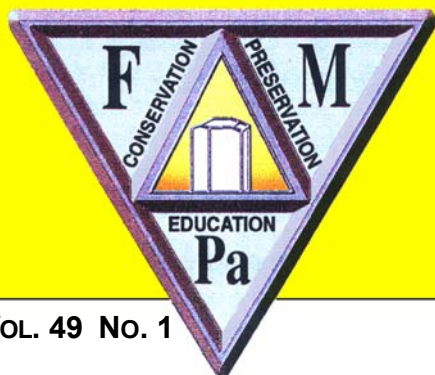




FRIENDS OF MINERALOGY

Pennsylvania Chapter

NEWSLETTER

VOL. 49 No. 1

SPRING 2021

Looking to the future and the Fall Symposium

President's Message
by Interim President Bill Stephens, PG

After many years of faithful and effective service, immediate past President Joe Marchesani decided it was time for him to take a break from his leadership role at FM-PA. We wish him all the luck in his future endeavors. The Board members present at a recent meeting voted unanimously to install me as interim President until the official meeting at the annual symposium. I hit the ground running with the idea that we needed to get prepared for what will likely be a "Hybrid" Symposium, part in person and part Zoom, at a totally new facility. In our last in-person symposium, we had an issue develop with the availability of the venue we had at F&M for many years. Last year, with the COVID shutdown, we were forced to adapt and put on a symposium entirely remotely using Zoom; with the effective leadership of your Board of Directors, that symposium went off without a hitch. Now we are tasked with not only finding a new venue, but one where we can have in person and remote attendance for the Fall 2021 Symposium. Stay tuned!

I also took on the participation in the National FM activities. Ron Sloto and I are hoping to put together a presentation on the famous Wheatley Mine in Chester County as a candidate presentation for the National Symposium in Tucson next year. I have also initiated a dialogue with current FM-National President Mark Jacobson regarding issues of interest to our local chapter, how we can contribute to National and what we would like/need from them. Mark may be a little biased as a Penn State Grad and PA Native, but his impression of FM-PA is that we are a model for other chapters. We have never missed a symposium (I did not know that), we have a steady membership and we do the work defined in the national and chapter mission statement



and bylaws. That is an impression I intend to help maintain with the help of the chapter board and membership. I mentioned to Mark that my personal goals for our chapter are to help expand the membership and the proportion of members contributing to the FM Mission through greater engagement, field trips and open seminars online. I have already reached out to Tom Hale of the VA Chapter and also head of the Virginia Mineral Project, and Dave Shapiro from FM-NJ to discuss collaborating on field trips and seminars. I also think we should consider expanding the Board to include several key chairperson positions to help engage and distribute more evenly the tasks performed by our relatively small Board.

Ross Elliott, PG, has begun assisting as the new Field Trip coordinator, taking over from Tom Pankratz who served us well. Ross, like Tom, hails from the Delaware Mineralogical Society, with whom we have close ties and many with dual membership.

We have a lot of work in front of us and obvious deadlines to get that work done. With the support of our hardworking and remarkably experienced Board, I am confident we will have a winning Symposium this fall, more than one field trip and perhaps some seminars for online learning and entertainment.

Thanks to all who have and will continue to serve.

Sincerely,
Bill Stephens, PG

Reminder: 2020 Memberships Extended through 2021

Because the pandemic has prevented us from presenting many activities, the Board of Directors has decided that FM-PA memberships which have been paid for 2020 will be automatically extended through 2021 at no charge.

Minerals of the Penn/MD Materials Quarry, Fulton Township, Lancaster County, Pennsylvania, Part 5, Quartz

Ronald A. Sloto, P.G.
West Chester University

Introduction

The Penn/MD Materials quarry, owned and operated by the H&K Group, produces aggregate from ultramafic rocks of the Baltimore Mafic Complex, known locally as the State Line Serpentinite District. This complex of ultramafic and associated gabbroic rocks is believed to be a remnant from the roots of an island arc complex formed about 490 to 510 million years ago (Smith and Barnes, 1998; Smith and Barnes, 2008).

All analyses were performed at the West Chester University Center for Microanalysis and Imaging, Research and Training (CMIRT). Imaging and chemical analyses were done using an FEI Quanta 400 environmental scanning electron microscope (SEM) integrated with an Oxford AZtec X-ray energy dispersive spectrometer (EDS). Samples were unpolished and uncoated. A Bruker D2 Phaser powder X-ray diffractometer (XRD) was used to determine mineral species.

The author thanks Jay Lang and the H&K Group for access to the quarry and Bob Housley for the use of his cristobalite image.

Quartz SiO_2

Quartz is one of the most common minerals found in the Earth's crust. It occurs in two basic forms, (1) macrocrystalline quartz (quartz) and (2) cryptocrystalline quartz (chalcedony). The more common macrocrystalline quartz, or simply quartz, is made of visible crystals or grains. Examples are rock crystals, the grains in sandstone, and massive quartz that is made of large crystallites without crystal faces, such as vein quartz. Macrocrystalline quartz grows by adding molecules to the crystal's surface, layer by layer. Cryptocrystalline quartz is made of microscopically small intergrown quartz crystal grains that lack the structural homogeneity of crystals. Examples include chalcedony and agate. Cryptocrystalline quartz forms from a colloidal watery solution of silica.

Quartz generally is found on the upper levels of the Penn/MD Materials quarry where it is formed by

chemical weathering of serpentine. The quartz is macrocrystalline quartz, which mainly occurs as drusy quartz (fig. 1); larger crystals have not been reported. The tiny quartz crystals forming drusy quartz often have a sparkling appearance (fig. 2); however, the crystals typically are not well formed.



Figure 1. Drusy quartz from the Penn/MD Materials quarry, 12 cm. Sloto collection RS-4267.



Figure 2. Drusy quartz from the Penn/MD Materials quarry; close-up of the specimen in figure 1. Field of view is 1.2 cm.

One specimen of sparkling drusy quartz (fig. 3) was examined under the scanning electron microscope (fig. 4). It was found on the fourth level on a very dark (nearly black) serpentinite. The EDS analysis indicated that the crystals were SiO_2 . However, the crystals were not the expected typical hexagonal prisms; the habit resembled that of alpha cristobalite (fig. 4) which was deposited by low-temperature hydrothermal solutions in Lobo Canyon, Santa Monica Mountains, Los Angeles County, California (Housley, 2019). Cristobalite is a polymorph of quartz. An XRD analysis of the crystals from the Penn/MD Materials quarry showed them to be regular quartz.

Several specimens of quartz resembling chalcedony (fig. 5) were found on the upper two levels of the quarry. An SEM image of one sample (fig. 6) showed that it was composed of tiny grains characteristic of quartz. The brown color was caused by Fe, which ranged from 0.33 to 0.97 weight percent. The specimen in figure 7 is a stalactitical growth of quartz. A close examination of this sample (fig. 8) showed it to be aggregates of quartz crystals with a melted appearance. Because of the method of quartz formation, it is unlikely that true cryptocrystalline quartz (chalcedony) would be found at the quarry.



Figure 5. Quartz from the Penn/MD Materials quarry, 7.7 cm. Sloto collection RS-4274.



