



FRIENDS OF MINERALOGY

Pennsylvania Chapter

NEWSLETTER

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PRESIDENT'S MESSAGE

"Here I go again." This message has been written by Don Schmerling, your new President. After a good selling job by Bryon Brookmyer, I agreed to let my name be tossed into the hat as a candidate for President. At the last Symposium, I found myself unopposed, and the new President for the second time around.

The entire membership owes a great deal to Bryon Brookmyer for his leadership and enthusiasm over the past few years as President. Bryon will continue to work on F.M./Pa. programs and to provide input toward continuing our Chapter growth. He has requested that he be allowed to continue as Chairman of the Scholarship Committee, since this program requires some study and planning to get it into action. I understand that there are enough funds available so that we may take a realistic look at giving some deserving student of Pennsylvania mineralogy a grant for research expenses. I am sure that we all wish Bryon a bright future and sincerely hope that he will continue to put his efforts into the Chapter program.

Through our Newsletter, I plan to keep the membership informed on what is happening within the Chapter. We will be looking for some volunteers to assist in the programs that are being considered for 1983.

During the Symposium business meeting, Martin Anne announced that he is resigning as Chairman of the annual Fall program. As we all know, Marty has done a great job for many years in organizing this annual event. Under his guidance and direction, the meeting has never failed to present a unique program and fine list of speakers. On behalf of the membership, and personally, I wish to thank Marty for a job well done. Hopefully, Marty will continue to work with the Chapter in some capacity that will promote and further the goals of F.M.

I am happy to report that George Buchanan will take on the responsibility of acting as our new Fall Symposium Chairman. I am sure that he will do a good job. If there is anyone who wishes to become a part of the Symposium Committee, please contact George (80 Beltz Rd., R.D., Telford, PA 18969) or myself (1780 Prescott Rd., York, PA 17403), and we will find a spot that needs filling. While some of the new ideas and format will require changes in how the Symposium will be presented, the basic and very successful concept used over the ten years will be continued. The proposed dates for 1983 are early in November, depending on which weekend is convenient for the Department of Geology at West Chester State College. Dr. Seymour Greenberg, Chairman of the Department, will let us know, and these and other details will be released in the Newsletter.

Juliet Reed will continue to edit and publish our Newsletter. This is an area that requires a lot of input and time. Julie has been able to keep information flowing into her hands on a regular basis for publication and has done an excellent job on the Newsletter. Without her capable assistance and tireless effort, the Chapter would have problems, since our publication molds the group together and provides the media for communicating with the membership and others interested in Pennsylvania mineralogy. Any member who wishes to contribute an article for release in the Newsletter is urged to provide a script or an outline that can be assembled for (cont'd)

PRESIDENT'S MESSAGE (cont'd)

publication. Julie, glad to have you on the Board of Directors and as Editor of the Newsletter.

Tom O'Neil (1000 Tule St., Montoursville, PA 17754), recently elected a Life Member for services to the Chapter, will continue to be our Treasurer, fortunately for us. He has done an excellent job in keeping the Chapter records, handling the income, paying our bills, and watching over the Chapter funds. Please send your deductible gift for the scholarship fund in memory of our late friend, Paul Seel, to Tom, who is advising the Board on the financial aspects of our new venture.

Marge and Vince Matula, whose address always appears with the membership information each month, will also continue their important work, as Chairmen of the Membership Committee. Together, they have done an excellent job in keeping our records straight, which involves some complicated correspondence with the national F.M. Secretary and Treasurer, as well as reports to the Editor and Treasurer of our Chapter. I have requested a new membership list for review and publication soon in the Newsletter. Members who are delinquent in paying annual dues will be dropped from the rolls after notice from the Editor. The Chapter is always looking for new members, and we hope that a campaign to bring in our members or reinstate former ones will be productive.

