

Winter Edition - 1975
Region 3 highlights;

1975 Symposium Report;

Friends of Mineralogy, Region 3 held its third annual Symposium at the West Chester State College, West Chester, Pa. on November 1, 2, 1975. We want to take this opportunity to thank our host, West Chester State College, and Dr. Sy Greenberg, Geology Department, for making their facilities available.

Both amateurs and professionals were rubbing shoulders, talking and attending lectures in the Science Hall. Classrooms were set up with microscopes for the study of minerals and the exchange of specimens.

The Symposium opened Friday night with a workshop on the use of geologic maps, conducted by F/M member and geologist, Juliet Reed. Using a tool of the trade, she talked about the relationship of mineral occurrences, association, topographic and physiographic features that can be determined by the study of geologic maps.

The Symposium was formally opened Saturday morning with an opening address by Dr. Sy Greenberg who extended a warm welcome to all the participants. He then described the process of preparing Earth Science Teachers at the College. Dr. Maria Crawford, Department of Geology, Bryn Mawr College, gave an excellent lecture on the Symposium theme, Metamorphic Rocks and Minerals of Southeastern Pennsylvania. Dr. Maria Crawford's lecture described the serpentines from West Chester to the Philadelphia area describing the different degrees of metamorphism and the relationships to the minerals formed. This area in Pennsylvania is among the most highly metamorphosed and structurally complex geologic areas in the United States.

F/M member Jay Lininger presented a most interesting and informative, illustrated talk on the metamorphic rock and minerals of South Mountain in Adams and Franklin counties of Pennsylvania. Here ancient meta-volcanic rocks were exposed containing natural and secondary copper minerals as well as other mineral species.

Following lunch, "Mr. Micro", Neal Yedlin treated the audience to a fascinating history of early micromounting of mineral specimens in America. It can be said that it all began in West Chester, Pa., with Rev. Rakestraw, George Fiss and a group of Philadelphia mineral collectors who originated a method of selecting, mounting and the labeling of micro minerals. He showed slides illustrating the style of each collector, and traced the status and location of their collections. Mr. Yedlin is preparing for publication a new book, Minerals in Miniature, that will include much of this interesting background.

F/M member, Pen Ambler, then showed slides of specimens and localities in Central Pennsylvania. In 1973 during the first Region 3 Symposium, collectors were encouraged to explore and collect in the Central region. Pen's talk was a tribute to what has happened to mineral collecting in the central area. Many new mineral species and collecting sites were added to the Central Pennsylvania list within the last few years thanks to the efforts of Pen Ambler and friend, Ed Carper. The final presentation was made by Del Oswald, Curator of Mineralogy at the Carnegie Museum of Natural History in Pittsburgh, Pa. He gave a fine audio-visual presentation of the W. W. Jeffers

collection at Carnegie, including some unique micro minerals mounted inside brass rings.

Over the past few years the mineral auction has become a regular feature. This year the highly spirited auction was a huge success. On the auction block were Gordonites, Montgomeryite and a number of other fine specimens provided by Dr. Arthur Montgomery. Mineral specimens donated by other F/M members and non-members helped to swell the coffers of the treasury. The monies raised through mineral auctions is placed in a special fund that will be used to cover the cost of educational publications. The Region's next most important publication will be the update of Pennsylvania Mineralogy - 1965 to 1975.

Saturday evening a mineral exchange was held in the science classroom. Several microscopes were in constant use for the viewing of micro material from old and new Pennsylvania localities. Mr. Yedlin showed some unusual slides of inclusions in mica and fluorite. Slides made with transparent sections of mica made colorful patterns when viewed through a polarizing camera lens. A few of the old die-hard collectors were burning the midnight oil looking at and talking about minerals.

The Sunday field trip to the Glen Mills quarry drew a good crowd. The weather was warm and clear, and collectors were able to find allanite, zircon, calcite, heulandite and stilbite crystals, enough to make most people happy.

This closed the 1975 Annual Symposium. It was a success and hopefully enjoyed by all. Region 3 takes pride in being the host of this affair and hopes to continue the annual Symposium and the geologic theme well into the future..

We are receptive to comments and criticism regarding the Symposium. Please let us know your thoughts, it may help us with the planning of our future Symposiums.

Send your comments to the newsletter editor, address on cover. We wish to thank everyone who was part of our Symposium, you made it a very successful endeavor. I wish to thank Jim Stauffer for recording the minutes of the Symposium.