Figure 3. Drusy quartz from the Penn/MD Materials quarry, 6 cm. Sloto collection RS-4088.



Figure 6. Scanning electron microscope image of quartz in figure 5 from the Penn/MD Materials quarry. Magnification is approximately 163X.

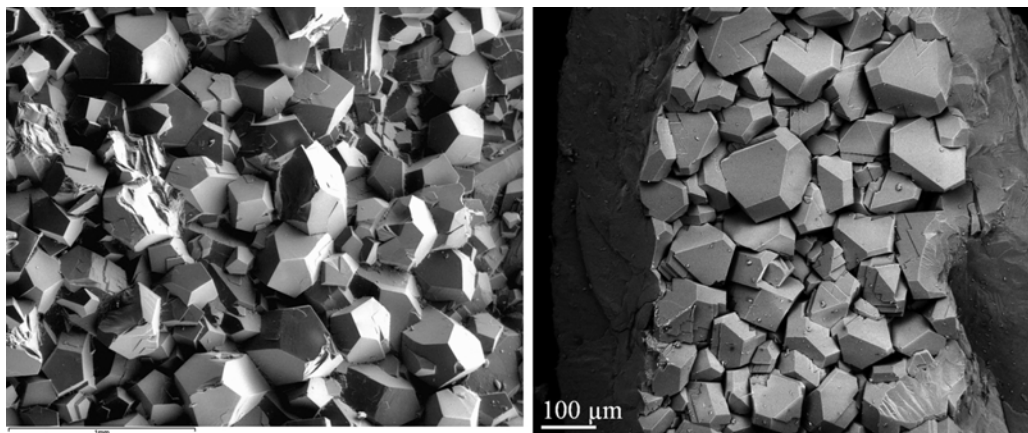


Figure 4. Left -- Scanning electron microscope image of drusy quartz shown in figure 3 from the Penn/MD Materials quarry. Magnification is approximately 97X. Right -- Scanning electron microscope image of alpha cristobalite crystals from Lobo Canyon, Santa Monica Mountains, Los Angeles Co., California. Image taken by Bob Housley. Image provided by Bob Housley.

Some quartz may not be easy to recognize. The orange-colored sample shown in figure 9 might be mistaken for deweylite or magnesite. It is quartz containing 1.61 weight percent Mg; it contained no Fe. On the upper two levels of the quarry, quartz often is associated with magnesioferrite-magnetite solid solution series (fig. 10). The orange color in the sample in figure 10 was caused by 2.15 weight percent Fe.



Figure 7. Quartz from the Penn/MD Materials quarry, 10 cm. Sloto collection RS-331.



Figure 8. Quartz from the Penn/MD Materials quarry; close-up of the specimen in figure 7. Field of view is 1.5 cm.



Figure 9. Massive quartz from the Penn/MD Materials quarry, 6 cm. Identification confirmed by SEM-EDS analysis. Sloto collection RS-4228.



Figure 10. Massive quartz and magnesioferrite-magnetite solid solution series from the Penn/MD Materials quarry, 1.3 cm. Identification confirmed by SEM-EDS analysis. Sloto collection RS-4279B.

Quartz/Magnesite Mixture $\text{MgCO}_3 + \text{SiO}_2$

Several SEM-EDS analyses of a white mineral with an undulating surface (fig. 11) showed it to be a Si-C-Mg-O mineral with a composition that did not match any known mineral. Further investigation determined that the mineral was a mixture of equal parts quartz and magnesite. Analyzed samples of this mixture all showed a cracked surface (fig. 12), which can be used to distinguish it from magnesite. Robert Smith, II, suggested that the quartz might be opal. However, an XRD analysis showed it to be quartz. That does not rule out the occurrence of opal at the quarry.



Figure 11. Quartz-magnesite mixture from the Penn/MD Materials quarry, 6.6 cm. Identification confirmed by SEM-EDS analysis. Sloto collection RS-3956.



Figure 12. Quartz-magnesite mixture from the Penn/MD Materials quarry; close-up of specimen in figure 11, showing cracks in surface. Field of view is 1.3 cm.

REFERENCES

- Housley, Robert, 2019, The occurrence of sharp clear crystals of primary alpha cristobalite, accessed on January 9, 2021, at <https://www.mindat.org/article.php/3804>.
- Smith, R.C. II, and Barnes, J.H., 1998, Geology of Nottingham County Park: Pennsylvania Geological Survey, 4th ser., Trail of Geology 16-009.0, 41 p.
- Smith, R.C. II, and Barnes, J.H., 2008, Geology of the Goat Hill Serpentine Barrens, Baltimore Mafic Complex, Pennsylvania: Journal of the Pennsylvania Academy of Science, v. 82, no. 1, p. 19-30.

From the National Bulletin of FM

Since our last Chapter Newsletter, three issues (December, March and June) of the national Bulletin of FM have been made available on their web site, <www.friendsofmineralogy.org>. Members are encouraged to read the national Bulletin in its entirety. Each of these issues includes featured articles on minerals, including several on fluorescence of calcite.

In the December issue, Dr. Ken Bladh introduces himself as the Mineralogical Society of America (MSA) Liaison to the Friends of Mineralogy (FM). He also currently serves as Editor of the MSA online Handbook of Mineralogy, <<http://www.handbookofmineralogy.org/search.html?p=all>>. He seeks ways in which the two organizations can communicate and support each other and the mineral

collecting & science community. Some initial thoughts, possibilities and requests are listed.

In the March issue, president Mark Jacobson seeks pre-1980 national FM newsletters, and information on the national logo. Featured articles included Minerals of the Penn/MD Materials Quarry, Fulton Township, Lancaster County, Pennsylvania, Part 5, Quartz, by FM-PA member Ron Sloto (also in this Chapter newsletter issue).

The June issue includes a review of the late Arthur Montgomery's *Reminiscences of a Mineralogist*. The review has been updated to include the conclusion that was missing from the Bulletin version distributed to our members on June 12. The book is available from our Chapter; see <<https://rasloto.com/FM/symposium/>>.

Pennsylvania Geology Magazine

The 2020 issue of Pennsylvania Geology magazine, vol. 50 no. 1, from the Bureau of Topographic and Geologic Survey is now available via the list of issues at <http://docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_20033210.pdf>.

In an editorial written late in the year, State Geologist Gale Blackmer reflects on restrictions arising from the pandemic, and how the Survey continued its work.

Geologic articles in this issue are: Dam That Muddy Creek!—Siting the Moraine State Park Dam, by Gary Fleeger, and An Example of the Usefulness of Drill Cuttings (Harry Dewey #1 Mud Log), by Katherine W. Schmid and Steven D. Clark..

Recent publications listed are three new entries in the Trail of Geology series -- one-page illustrated summaries of outstanding geologic features. One is of special interest to FM-PA: Cornwall mines, Lebanon County <<http://maps.dcnr.pa.gov/publications/Default.aspx?id=988>>. The others, both in Fayette County, are Baughman Rock and Jumonville Glen Rocks.