Jay Lininger, active in the Chapter since its inception, particularly with the publications, has joined the Board of Directors, who will welcome his input and constructive criticism. I have written a letter to all the Directors, with whom I hope to have a meeting after the first of the year, outlining some of my thoughts and inviting replies as to theirs. I am pleased to see that a good group of Directors continues to be active in Chapter affairs. We will miss our late friend, Tom Myers, whose wife, Kate, served the Board as Secretary for several years.

To the membership, let's all get out and promote the Friends of Mineralogy! Together, we will make the Chapter productive, the activities interesting, and the benefits generated by cooperation and perseverance obvious to everyone.

Donald W. Schmerling

MEMBERSHIP INFORMATION

Dues: \$5.00 (\$3.00 for members over 62) for 1982 and/or 1983 to: F.M., Pa. Chapter, c/o Vincent and Marge Matula, R.D. #4, Allentown, PA 18103, who will pass on a portion to the national organization Treasurer.

Notice: Check your address label. An "X" shows that the Editor has no record of your 1982 dues. Please be sure that you have paid, so that you will receive the next issue.

Life Members: Thomas O'Neil and Allen V. Heyl

New Members: Carl R. Carnein, Geology Dept. Waynesburg College, Waynesburg, PA 15370

Dr. Joel Kauffman, Philadelphia College of Pharmacy and Science, 43rd St. and Kingsessing Mall, Philadelphia, PA 19104

Paul W. Morgan, 822 Roslyn Ave., West Chester, PA 19380

Joseph R. Sacca, Wayland Rd., Berwyn, PA 19312

John Schroder, 5 Gillotti Rd., New Fairfield, CT 06810

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FALL SYMPOSIUM, 1982

Members and friends of the Pennsylvania Chapter of the Friends of Mineralogy enjoyed the 1982 Fall Symposium again entitled "Locations, Museums, and More." Martin Anne, Chairman, organized the meeting, with help from many members of the Chapter, not to mention several very helpful spouses. Registrants received another in the unusual set of souvenir programs designed and type-set by Jay Lininger. Again, several amusing and informative articles from the Mineral Collector magazine were included.

As has been the custom for several years, the Symposium began on Friday night with "What's New in Pennsylvania Minerals." Bryon Brookmyer and Martin Anne led off with the latest news from central Pennsylvania, and members of the audience added items from their corners of Pennsylvania, and, in several instances, from around the country. Dr. Allen V. Heyl, in from Denver, recounted the busy life of an economic geologist, which involved travel around the U.S. and as far away as Sweden. Everyone was then faced with the dilemma of refreshments on one side of the room, and numerous giveaway boxes on the other, not to mention many friends to greet. However, everyone seemed to enjoy the hubbub. Interest centered around the exhibit of a newly discovered Pennsylvania collection rich in Phoenixville material, arranged by West Chester State College Curator, Bill Yocom.

On Saturday morning, Dr. Seymour Greenberg, Honorary Member of the Chapter, welcomed the group once again to West Chester State College. The formal program began with a warm tribute from Bill Yocom to the friends who passed on during 1982. A short break brought an opportunity to partake of coffee, check over the Auction specimens, chat a little, and again view the fine specimens in the portable exhibit provided by Bill Yocom. Jay Lininger continued the program with the third part of his often surprising series on obscure Pennsylvania mineral locations, and Joe Varady discussed minerals and locations near his home town of Phoenixville, Chester County. Both Joe and Jay emphasized the strong possibility of one or two collectors gaining access to sites where large groups cannot go at this time. Another point well made is the availability of many Gordon localities to the persistent collector. After lunch, George Buchanan gave a most informative (with illustrations and an exhibit of equipment) talk on the mysteries of mineral photography. Then Bernard Smeltzer, author of books on caving, showed the audience the wonderful world underground, and revealed why caves should be of great interest to anyone studying earth science. Although mineral collecting is discouraged, the formation of over 70 minerals discovered underground is especially interesting for the mineralogist.