Spring Roundup - 1976;

Plans for the Region 3 spring roundup are underway. The second weekend in May has been selected for the meeting date with the University of Pennsylvania, State College, Pa. to be our host. There may be some important changes made in the regional structure of F/M at the MSA-FM meeting in Tucson in February that may or may not affect our region. For this reason we will make a concerted effort to encourage the attendance of all Region 3 members at this very important meeting.

The roundup will be patterned after the Symposium format including tours of the University facilities, speakers, auction and a field trip. This should be an exciting weekend for all those who plan to attend. More information on the meeting will be covered in the spring newsletter. Keep the 2nd weekend in May open and plan to attend.

Welcome New Members;

Max Tietjans
1064 Wagon Rd.
Blue Ball, Pa. 18422

George & Susan Hebard
206 Fairlamb Ave.
Havertown, Pa. 19083

R. John Work
15 Longview Rd.
Glen Mills, Pa. 19342

Mrs. John Work
15 Longview Rd.
Glen Mills, Pa. 19342

Dr. Peter Leavens
University of Delaware
Newark, Delaware

Mrs. Joseph M. Lane
RD #1 Box 269
Mars, Pa. 16046

W. M. D. Bryant
65 N. Wawaset Rd.
West Chester, Pa. 19380

Jane Grigger
Windsor Regency 49-18
Hightstown, N.J. 08520

Publications;

Caves of Southeastern Pennsylvania by J. R. Reich, Jr.
General Geology Report #65, available from Pennsylvania Bureau
of Publications, P. O. Box 1365, Harrisburg, Pa. 17125
Price - \$5.30 plus 6% tax

This is the first in a new series on caves in Pennsylvania. This volume lists over 90 caves in Adams, Bucks, Chester, Delaware, Lancaster, Montgomery, Philadelphia and York counties.

Interstate 80 - Geologic guide issued by the Bureau of Curriculum Services, Department of Education. This booklet (32 pages) makes the geology of Interstate 80 a most interesting field trip. Copies are available free of charge from Mr. William H. Bolles, Bureau of Curriculum Services, Dept. of Education, Harrisburg, Pa. 17120

Dates to Remember;

Friends of Mineralogy Second biennial MSA-FM meeting
Tucson, Arizona - Feb. 14 - 15, 1976

Delaware Mineralogical Society, 13th annual show - April 3 - 4, 1976,
Brandywine Valley Caterers Building, New Brandywine Terrace, 3416
Philadelphia Pike, Claymont, Delaware.

Mineral Notes and News;

Violarite - Pentlandite

These two rare minerals are still collectable at the old Gap nickel mine in Lancaster county, Pa. The minerals are found in the pyrrhotite ore. Reference and more data is available in an article by J. A. Speer and E. C. Martin of Virginia Polytechnic Institute and State University, Blacksburg, Va. in the Mineralogical Record, Vol. 5/number 5, Sept. 1974.

THE OFFICERS, CHAIRMEN, AND EDITOR OF F/M REGION 3, WISHES ALL MEMBERS A MERRY CHRISTMAS AND A HAPPY NEW YEAR

The following article was written by Dr. Allen Heyl of the U.S. Geological Survey, Denver, Colorado and a member of F/M region 3. Dr. Heyl specializes in lead zinc ores and metallic minerals. The minerals of Pennsylvania is one of Dr. Heyl favorites. While living in Allentown, Pa, he collected in many of the S.E. Pennsylvania localities. We sincerely hope that Dr. Heyl will continue to contribute articles for publication in the Region 3 newsletter.

Notes on Discredited and Probable Pennsylvania Minerals
by Allen Heyl, U.S.G.S.

Genthite is a discredited mineral which is a member of the Garnierite family. The Garnierite family, like Garnet, should certainly be included. Davis Lapham, a few years ago said it was picrolite?, which is a member of the Garnierite family. The nickelian serpentine is there and common, and certainly should be included somehow.

Ankerite is a certainty in Pennsylvania. It is too common a mineral. If the Wheatly variety is only ferroan dolomite, then there are lots of other possible places, as "ankerite"-appearing veins are common in many areas. The definition of the mineral has changed somewhat, and much that was included in the 19th century as 'ankerite' now comes out ferroan dolomite which is part way there, Ankerite is probably common in Pennsylvania elsewhere.

Uvarovite is so distinctive a garnet that some of the old rare samples are probably okay. It is to be expected as a rare mineral in the serpentine, as is fuchsite (chromian variety of muscovite). I have the latter, which has about a 90 percent certainty. It just needs verification.