Survey Librarian Jody Smale reports on progress; hundreds of Survey reports were added to the online catalog of the State Library, and links were updated so that digital versions can be easily viewed. "Now all the Bureau's reports can be found in the online catalog and users can search for these by title, author, subject, and/or keywords. The online catalog is a powerful resource that provides greater searching capability so that users can more easily find the Bureau's reports, and other publications owned by the Bureau library, online."

More than 1000 photographs from the Bureau's archival collection were scanned and added to those already in the State Library of Pennsylvania's Historical Photographs Collection online at <http://digitalcollections.powerlibrary.org/cdm/search/collection/spgsl-photo>

UPCOMING EVENTS

**Many events are still being rescheduled.
Confirm details of events before attending.**

July 24-25, 2021: Gem & Mineral Show & Sale, by Gem City Rock & Mineral Society. Zem Zem Shriners Banquet & Conf. Ctr., 2525 West 38th St., Erie PA 16506 (corner West 38th St & Zuck Rd). Sat. 10 - 6, Sun. 10 - 5. <https://www.facebook.com/GEM-City-ROCK-and-Mineral-Society-301824213169516/>

Aug. 20-22, 2021: Gem Miner's Jubilee, by Mid Atlantic Gem and Mineral Assoc. Lebanon Valley Expo Center & Fairgrounds, 80 Rocherty Rd., Lebanon PA 17042. Fri & Sat 10-6, Sun 10-4. <https://www.gem-show.com/>

Sept. 25-26, 2021: 55th Annual Gem, Mineral & Jewelry Show, by Central Penna. R&M Club Inc. Harrisburg Consistory, 2701 North Third St., Harrisburg PA 17110 (beside the Zembo Shrine). Sat 10-6, Sun 10-4. http://www.rockandmineral.org/?page_id=37

Oct. 2, 2021: Fall Mineralfest, by PESA. Macungie Memorial Park, Macungie PA. Sat. Only, 8:30-3:00 <http://www.mineralfest.com/>

Oct. 9-10, 2021: Annual Gem & Mineral Show, by Che-Hanna Rock and Mineral Club. Wysox Volunteer Fire Company Social Hall, 111 Lake Rd., Wysox PA 18854 <http://www.chehannarocks.com/show.html>

Oct. 30, 2021: Ultraviolet fluorescent mineral show, by R&M Club of Lower Bucks Cty. First UM Church, 840 Trenton Rd, Fairless Hills PA Sat. only, 9-4. <https://sites.google.com/view/lowerbucksparocks/shows>

From the Editor

David Glick

THANK YOU to everyone who has been providing material for the Newsletter! Everyone else - join the fun! Feel free to contact me at xidg@verizon.net, or 814-810-2116 days and evenings. Mail can be sent to 425 Armagast Rd., Bellefonte PA 16823. Materials for the Summer issue should be submitted by July 25.

Materials related to Pennsylvania mineralogy, collecting or collectors are invited for this newsletter: articles, long or short; announcements from FM-PA committees; photographs of specimens, field localities, collections, etc.; reports on publications about PA minerals or by PA authors, or actual book reviews; or other items within the mineralogy and mineral collecting areas of interest. Photographs should be of good resolution (at least 1000 pixels across) without much JPEG compression, so that they will look good in print. Please provide captions including photographers' names.

We are producing four issues each year; your material is needed! If you know people who have interesting material, please encourage them to submit it.

DONATIONS WELCOMED

The FM-PA Chapter is a 501(c)(3) nonprofit organization; donations are gratefully accepted and should qualify for deduction from your federal income tax. Donations of any size help to offset the general operating costs of the Society, helping to keep dues low.

FM on the WWW

Please explore the FM-PA Chapter web site at www.rasloto.com/FM/ and facebook: Friends of Mineralogy Pennsylvania Chapter

National News

The Bulletin of Friends of Mineralogy, links to other chapters, and much more can be found on their web site: www.friendsofmineralogy.org

Friends of Mineralogy - Pennsylvania Chapter Administrative Directory

OFFICERS and BOARD OF DIRECTORS members

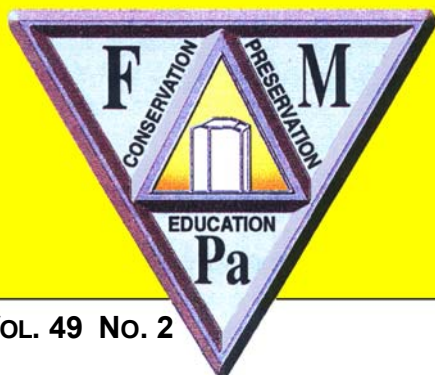
President	Bill Stephens
Vice President	Dianne Soccio
Treasurer	Ron Sloto
Secretary	David Glick
	Mike Dunton
	William Kochanov
	Joe Marchesani

COMMITTEE CHAIRS

Membership Chair	Ron Sloto
Field Trip Chair	Ross Elliott
Web Manager	Ron Sloto
Newsletter Editor	David Glick

**Members can find Board
contact information in the
Newsletter which they
receive directly.**

Friends of Mineralogy Pennsylvania Chapter Web Site: <http://www.rasloto.com/FM>



FRIENDS OF MINERALOGY

Pennsylvania Chapter

NEWSLETTER

VOL. 49 No. 2

SUMMER 2021

A Wild Ride Moves Us Along

President's Message
by Bill Stephens, PG
August 30, 2021

The last quarter since taking office has been a bit of a wild ride. Once we finally secured a venue for our Annual Symposium, things began to fall in place more quickly. We also voted to permanently move our symposium date to the second weekend in November, where it has traditionally been the first weekend in November. This move will free members up to attend other important events in the region that would normally conflict with our symposium, and members of other organizations to attend our symposium if they desired without missing events they would typically attend in lieu of our symposium.

This year FM-PA's symposium will be held at the Bright Side Opportunities Center in Lancaster, PA. Flyers will be issued shortly with all the details. Our field trip is to be announced, but we are pretty certain we know where it will be. Calls for speakers will also be issued directly. This year and probably most years going forward our symposium will be hybrid - in person and remote access via Zoom.

For the first time since I've been involved with FM-PA we have secured insurance with a different vendor/provider and agent. Frankly, we were quite pleased with the price and the coverage. We have offered to aid our collaborating sister Chapters and any clubs that reach out for assistance. Many have complained to me that some quarries were demanding \$3 million in liability coverage, which many thought would be too expensive to obtain. We were able to secure \$3 million per occurrence / \$6 million aggregate for a very reasonable rate.

I've been working with Tom Hale of the Virginia Mineral Project (V.P.) and the new sister FM-VA Chapter to get a collaborative effort going and just last week we had Tom and Jennifer from the FM National

continued on page 2



Symposium on Pennsylvania Mineralogy

Mineral Collecting Enthusiasts Meet and Learn
IN PERSON and ONLINE

Symposium November 13, 2021
Field Trip November 14
Bright Side Opportunities Center, Lancaster, PA
Please Register in Advance

The Friends of Mineralogy - Pennsylvania Chapter will hold their 2021 Symposium and field trip on the second weekend in November. Mineral collectors in attendance on Saturday will check in at the Bright Side Opportunities Center, 515 Hershey Ave., Lancaster, PA 17603. Activities, including informative talks by knowledgeable speakers on minerals, geology and mining in Pennsylvania and beyond, are planned. Online attendance is also being planned. On Sunday, a field trip for those registered for the symposium will provide an opportunity for mineral collecting at a location to be announced. The field trip is open only to symposium registrants. Safety equipment will be required.