After the afternoon break, Bryon Brookmyer, Chapter President, discussed the ongoing activities of the group, emphasizing the potential of the scholarships which will be given in memory of Paul Seel as a way in which anyone interested may participate in Pennsylvania mineralogical research. At this time, Bryon presented Tom O'Neil with a plaque, and congratulated him on his election to Life Membership in the Chapter, in recognition of his contributions to the Chapter and to Pennsylvania mineralogy.

The annual auction of minerals to benefit the Chapter activities was enriched this year by the addition of a collection of minerals obtained through Hilde Seel, to be auctioned for the benefit of the scholarship fund. As always, bidding was brisk, and many members went away very happy with their acquisitions.

That evening, members attended a banquet arranged by Bill Yocom. Dr. Allen V. Heyl, well known to the membership through his many "Letters to the Editor" in the Newsletter, was presented with the plaque of a Life Member by President Bryon Brookmyer, with the thanks of the Chapter for sharing his interests as a geologist and a long-time collector of Pennsylvania minerals with our membership. An old friend of Allen's, Dr. Edwin Roedder, of the U.S. Geological Survey, Reston, Virginia, was the guest speaker following the dinner. Dr. Roedder is especially known for his work on fluid inclusions, and showed fascinating slides illustrating how these tiny remnants of the original fluid from which the mineral was formed can reveal the history of its formation.

PENNSYLVANIA MOTTRAMITE

Editor's Note: The following letter on mottramite from Phoenixville has been received from Dr. Allen V. Heyl, Evergreen, Colorado, in answer to a request for further information on the Pennsylvania occurrence, which he discussed at the Fall Symposium in 1978.

"While visiting the Chester County Mine in November, 1966, with Mrs. Janice Jolly, Dennis Cox, and John D. Agostino (all of the U.S. Geological Survey), I picked up a triangular 1" x 1" x 1" vein quartz from the southwest part of the "New Chester County Mine" dump of the shaft reopened and operated in the 1918-1922 period.

"The specimen had a very fine-grained microcrystalline crust of black to purplish-brownish-black crystals, associated with yellow-green translucent mimetite or pyromorphite (?) and a few dark orange prisms of vanadinite (?). I immediately suspected the presence of a mineral in the descloizite-mottramite series because the micro-crystals were very lustrous and adamantine, not dull like monoxides or brown and reniform like goethite. However, there was too little material for an X-ray pattern, except by very specialized methods using film, for which the techniques were not available at our U.S.G.S. Beltsville office at that time. Therefore the specimen had to wait, simply labelled "descloizite-mottramite (?)" Remember that descloizite, $\text{PbZn}(\text{VO}_4)(\text{OH})$, forms a series with mottramite, $\text{PbCu}(\text{VO}_4)(\text{OH})$, with varying proportions of Cu and Zn, as recorded by Fleischer in the 1980 Glossary of Mineral Species.

"In 1977, the U.S.G.S. at Denver installed a new scanning electron microscope. I had, meanwhile, after our correspondence on the descloizite-mottramite problem you referred to in your book (Reed, 1976, Bibliography of Minerals New to the Pennsylvania List, 1965-1974, p. 30-32) examined the specimen under a high-powered binocular microscope. I could see small prismatic, probably orthorhombic, crystals. The streak was orange and the hardness from 3 to 4. I meanwhile verified, by X-ray diffraction pattern and electron micro-probe data, the orange descloizite crusts found by Bob Smith and Don Schmerling. A similar sample given me by Martin Anne turned out to be vanadinite.

"I mounted a suite of unknowns for examination by the micro-probe expert, George Desborough. Among the unknowns was the mottramite on a scarcely visible piece of the crust, and Anne's vanadinite, which still looked like descloizite under the microscope. The scanning electron microscope here in Denver is an advanced variety which shows the main X-ray fluorescent peaks. The heights of the peaks give relative quantities, i.e., abundant or major, common or moderate, minor or very little, none, or absent. When analyzed in 1977, lead was abundant or major, copper and zinc were moderate, and copper more abundant than zinc in the mottramite (?) Vanadium was also found in moderate quantities, but there was no phosphorus or arsenic. There were minor amounts of iron and manganese.