Xenotime is a cinch. It is a common titanium mineral and it should turn up. It is hard to identify as it is usually a dirty gray granular mineral. It is common in New Jersey magnetite deposits and should be in some Pennsylvania deposits or at Easton in the septentines.

Libethenite and Mendipite were described years ago by Charles Wheatly of Wheatly mine fame, who was manager at both the Perkiomen and Wheatly mines. He was a very good mineralogist and I suspect he found them and identified them correctly long ago. It is probable among the Perkiomen-Ecton secondaries. They had much better chemical methods in the mid-1800's than now.

Bismuth is so much like bismuthinite that every known bismuthinite sample from Philadelphia and Delaware counties should be checked. One or more of these is a probably bismuth.

Platinum is a good probable, not at the shale locality near Boyertown that is listed, but as a mineral at the Gap Nickel Mine. Gap is a miniature Sudbury, and platinum and platinum minerals occur at Sudbury where they are recovered commercially. A good assay would do it of typical nickel ore but good fire assays are very rare and the U.S.G.S. is one of the few that can do them. Next time I go to Gap I'll collect some typical ore and hope we can find it.

Winter Edition 1975 ;

Vauquelinite is one of the true rarities. The new work at Pequea should help solve this. Everyone has doubted this one, but Mary Mrose and I found this mineral in a Piedmont silver-lead-copper-zinc deposit in Northern Virginia a few years ago. It is in the oxidation zone of a quartz-rich massive sulfide, which is similar to Pequea in many respects. It is in microcrusts of dark green tabular crystals which by eye looks nearly black and could easily be missed. Don Schmerling recently sent me some samples from Pequea, but no vauquelinite was found-- cerussite, anglesite, and maybe phosgenite. I still think we have a good chance of verifying this rare mineral.

When I saw mesolite on the doubtful list, my memory went back to my old Fritz Island samples and my X-ray of gismondine there. I have an old, labeled, mesolite sample that was given to me by Prof. Fasig of Muhlenberg College in 1936-38. I had this run by X-ray film and checked it in 1965 with a type mesolite from the U. S. National Museum from John Day, Oregon. They check very well in lines, spacing and intensities. I am now having them checked further here by Dick Sheppard and Jim Gude, our zeolite specialists, so we should have a final answer on mesolite this year.

Bindheimite is a probable from Phoenixville and Perkiomen mines, and I'm sure I have samples of yellow earthy minerals that fit. I will try to check them out.

Coeruleolactite is wide open yet. The locality, General Trimble's mine, is long gone. It was gone in the 30's, but lots of old specimens with wide variations in color and texture are in old collections. Since again we have a series, with turquoise, some are turquoise while others may be coeruleolactite. We still have a fair chance on this one. I discussed this problem with Waldemar Schaller in the early 1950's when he was working on these minerals, and he thought both existed. If he had lived longer, or been younger and finished his work, we might have some better answers now. The mineral should not be forgotten until every old sample has been properly and carefully checked.

Microlite has a good chance of being found because the Mineral Hill-type of complex pegmatites are almost the same as those at Amelia, Va., and microlite is a common mineral there. It should be looked for in the heavies down the Mineral Hill valleys and in butters. I gather the locality has not yet been destroyed so we have a chance.

Dr. Allen Heyl, U.S.G.S.

Before going to press I recieved another new member for Region 3.

We welcome Mr. George Biggs
2050 Lititz Pike
Lancaster, Pennsylvania 17601

Winter Edition 1975

THE PENNSYLVANIA BOOKSHELF

ORE MINES NEARBY SPURRED MIGRATION TO THIS AREA
(By Frances W. Pennypacker)

As early as 1683 explorations in and near Phoenixville were being made to discover minerals. Charles Pickering and his companion, Charles Tinker, came up the Schuylkill valley examining the beds of the creeks for traces of precious metals. Finding shining particles which they suspected were silver, they visited the hills along the Pickering and Charles Pickering; applied to William Penn for land and received a grant for 5358 acres. His name was given to the stream which ran through his grant and the village and township of Charles-town were named for him. Tinker's name was given to the hill in which they dug a cave for a dwelling. They must have found some silver because Pickering was arrested and tried for manufacturing and circulating silver coins which were known as "new bitts". Although these were as intrinsically valuable as the Spanish money then in circulation, Charles Pickering was sentenced and had to "make satisfaction in good and current pay" and pay a fine of forty pounds.