All interested mineral collectors are invited to register and attend. As usual, a few invited mineral dealers will be present, and there will be a silent auction, give-away table, refreshments, and plenty of opportunities for visiting with fellow enthusiasts. Lunch is available at restaurants within short driving distance, and there is adequate parking at the Symposium venue. Arrangements are still being made, so please see the web site <https://www.raslo.com/FM/> for any updates, details, and the registration form.

Dates: Saturday & Sunday, November 13-14, 2021

Location: Saturday, Nov. 13: Bright Side Opportunities Center, 515 Hershey Ave., Lancaster, PA 17603.

Sunday, Nov. 14: collecting trip, to be announced

Registration: \$25/person for non-members (or join for 2022 and get the member rate), \$15/person for current FM-PA members; \$5/person for college students; free for younger students. Parents must provide supervision of minors.

Please register in advance; a form is available on the web site. Professional Geologists: lecture attendance qualifies for Professional Development Hours toward license renewal.

Web Site: <https://www.raslo.com/FM/>

Contact: e-mail: <bstephens@stephensenv.com>

President's Message *continued from page 1*

Outreach committee along with President Mark Jacobson join us for a Board of Directors meeting. We invited Tom and Jennifer to provide us the general approach they are using to get more people interested and engaged in the mineral world, share some of their strategies for engaging mining companies in a manner that they would see us more as a public relations partner than a pesky group begging for collecting access, and social media campaigns. They gave us some great info and we are moving forward together to promote FM and broader interest in mineralogy.

Finally, I'll be giving one of the talks at our FM-PA symposium this fall and it will be on the famous Phoenixville Lead-Zinc Mines, including the Wheatley, Chester, SW Chester, and Brookdale Mines. Today I submitted an abstract for FM-National's symposium at Tucson next February. That proposed talk will focus on the world class pyromorphite from those mines. Pyromorphite is within the Apatite Supergroup, the FM National Symposium topic.

We have a lot in the works after clearing the plate of some frustrating issues including COVID related restrictions on available venues. I'm proud of my Board. They all really dug in and helped get things done this summer.



Pyromorphite, from Wheatley Mines, Phoenixville Mining District, Schuylkill Township, Chester County, Pennsylvania, USA. 2.7 x 2.5 x 1.7 cm. Photo by Rob Lavinsky, who says: "An outstanding Wheatley pyro from this classic US locality, surely dating to the late 1800s when crystals of such robust form were found." Rob Lavinsky, iRocks.com – CC-BY-SA-3.0. Source: <https://commons.wikimedia.org/wiki/File:Pyromorphite-tt35a.jpg> License: <https://creativecommons.org/licenses/by-sa/3.0/deed.en>

Call for Abstracts

Friends of Mineralogy - Pennsylvania Chapter invites submissions of abstracts to be considered for presentation at our annual Symposium. The Symposium is scheduled for Lancaster, PA, on Saturday, November 13, 2021, both in-person and online.

Presentations on Pennsylvania minerals or mineral localities, or other topics of interest to mineral collectors, are invited. Abstracts may be up to two pages and should include a title and the author's name and affiliation as they should be presented. The final abstract for publication in the program may include illustrations of sufficient resolution to look good in print; a biographical sketch and photograph of the author are also welcome, within the two-page limit.

We provide an honorarium of \$100 for each presentation. Contact Bill Stephens <bstephens@stephensenv.com> or another Board member if you might be interested, or to submit an abstract for consideration. Please submit abstracts by September 30, 2021.

Field Trip Notifications

Multiple FM-PA field trips are coming up, thanks to Field Trip Chair Ross Elliott. Field trips are announced by **email**. If you want to attend field trips and we don't have your email address, please provide it to Membership Chair Ron Sloto <rasloto@aol.com>.

Minerals Day October 11

The American Geosciences Institute and the Mineralogical Society of America are developing materials, organizing outreach, and collaborating with geoscience partners in government agencies, professional associations, private corporations, and other groups to gear up for the 2021 celebration. Minerals Day is on October 11, 2021, the second day of Earth Science Week. Minerals Day is a collaboration between MSA, the American Geosciences Institute, and other organizations.

The purpose of Minerals Day is to inform people about how minerals are studied (Science), how they are used (Value), and how they are admired (Beauty). The web site <https://mineralsday.org> provides downloadable posters (one for children and the other for the general public), Resources (including virtual museum tours) and Events pages, space to share comments on the Contact page, and a Partners page listing cooperating organizations. They thank you for celebrating Minerals Day! See <https://mineralsday.org> and <https://www.earthsciweek.org/minerals-day>

Pennsylvania Geology Magazine

Two issues of Pennsylvania Geology magazine for 2021 are now available via the list of issues at <http://docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_20033210.pdf> (this link is available on our web site).

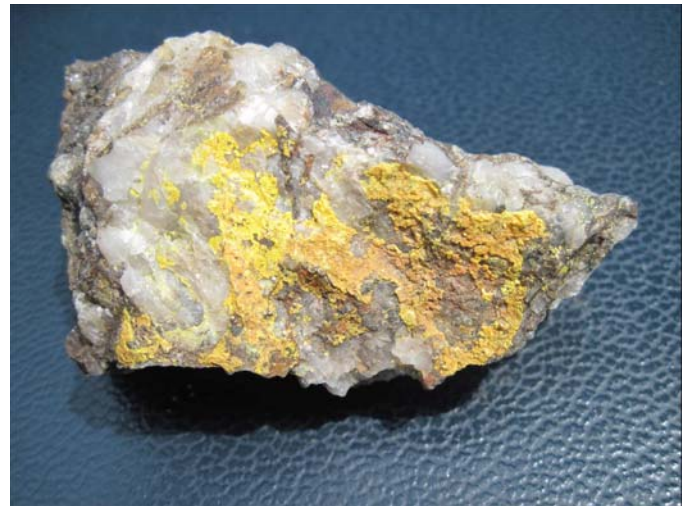
In the first issue, vol. 51 no.1, State Geologist Gale Blackmer reflects on how Survey personnel have continued their work during the pandemic. There have been retirements, and several new hires are forthcoming.

The featured geologic article in this issue is The Slab Cabin Run Watershed Study in Pennsylvania, With Applications to Instructional Courses, by Charles E. Miller, Jr.

There is yet more news on the increasing number of historical geology and mining photographs available online. Survey Librarian Jody Smale reports a change in the digital repository software used to store and share them. "With *Islandora*, you can continue to search, view, and download photographs from the bureau's collection. Currently, there are more than 4,600 photographs available on the Islandora site (<https://digitalarchives.powerlibrary.org/papd/islandora/object/papd:spgsl-photo>); however, we continue to scan and upload photographs. Because of this, if the collection is accessed through the new link, even more images from the bureau's collection will be available. Please note that the previous version of the collection is still available online, but no new photographs are being added to that site, and the site will be taken down effective May 30, 2021."

