals of Eastern Pennsylvania." He approached the subject from the geological side describing processes in the origin of various minerals and the location of de-