The hills proved to contain lead and copper and it led to a number of mining projects. In 1850 copper and lead mines were opened at various places and a map in 1851 shows the site of the Wheatley Silver Lead mines east of the Pickering and to the right of the White Horse road, and farther along the ridge the Chester County Mine. Up the Jug Hollow road and in the vicinity of Valley Forge were the mines of the Penn Smelting and Mining company. A shaft was sunk down into the Knoll property and was known as the Morris mine. The lead veins were confined chiefly to the gneiss and the copper to the red shale with zinc ores existing in both the lead and copper-bearing lodes.

At various times these mines were operated but apparently the expense of the operation was so high that the returns did not warrant their continued operation. In 1880 the New York and Boston Silver Lead company owned the old Wheatley Mine. The expense of pumping out the water from the mines outweighed the profit.

The man who did more than any other to further mining in this locality was Charles Moore Wheatley. He was born in England, March 16, 1822, and came to America as a child and was educated in New York. His interest in mining developed early and he was manager of the Bristol Copper mine in Connecticut in 1846. He married Martha Milliken, the niece of Benjamin Morris, who lived at the Knoll. In 1848-49 he was manager of the "Perkiomen" Copper mine and from 1850-57 was general manager and part owner of the Wheatley Silver Lead mines. Although these mines have yielded very rich metallic salts and thousands of tons of rich silver-lead ores they have never brought their owners a very large return as the expense of mining was too heavy. Mr. Wheatley was a great student of geology and mineralogy and his collections of minerals and fossils were very fine and complete. He discovered among the rocks excavated from the Black Rock tunnel some previously unknown fossils and in a fissure cave near Port Kennedy a very rich deposit of fossil remains. He also had the finest collection of freshwater shells in America. He

Winter Edition 1975

belonged and contributed to a large number of scientific societies.

In 1874 Mr. Wheatley owned the Jones Mines in the South Range of Pennsylvania from which copper ore was mined along with iron. These mines, upon the initial analysis, yielded 5 per cent copper and Mr. Wheatley and Benjamin Silliman formed a company known as the Chemical Copper company to treat these ores for their copper content by the Hunt and Douglas process. The Chemical Copper company was about a half a mile below the Reading Railroad station where the Madco foundry was in operation in later years. In H. H. Langton's "James Douglas, A Memoir" we learn that Mr. Douglas came from Quebec to Phoenixville in 1874 for a consultation and again in 1875 to assist the superintendent in starting the new works. "Unforeseen difficulties," said Mr. Douglas, "presented themselves as soon as we started and Mr. Church (the superintendent) resigned and I was asked to take his place." Returning to Quebec he obtained the consent of his wife and aged father and after selling out his Canadian land holdings he moved his family to Phoenixville. He rented a stone house on Railroad street in the north side of Phoenixville.

The Chemical Copper company seemed to be beset with difficulties and disappointments. The copper ore from the Jones mine proved to produce only 2 per cent and a depression which reduced the price of copper from 25 to 12 cents a pound made its extraction unprofitable. Therefore it was decided to bring in ore from Utah. But this ore combined precious metals as well as copper and it became necessary to change the process of extraction. Thereupon, Mr. Douglas devised and patented a second process. A friend of Mr. Douglas', Franklin Farrell, an owner of mines in Montana, became interested in the metallurgical experiment of the Chemical Copper company to refine copper electrolytically. These attempts were successful through the cooperation of Edward Weston and the Phoenixville works was the first in the United States to practice the electrolytic refining of copper in a marketable scale. On October 21, 1878, the West Chester Local News stated: "The Chemical Copper company the past week have met with remarkable success. For the week ending Saturday there were 21,000 pounds of ingot copper made by two smelters and two assistants."

In April of the following year a fire swept through a portion of the smelting works destroying a large part of the machinery. The office and records were saved. The loss was estimated at less than \$15,000. A few days after the fire Professor Silliman, president of the company, was in Phoenixville to look over the ruins and it was decided to replace the buildings with a substantial brick building. In July a new cupola was erected, capable of smelting 25 to 30 tons of ore per day, and also a building 24 by 26 feet in which the cupola was housed. The following November a boiler explosion damaged the engine house and tore off a portion of roof but did not cause a stoppage of work.

Misfortune continued to descend upon the Copper company when March 6, 1880, the laboratory connected with the works took fire and was destroyed. The fire was caused by the explosion of a coal-oil lamp. This second fire was disastrous. Much time and money had been lost as a result of the first fire and with this last blow Mr. Wheatley was bankrupt. The company came to an end.