Pennsylvania Geology magazine's second issue of 2021, vol. 51 no. 2, is now available via that list of issues.

Two articles of interest to mineral collectors, Mining Pennsylvania Uranium and Tyuyamunite vs. Carnotite, appear in the issue. These address the interesting history of the Mt. Pisgah, Carbon County, uranium mineral occurrence. It was discovered in the 1890s, so much of the investigation and early exploitation took place as the science of radioactivity was developing.



Tyuyamunite (a yellow uranium-bearing mineral) coating a quartz-pebble conglomerate from the western adit along the south side of U.S. Route 209, Jim Thorpe (formerly Mauch Chunk), Carbon County, Pa. Collected by Robert C. Smith, II, with his grandparents, William C. and Lena K. Smith, circa 1955. The portion of the specimen having the yellow coating is 5 cm (2 in.) across (see article on page 3 of Pa Geology 51:2).



FRIENDS OF MINERALOGY - Pennsylvania Chapter SYMPOSIUM November 13, 2021 Lancaster, PA FIELD TRIP November 14

Symposium for mineral enthusiasts on **Saturday Nov. 13, 2021**

Hybrid Symposium - **ONLINE** or **IN PERSON** at

Bright Side Opportunities Center, 515 Hershey Ave., Lancaster, PA 17603

Talks by knowledgeable speakers on **Pennsylvania Mineralogy and Geology**

Sales by Select Dealers - Silent Auction - Give-away Table - Conversation

Registration: watch for registration form on our web site

Professional Geologists: Professional Development Hours available for lecture attendance

Field Trip Location to be announced. **Sunday Nov. 14** Open only to symposium registrants.

Watch for details, registration form, changes and updates on our **web site:**

www.rasloto.com/FM

For newsletters and field trips during the year, please join our chapter!

**See "Join FM"
on the web site**

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<http://www.mineralfest.com/>

Oct. 9-10, 2021: Annual Gem & Mineral Show, by Che-Hanna Rock and Mineral Club. Wysox Volunteer Fire Company Social Hall, 111 Lake Rd., Wysox PA 18854
<http://www.chehannarocks.com/show.html>

Oct. 30, 2021: South Mountain Rock Swap & Sale, by Central PA and Franklin County Rock & Mineral Clubs. South Mtn Fairgrounds, W of Arendtsville PA on Rt 234. Contact: tsmith1012@comcast.net

Oct. 30, 2021: Ultraviolet fluorescent mineral show, by R&M Club of Lower Bucks Cty. First UM Church, 840 Trenton Rd, Fairless Hills PA Sat. only, 9-4.
<https://sites.google.com/view/lowerbucksparocks/shows>

Nov. 6, 2021: Gemarama, by Tuscarora Lapidary Society, Inc. Theme: Pictures in Stone. Hall D at the Greater Philadelphia Expo Center, 100 Station Ave., Oaks PA 19456. Sat. 10-6, Sun. 10-5.
<https://www.lapidary.org/gemarama/>

Nov. 13-14, 2021: Friends of Mineralogy - PA Chapter **Symposium**. Saturday: Lancaster. Field trip planned for Sun. Nov. 14, for Symposium registrants only. See p. 1-3.

From the Editor

David Glick

THANK YOU to everyone who has been providing material for the Newsletter! Everyone else - join the fun! Feel free to contact me at xidg@verizon.net, or 814-810-2116 days and evenings. Mail can be sent to 425 Armagast Rd., Bellefonte PA 16823. Materials for the Fall issue should be submitted by September 30.

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National News

The Bulletin of Friends of Mineralogy, links to other chapters, and much more can be found on their web site:
www.friendsofmineralogy.org

Friends of Mineralogy - Pennsylvania Chapter Administrative Directory

OFFICERS and BOARD OF DIRECTORS members

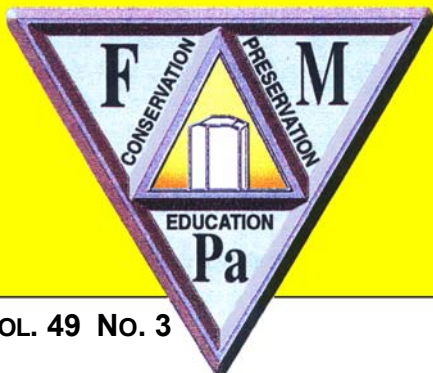
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Treasurer	Ron Sloto
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**Members can find Board
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Newsletter which they
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Newsletter Editor	David Glick

Friends of Mineralogy Pennsylvania Chapter Web Site: <http://www.rasloto.com/FM>



FRIENDS OF MINERALOGY

Pennsylvania Chapter

NEWSLETTER

VOL. 49 No. 3

FALL 2021

Symposium and Much More

President's Message
by Bill Stephens, PG
November 3, 2021

Fall is finally here, and our annual Symposium is almost here as well. Be sure to sign up/register soon for the symposium - the meeting will be at Bright Side Opportunities Center in Lancaster PA on Saturday, November 13, 2021. In person, and via Zoom invite, so get registered today. Visit our website to register in advance. The field trip will be at a location in northern Chester County, directions and details to be shared with registrants at the symposium or on Zoom at the end of the symposium. Don't forget that college students with valid ID are just \$5, be sure to invite your students, and Professional Geologists can get 5 CEUs for attendance. Check out the flyer and the article at right for Symposium details and speaker info.

As you might surmise, your Board has been very busy this year working to get the venue in place, and all the logistics involved, which are still developing. This will be our first hybrid meeting, where you can attend in person or via Zoom, and at least one speaker will be attending via Zoom. Elections are pending and I recommend the members vote to retain those active Board members currently in office that are up for election. They are doing a great job!

Things are happening at FM National and we have a very energetic team, especially in outreach, and we have a great speaker line-up for the National Symposium in February of next year that includes yours truly! I haven't been to Tucson since I did my masters work in Sonora MX in 1984. I drove up from my field area for a few days just to see what all the fuss was about and it did not disappoint. Of course I was a college kid with hardly enough funds for beer and gas money ☺ so I didn't really buy anything but I saw so much that just solidified my enthusiasm for mineral collecting and exploring.



continued on page 2

November 13 - 14

Symposium on Pennsylvania Mineralogy

Symposium Nov. 13, Lancaster, PA Field Trip Nov. 14
Please Register for In-Person or Zoom Attendance

The Friends of Mineralogy - Pennsylvania Chapter will hold their 2021 Symposium and field trip on the second weekend in November. Mineral collectors in attendance in person on Saturday will check in at the Bright Side Opportunities Center, 515 Hershey Ave., Lancaster, PA 17603. Online attendance via Zoom is also being planned. The Sunday field trip is open only to symposium registrants. Safety equipment will be required.

