



FRIENDS OF MINERALOGY

Pennsylvania Chapter

NEWSLETTER

Vol. 18, No. 4, Winter, 1990

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PRESIDENT'S MESSAGE

Call for Papers **Friends of Mineralogy, Pa. Chapter, 1991 Fall Symposium** **"Mineralogy of the Mid-Atlantic States"**

The Symposium Committee and the Board of Directors have set the dates of the Fall, 1991, Symposium as the 8th, 9th, and 10th of November, at West Chester University, West Chester, Pennsylvania.

Papers on this year's Symposium theme, "Mineralogy of the Mid-Atlantic States," should reflect current specimen mineralogy of this geographic region in the broadest sense. Any aspect of the subject may be submitted.

Abstracts should be submitted no later than July 1, 1991, to the Symposium Chairman, Arthur Dorne, 1668 South Forge Mtn. Drive, Valley Forge, PA 19481.

Papers submitted will be reviewed by a committee chaired by Dr. Peter Leavens of the University of Delaware.

Arnold Mogel
2503 Village Rd., Orwigsburg, PA 17961-9969

MEMBERSHIP INFORMATION

Dues: Please send in your dues for 1990 and 1991 (\$7.00 or \$5.00 for members over 62 or students), if you have not already done so, to Marge and Vince Matula, 10231 Honeysuckle Drive, Walnutport, PA 18088. Notify the Membership Chairmen immediately if you do not plan to continue your membership, or have a change in address. Thank you.

Editor: Juliet C. Reed, 336 Rockland Rd., Wayne, PA 19087

REGIONAL EVENTS

March 9: The Rock and Mineral Club of Lower Bucks County, Inc., 15th Annual "Micromount Swap, Sell, and Learn" Event, 10:00 a.m. to 4 p.m., at the Northminster Presbyterian Church, 140 Trenton Rd., Fairless Hills, Pa. Contact Ralph Thomas, 11 Riverdale Rd., Yardley, Pa., 19067 (215-295-9730).

March 9-10: Delaware Mineralogical Society Gem and Mineral Show, Brandywine Terrace, 3416 Philadelphia Pike, Claymont, Del. Hours: Sat., 10 a.m.-7 p.m.; Sunday, 11 a.m.-5 p.m.

March 16-17: Saucon Valley Lions Club Gem, Mineral, Jewelry, and Fossil Show, Saucon Valley Sr. High School, Walnut and Constitution Aves., Hellertown Pa. Hours: Sat., 10 a.m.-6 p.m., Sun., 10 a.m.-5 p.m.

April 6-7: York Rock and Mineral Club Mineral and Gem Show, Alert Fire Co., No. 12, Emigsville, Pa. Hours: Sat. 10 a.m.-7 p.m., Sun. 10 a.m.-5 p.m.

April 27-28: New Jersey Earth Science Assoc. "World of Minerals" Show at Patterson College, 300 Pompton Rd., Wayne, NJ.; Mrs. Mary Guintner, Show Chairman, 201-762-9358.

ARSENIAN PYRITE FROM THE ECTON MINE,
AUDUBON, MONTGOMERY COUNTY, PENNSYLVANIA

Allen V. Heyl

P.O. Box 1032, Evergreen, Colorado 80438

The late F. Harold Evans, author of "Copper Mining in Montgomery County, Pennsylvania (1984) sent me, about 1980, a specimen (#375 on his label) which he had collected between 1950 and 1955 from the west side of the 80-foot stope in the southwesternmost workings of the Ecton Mine, Montgomery County Audubon Park, Audubon, Pennsylvania. The pyrite was originally a fist-sized, partly crystallized mass with some highly modified cubo-octahedral faces. The rest is in the form of coarse, massive pale-yellow grains, each grain between 1-2 cm across. Chalcopyrite coats the surface of the pyrite crystals very locally, and I have a note that I saw a little sphalerite with it.