"In March, 1978, I picked a second piece of crust off the specimen, and again had it run on the S.E.M. By this time, Jim Nisi, the analyst technician, had become an expert with the machine in judging the relative quantities of the elements (I was present and helped with all of this study by Jim). Also, he could take Polaroid photographs of micro-sized crystals. Again copper was abundant, but not as abundant as vanadium and lead in the mineral. Zinc was present, but only in minor and very sparse quantities, very much less abundant than copper. Lead was the most abundant element, with vanadium next, then zinc. There was no phosphorus, arsenic, or sulfur, and only traces of manganese.

"The physical characteristics, the S.E.M. analyses and photographs, and the very dark color, so unlike the orange descloizite I had analyzed not long before, made mottramite the only possibility. The X-ray pattern was not run because of the long time and effort needed, but the above data were verified twice and seemed sufficient.

PENNSYLVANIA MOTTRAMITE (cont'd)

"The electron microphotograph shown at the Fall Symposium in November, 1978, revealed crystals, a bit battered, of the very typical habit of mottramite. I also photographed Martin Anne's "descloizite," and sure enough, when the crystals were enlarged enough, they showed as hexagonal barrel-like prisms, vanadinite in habit. Also, there were no major lead, vanadium, or chlorine, and no phosphorus, sulfur, or zinc peaks.

"Attached is the X-ray powder diffraction data from which Benjamin F. Leonard, III, U.S.G.S., deduced the presence of mottramite (the complete data is on file with Dr. Leonard). The structure of descloizite is very similar to that of mottramite, but there are several distinctive lines in which the descloizite shows a marked shift from those of mottramite and one weak line which is found only in mottramite.

"Heyl sample #2042, collected November, 1966, from main southwest dump of the Chester County Mine, Phoenixville, Chester County, Pa. A.S.T.M. card #12-538 (mottramite) shown for comparison. Sample X-rayed on film using Gandolfi camera (Cu/Ni tube 57-3). Interpreted by Dr. Benjamin F. Leonard, III, January, 1980.

Heyl Specimen #2042A.S.T.M. card #12-538

<u>d</u>	<u>I</u>	<u>d</u>	<u>I</u>
*5.10	60	5.07	80
4.67	W	4.66	40
*3.99	50	3.99	40
*3.55	50	3.54	40
3.23	100	3.24	100
*3.01	40	----	---
*2.88	80	2.87	80
2.68	55	2.68	80
*2.57	80	2.59	80
2.30	60	2.30	60
2.09	50	2.08	50
1/ *1.834	W	1.837	W

* Distinctive mottramite lines which show a marked shift from those of descloizite.

1/ This line is distinctive for mottramite and was not found in descloizite."

Allen V. Heyl

"MILL GROVE" REVISITED

Dr. Allen V. Heyl has brought to the Editor's attention an illustration from a book entitled On the Road with John James Audubon, by Mary Durant and Michael Harwood (1980, Dodd, Mead and Co., New York). The reproduction (p. 12-13) of a lithograph taken from an oil painting on wood by Thomas Birch, around 1830, shows a view of the Mill Grove mansion, Audubon, Montgomery County, from across Perkiomen Creek. Above the dam, and a little up the hill stand the buildings and chimneys of the Wetherill Mine, gone long ago. A wooden aqueduct climbs the hill from a mill on the Creek bank. David Evans contributed an imaginative sketch of the Wetherill Mine (both above and underground) and the mansion for his father's 1980 book on Copper and Lead Mining in Montgomery County, Pennsylvania, in which Harold Evans tells the story of mining around "Mill Grove."