Speakers and presentations on the schedule are:

William Kochanov, PG: Revisiting G33: The Hummelstown Hematite Locality
Ryan Kerrigan, PhD: The Geology of Corundum Hill, Chester County, PA – Serpentinites intruded by Pegmatites
Peter Heaney, PhD: Iris Agates and Cantor Dusts: The Textural Complexity of Agates
Ron Sloto, PG: Minerals of the Silver Hill Quarry, Lancaster County, Pennsylvania
Bill Stephens, PG: The Phoenixville Lead-Zinc Mines: World Famous Pyromorphite and other minerals

The Symposium will include a brief **Annual meeting**, including **elections** of Board of Directors members. The incumbent members standing for election are: William Kochanov, Ron Sloto, Dianne Soccio, and Bill Stephens.

All interested mineral collectors are invited to register and attend. As usual, we plan for a few invited mineral dealers; there will be a silent auction, give-away table,

refreshments, and opportunities for visiting with fellow enthusiasts. Lunch is available at restaurants within short driving distance, and there is adequate parking at the Symposium venue. Please see the web site <https://www.rasloto.com/FM/> for any updates, details, and the registration form.

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Pyromorphite, Wheatley Mine, Chester County, Pennsylvania. 8.5 cm, probably dating to the early 1850s. Charles Wheatley Collection, Union College Collection. R. Sloto photograph

President's Message *continued from page 1*

I also want to give a shout out to Tom Hale and company from our new sister organization FM-VA. He and his folks have done a remarkable job getting FM-VA launched from the initial efforts of The Virginia Mineral Project and we want to salute them for their remarkable social media and other achievements to date. We will be collaborating with them quite a bit as time progresses.

I want to announce that I plan to provide at least one quarterly zoom presentation per month open to anyone interested at no charge beginning in March 2022. I'll be lining some speakers up, though the first one is likely to be me.

For those members who are members of other clubs that belong to the Eastern Federation of Mineralogical and Lapidary Societies (EFMLS) I want to say that efforts are under way to set that organization back on the right path. I know some of you have been very confused and upset by things that have happened in the last 20 months or so, and the residual effects of those issues are likely to be on our minds for the foreseeable future. A lot of clubs get their insurance through EFMLS, and we expect that will continue. The stakeholders/Board members are taking action to get the administrative and financial aspect of the situation under control so the member organizations can derive the benefits they are supposed to get through their membership. Stay tuned and to the extent I can help this situation I am doing so.

That's all for now. Looking forward to seeing everyone and hope everyone is healthy and safe.

Symposium *continued from page 1*

Dates: Saturday & Sunday, November 13-14, 2021

Location: Saturday, Nov. 13: Bright Side Opportunities Center, 515 Hershey Ave., Lancaster, PA 17603.

Sunday, Nov. 14: collecting trip, to be announced

Registration: \$25/person for non-members (or join for 2022 and get the member rate), \$15/person for current FM-PA members; \$5/person for college students; free for younger students. Parents must provide supervision of minors.

Please register in advance; a form is available on the web site.

-OR- Register on-site (payment by cash or check only)

Professional Geologists: lecture attendance qualifies for Professional Development Hours toward license renewal.

Web Site: <https://www.rasloto.com/FM/>

Contact: e-mail: <bstephens@stephensenv.com>

**Fluorcalciomicrolite from Mineral Hill,
Middletown Township, Delaware County,
Pennsylvania**

Ronald A. Sloto, P.G.

West Chester University of Pennsylvania

Ever wonder about some of the minerals in your collection, particularly some of the more "exotic" species? Ever wonder if they are really what the label says they are? Me too. A couple of them that recently caught my attention were a maucherite from the Wood Mine in Lancaster County and a microlite from Mineral Hill in Delaware County. Both of these were in my collection for 25+ years. I decided to investigate.

Maucherite ($\text{Ni}_{11}\text{As}_8$) is a nickel arsenide; it was verified as occurring at the Wood mine by Smith and Speer (1980). I obtained my specimen, a thumbnail, from a Pennsylvania collector/species dealer at a local show. Analysis showed no As anywhere on the specimen, so it was transferred from my indoor collection to my outdoor collection in the woods behind my house.

Microlite group minerals form a complex group in the pyrochlore supergroup. They include fluorcalciomicrolite, fluornatromicrolite, hydrokenomicrolite, hydromicrolite, hydroxycalcimicrolite, hydroxykenomicrolite, hydroxynatromicrolite, kenoplumbomicrolite, oxybismutomicrolite, oxycalcimicrolite, oxystannomicrolite, oxystibiomicrolite, and yttromicrolite, depending on the specific chemical composition. The one thing that these species have in common is that they all contain oxygen and tantalum. Depending on the species, they also may contain Bi, Ca, F, H, Na, Pb, Sb, Sn, Ti, U, and the rare-earth elements Nb and Y.

My Mineral Hill microlite is a thumbnail purchased from a dealer. There are several small crystals present on a white feldspar matrix; the largest one is 4 mm (fig. 1). The crystal is light brown, semitranslucent, and has a resinous luster.

In their Directory of Mineral Localities In and Around Philadelphia, Benge and Wherry (1908, p. 109) listed microlite from Mineral Hill. In his paper on radioactive Pennsylvania minerals, Wherry (1908, p. 66)

described it as: "*Microlite, Minute brown grains closely resembling the Virginia microlite.*" In his tabular list of radioactive minerals occurring in Pennsylvania, Wherry (1908, p. 70-71) noted: "Microlite? ... Cb, Ta, Ca, U ... Mineral Hill A [discovered by] J.T.M. Cardenza [in] 1892 [reference] P.A.N.S. 1892 p. 200." Wherry (1908, p. 77) describes the locality as "*Mineral Hill A.: Exposures north of Crump's serpentine quarry, one mile west of Media, Middletown Township*" and lists columbite and microlite? as occurring there. Niobium (Nb) was formerly known as columbium (Cb), hence the use of the symbol Cb in Wherry's table.

Cardenza (1893, p. 200) does not list microlite; he states: "*At the 'old chimney,' north of Crump's quarry, was a small quarry for green feldspar yielding fine cleavage masses of a beautiful green color; some good crystals were found, but all more or less weathered. Sunstone, moonstone, columbite, a vein half an inch to an inch thick of an undetermined black mineral have also been collected.*"



Figure 1. Fluorcalciomicrolite, 4 mm, from Mineral Hill, Middletown Township, Delaware County, Pennsylvania. Sloto collection 1519.

Gordon (1922, p. 191) described the locality as "Small Abandoned Feldspar quarry and exposures about 1/8 mile north of Crump's quarry. Pegmatite, and meta-peridotite... *Microlite*: minute grains (Benge and Wherry, XV, 1908, 109; Wherry, 1908, 70)."

The crystal in figure 1 was analyzed by an X-ray energy dispersive spectrometer (EDS). The analysis (table 1) shows the crystal to be fluorcalciomicrolite with a trace of quartz (SiO₂), titanium, and tungsten. It has the formula (Ca_{1.2},Na,Sn_{0.1})(Ta_{1.6},Nb_{0.2},Y_{0.2})O_{7.1}F_{1.5}. It contains the rare earth elements niobium and yttrium.