We analyzed the pure-picked pyrite with an ICP (inductively coupled plasma emission spectrometer) - Kevex (brand name of an energy dispersion analyzer on an SEM or microprobe) analysis, and the results are as follows in percent.¹

Fe 48.1700 percent	Cu 0.0120 percent	Pb 0.0120 percent
As 0.7400 "	Co 0.0051 "	Sb 0.0240 "
Ti 0.0002 "	Cr 0.0042 "	V 0.00064 "
Mn 0.0014 "	Ni 0.0084 "	Y 0.00026 "
Ag 0.0020 "	Nb 0.0016 "	Zn 0.0027 "

Arsenopyrite was reported by Gordon (1922; p. 213-214) at the "new" Perkiomen-Ecton Mines, and by Isaac Lea (1818, p. 466) at the Audubon or "old" Perkiomen lead mine, which is located south of the Ecton Mine, just north of the Audubon-Wetherill mansion. The mansion and lead-copper mine veins are similar to those at the Ecton Mine. They are located in the southern part of the Montgomery County Audubon Park. The arsenian pyrite that we found tends to verify the reported arsenopyrite at the Ecton and Audubon mines, not found to my knowledge in recent years (Heyl, in Evans, 1980, Appendix, p. 31-32). It also verified a source of arsenic for the mimetite reported by Gordon (1922, p. 35) to be found at the "new" Perkiomen and Ecton mines.

The least altered part of Evans' sample #375 was made into a polished section, which was very carefully examined by Benjamin F. Leonard, II, one of the very best metallographers in the United States. He wrote in a memorandum to A. V. Heyl in December, 1988: "I examined the section last spring (1988), could not find a discrete arsenic mineral in it, and set the section aside for some months. On re-examing it this week, I still could not find any discrete mineral.

"I conclude from the microscopic examination, and the X-ray dispersive analysis that As is in the structure of the pyrite; the pyrite is an arsenian pyrite."

Nickelian, cuprian, and cobaltian pyrites are well documented at the Cornwall Mine (Gordon, 1922), so now we've added a fourth main trace element pyrite variety to our Pennsylvania mineral suite.

1. Analyzed by U.S. Geological Survey Laboratories, Denver, Sept, 1988; analyst Ross Youman.

References

- Evans, Harold, 1980, Copper Mining in Montgomery County (Introduction, Preface, and Appendix by Allen V. Heyl), Friends of Mineralogy, Pa. Chapter, Special Publication No. 2, 36 p.
- Gordon, Samuel G., 1922, Mineralogy of Pennsylvania, Academy of Natural Sciences, Philadelphia, Special Publication No. 1, 255 p.
- Lea, Isaac, 1818, An Account of the Minerals at Present Known to Exist in the Vicinity of Philadelphia, Journal of the Academy of Natural Sciences of Philadelphia, p. 462-482.

RESULTS OF THE SYMPOSIUM QUESTIONNAIRE

Thirty-six of you returned the form. Here is a summary of your responses: Speaking for the Committee, we will consider these results carefully and be guided by them. For me, at least, there are a few surprises. For example, I expected more interest to be indicated for "Mining and its History." If you examine the responses, I think you, too, will find a few surprises.

Sincere thanks to all who answered, and especially to those who took the time to make comments and suggestions. The number of responses is more than we dared to hope for. With this encouragement, we will probably try again,

Art Dorne, Chairman

1. Have you attended other symposia (Rochester, Colorado, Tucson, etc.) in recent years?

Yes (11) No (13)

If so, which were the most interesting for you?

Several said Rochester, because of the quality of the papers.

2. What is your level of interest in the various branches of our field? (Check one).

	Intense	Moderate	Slight	None
Field Collecting	20	15	1	0
Specimen Mineralogy	20	12	3	0
Geology of Deposits	11	15	8	1
Mining and Its History	7	15	8	1
Determinative Mineralogy	3	20	10	1
Petrology	5	6	15	7
Fluorescence	7	9	13	4
Pa. Mineralogy	20	14	1	0
Other Localities	11	19	1	2

3. Would you like to hear a discussion of current trends in mineralogical research?

Yes (20) Slightly (11) No (3)

4. Would you rather hear about an outstanding remote locality or a nearby one?

Remote (6) Nearby (22)

5. If you have not attended recent F.M. Symposia, why not?

Those who answered this question said they would have like to attend, but were unable to.

6. Would you prefer a noon luncheon (21) or an evening banquet (13)?

LINNAEITE: A NEW MINERAL FOR PENNSYLVANIA

Allen V. Heyl (personal communication, 1990) reports that, checking over a specimen of pink cobaltian calcite from Phoenixville, Pennsylvania (Rand Collection, Bryn Mawr College), he found a good-sized crystal of linnaeite, Co sulfide, which will be written up for the Newsletter.