Analyses were performed at the West Chester University Center for Microanalysis and Imaging, Research and Training (CMIRT). Imaging and chemical analyses were done using an FEI Quanta 400 environmental scanning electron microscope integrated with an Oxford AZtec X-ray energy dispersive spectrometer. Samples were unpolished and uncoated.

References

- Benge, Elmer, and Wherry, E.T., 1908, Directory of the mineral localities in and around Philadelphia, additions and corrections: Mineral Collector, v. 15, no. 7, p. 109.
- Cardeza, J.T.M., 1893, Localities of Delaware County: Proceedings of the Academy of Natural Sciences of Philadelphia, p. 174-202.
- Gordon, S.G., 1922, The mineralogy of Pennsylvania: Academy of Natural Sciences of Philadelphia Special Publication No.1, 255 p.
- Smith, R.C. II, and Speer, J.A., 1980, Pennsylvania Minerals VI: Maucherite Ni₁₁As₈, from the State Line District, Lancaster County, Pennsylvania: Friends of Mineralogy Pennsylvania Chapter Newsletter, v. 8 no. 3, p. 7-11.
- Wherry, E.T., 1908, Radioactive minerals found in Pennsylvania and their effect on the photographic plate: Franklin Institute Journal, v. 165, p. 59-78.

Table 1. Results of X-ray energy dispersive spectrometer (EDS) analysis of microlite from Mineral Hill, Delaware County, PA. Values given in weight percent.

	O	F	Na	Si	Ca	Ti	Y	Nb	Sn	Ta	W
Spectrum 1	21.61	4.89	4.16	2.45	7.74	0.22	3.31	4.17	1.08	49.86	0.51
Spectrum 2	21.42	4.74	4.08	1.88	8.16	0.30	3.30	4.95	1.28	49.71	0.18
Spectrum 3	21.63	4.81	3.97	2.08	8.23	0.23	3.17	5.42	1.56	48.38	0.52
Median	21.61	4.81	4.08	2.08	8.16	0.23	3.30	4.95	1.28	49.71	0.51

UPCOMING EVENTS

**Some events are still being rescheduled.
Confirm details of events before attending.**

Nov. 6, 2021: Gemarama, by Tuscarora Lapidary Society, Inc. Theme: Pictures in Stone. Hall D at the Greater Philadelphia Expo Center, 100 Station Ave., Oaks PA 19456. Sat. 10-6, Sun. 10-5.
<https://www.lapidary.org/gemarama/>

Nov. 13-14, 2021: Friends of Mineralogy - PA Chapter **Symposium.** Saturday: Lancaster. Field trip planned for Sun. Nov. 14, for Symposium registrants only. See p. 1-2.

DONATIONS WELCOMED

The FM-PA Chapter is a 501(c)(3) nonprofit organization; donations are gratefully accepted and should qualify for deduction from your federal income tax. Donations of any size help to offset the general operating costs of the Society, helping to keep dues low.

From the Editor

David Glick

THANK YOU to everyone who has been providing material for the Newsletter! Everyone else - join the fun! Feel free to contact me at xidg@verizon.net, or 814-810-2116 days and evenings. Mail can be sent to 425 Armagast Rd., Bellefonte PA 16823. Materials for the Winter issue should be submitted by November 30.

Materials related to Pennsylvania mineralogy, collecting or collectors are invited for this newsletter: articles, long or short; announcements from FM-PA committees; photographs of specimens, field localities, collections, etc.; reports on publications about PA minerals or by PA authors, or actual book reviews; or other items within the mineralogy and mineral collecting areas of interest. Photographs should be of good resolution (at least 1000 pixels across) without much JPEG compression, so that they will look good in print. Please provide captions including photographers' names.

We are producing four issues each year; your material is needed! If you know people who have interesting material, please encourage them to submit it.

FM on the WWW

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National News

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www.friendsofmineralogy.org

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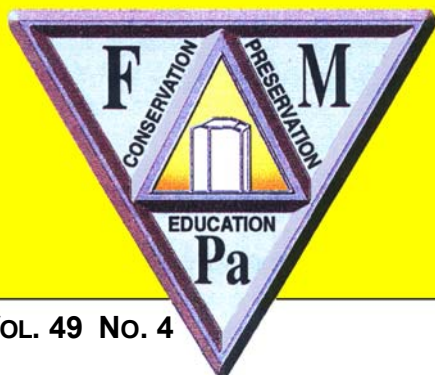
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FRIENDS OF MINERALOGY

Pennsylvania Chapter

NEWSLETTER

VOL. 49 No. 4

WINTER 2021

Symposium and Much More

President's Message
by Bill Stephens, PG

I am pleased to report that the Pennsylvania Chapter of the Friends of Mineralogy (FM-PA) held its annual Symposium November 13 & 14, 2021 and it was a success! We worked hard to find a venue to have our hybrid, in person-online Symposium and managed to secure a small conference room and two classrooms at the Bright Side Opportunities Center in Lancaster, Pennsylvania. A bit more expensive than past years at Franklin & Marshall College, but adequate for our needs. Last year we held a Zoom only symposium, which went quite well, but we all missed that in-person contact. The COVID protocols in place last year prohibited in person meetings, and this year all the universities in the area would only allow students and staff on campus, so it was a hard fight finding a good spot. Our host for the Saturday event was wonderful and though we had a few minor technical glitches everything worked out great.

At the business meeting four board members (Kochanov, Sloto, Soccio, Stephens) were re-elected by unanimous vote of the participating membership, and some other business was quickly dispensed.



DUES ARE DUE

If there is a membership form attached to the email along with this Newsletter, or enclosed with your printed Newsletter, we are awaiting your dues payment for 2022. We look forward to your continued membership!

We had 5 speakers this year including myself. Three Board members (Bill Kochanov, PG, PAGS-retired, Ron Sloto, USGS-Retired, Bill Stephens, PG) gave talks in person and Dr. Ryan Kerrigan and Dr. Peter Heaney gave their presentations via Zoom.

The presentations were:

William Kochanov, PG, Pa. Geological Survey, retired
Revisiting G33: The Hummelstown Hematite Locality

Ryan Kerrigan, PhD, University of Pittsburgh - Johnstown
The Geology of Corundum Hill, Chester County, PA – Serpentinites intruded by Pegmatites

Peter Heaney, PhD, Penn State
Iris Agates and Cantor Dusts: The Textural Complexity of Agates

Ronald A. Sloto, PG, West Chester University
Minerals of the Silver Hill Quarry, Brecknock Township, Lancaster County, Pennsylvania

Bill Stephens, PG, Stephens Environmental
Pyromorphite! The Famous Phoenixville Lead-Zinc Mines

At some point, the recordings will go up on our website and attendees will be able to listen to them again.

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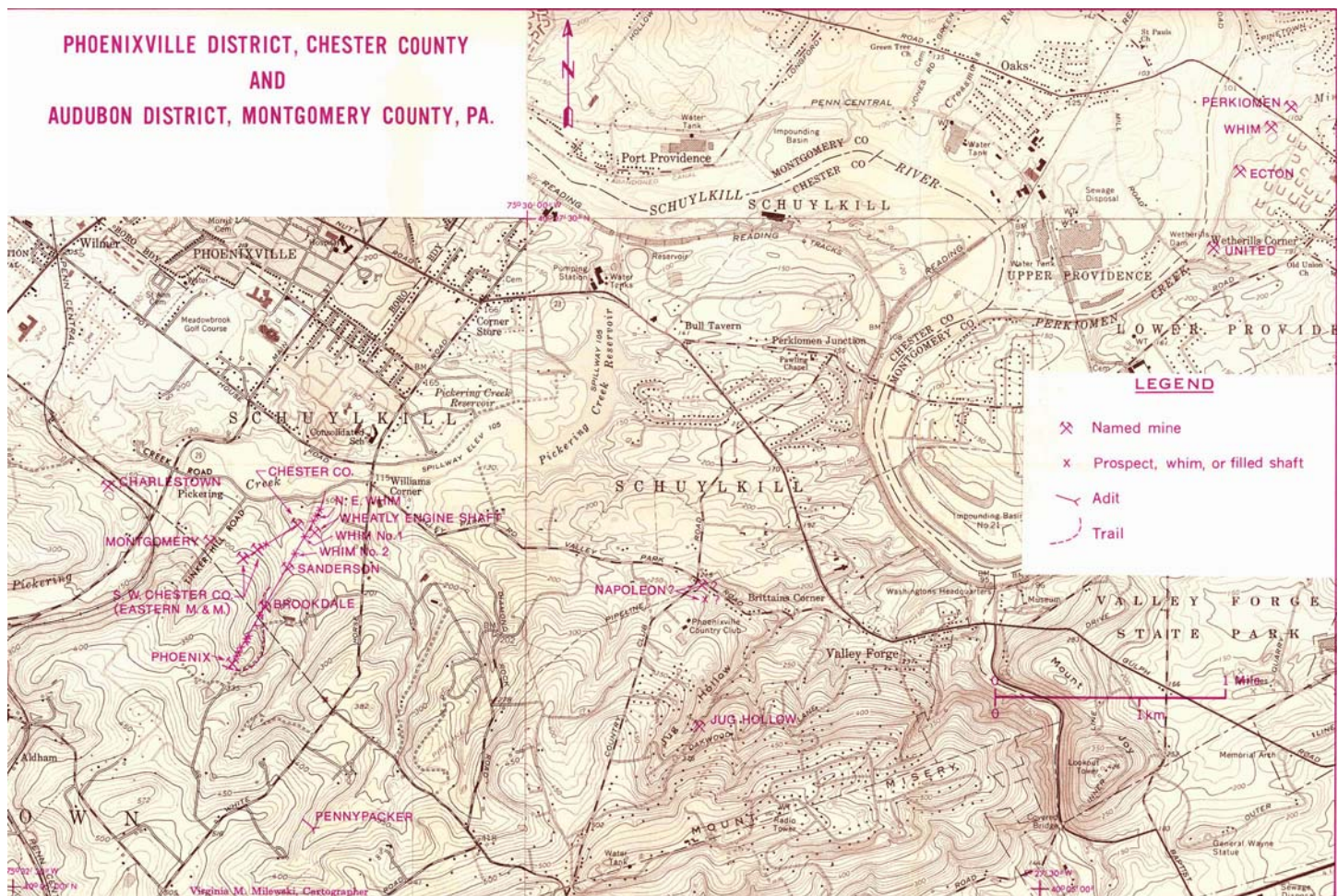
Symposium meeting room at Bright Side Opportunities Center, Lancaster, PA. D. Glick photos



Table of giveaways donated by the members. There was also a silent auction of dozens of specimens. *D. Glick photo*

As always, the **field trip** follows the Saturday symposium meeting on Sunday. This year we were able to coordinate the field trip with one of the talks so everyone had the background on the site before going. My seminar on Pyromorphite and other minerals from the Phoenixville Lead-Zinc Mines provided the foundation for any who had either not been before, or who were not fully familiar with the history and quality

of classic specimens. Of course, everyone at FM-PA knows about the famous Phoenixville lead-zinc mines which include the Wheatley, Brookdale, Chester, SW Chester and Phoenix Mines, from which world class pyromorphite has been collected. Only the Brookdale and SW Chester dumps are still open to collecting courtesy of the owner of the Pickering Valley Golf Club.



Map of the Phoenixville District, Chester County and Audubon District, Montgomery County, PA. (Pa. G.S. M-72)

I'm looking forward to participating in the national Symposium in Tucson during February 2022. Our Chapter's first ever open Zoom seminar will be a report on the Tucson Symposium and show. I hope to have three other open presentations and at least one additional field trip before our Chapter's 2022 Symposium. Hope to see you all in Tucson!



Pyromorphite from the Wheatley Mine, Brookmyer Collection at Carnegie Museum of Natural History, Pittsburgh. *Ron Sloto photo*



What's left of the Brookdale Mine dumps; stack and filled shaft are tucked away in the wooded area beyond the green. *W. Stephens photo*



Collecting on the Brookdale dumps. *W. Stephens photo*



Collecting on the SW Chester dumps. *W. Stephens photo*



In conjunction with the Mineralogical Society of America and the Tucson Gem & Mineral Society, Friends of Mineralogy is pleased to announce the return of the annual Tucson Mineral Symposium.

MINERALS OF THE APATITE
SUPERGROUP AND MINERAL
FLUORESCENCE • SATURDAY,
FEBRUARY 12, 2022



**2/12/2022
12:00 p.m.
to
8:00 p.m. EST**

UPCOMING EVENTS

**Some events are still being rescheduled.
Confirm details of events before attending.**

Jan. 29, 2022: Geology Museum Open House & Mineral Sale - VIRTUAL SHOW - 9:00a.m. - 8:00 p.m. Rutgers State University, Geology Hall 2nd Floor, 85 Somerset St., New Brunswick, NJ 08901 More information should be available soon at <https://geologymuseum.rutgers.edu/annual-open-house>

Mar. 5-6, 2022: 58th Annual Gem, Mineral and Fossil Show, by Delaware Mineralogical Society. Double Tree by Hilton Hotel, 4727 Concord Pike (Route 202), Wilmington, DE. Sat 10-5, Sun. 11-5. www.DMSrocks.org

Mar. 26-27, 2022: Annual Show, by Che-Hanna Rock & Mineral Club. Wysox Volunteer Fire Co. Social Hall, 111 Lake Road, Wysox, PA. Sat 9-5, Sun. 10-4. <http://www.chehannarocks.com/>

Mar. 26-27, 2022: 2022 Mineral Treasures and Fossil Fair by Philadelphia Mineralogical Society and Delaware Valley Paleontological Society Lulu Temple, 5140 Butler Pike, Plymouth Meeting, PA., (PA Turnpike, exit 333; or I-476, exit 20) Free Parking. Saturday March 26, 10 a.m. to 5 p.m.; Sunday, March 27, 10 am to 4 pm. <http://www.phillyrocks.org>.

June 4, 2022: Spring Mineralfest, by PESA. Macungie Memorial Park, Macungie, PA. 8:30 a.m. to 3:00 p.m. <http://www.mineralfest.com/>

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**Can you help with a new Facebook site?
Please contact Bill Stephens**

National News

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