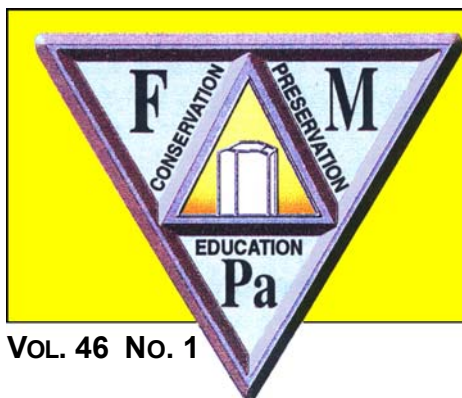




FRIENDS OF MINERALOGY Pennsylvania Chapter NEWSLETTER

VOL. 46 No. 1

SPRING 2018

Symposium and Field Trip November 3-4, 2018

The Friends of Mineralogy – Pennsylvania Chapter will once again hold its annual Symposium and field trip on the first weekend in November. The Saturday symposium will be held in the Hackman Physical Sciences Building at Franklin & Marshall College, Lancaster, PA; our Chapter is grateful to have access to the facilities there. The location of the Sunday field trip (for Symposium registrants only) will be announced later.

Some presentations are already set, but more are needed for a full program. **Can you make a presentation?** Pennsylvania topics are preferred but not required. A \$100 honorarium is available for each full-length (approximately 40 minutes, plus 10 minutes for questions) presentation. The Chapter may be able to arrange for assistance with photographing minerals and with creating a Powerpoint presentation. An abstract should be submitted for the Board's consideration; contact Joe Marchesani (see page 4) - the sooner the better. **To summarize:**

We pay cash for your illustrated Symposium presentations on mineral collecting, historical mining, classic mineral localities, and related themes.

Editor's Note

I apologize for stretching this "Spring" issue until August. We will have the summer issue out during summer to get back on schedule. Please provide any materials for that issue by August 20 (see page 4).

John "Pen" Ambler 1936 - 2018

We are deeply saddened to report that our friend, avid mineral collector and FM-PA member John "Pen" Ambler died on January 14, 2018, at age 81. Our next issue will include an illustrated memorial article. If you have any Pen Ambler stories or other materials to contribute, please contact the Editor (see page 4)

CHAPTER BUSINESS NEWS EMAIL ADDRESSES NEEDED

from Joseph Marchesani, President FM-PA

If members don't stay current, they fall off mailing lists and out of touch with current events. Sometimes it takes a few weeks to months getting back on the circulated lists after re-instatement. Anyhow, for the \$15-\$25 annual dues, it is well worth it to stay current. It is easiest to renew at the November symposium for the following year. Many people choose this option. For those who don't, dues are payable January 1st. And since this falls in what we refer to as the holiday season, some of those people usually forget.

We try to reach out to members about missing renewals, and understand that it is an oversight, but this is time consuming for FM-PA board members; some are not home, say about 70 hours a week.

Email is the preferred method for FM-PA to contact its members. If you don't have an email address, try to get one. "Gmail" is popular.

Please keep the Chapter records up-to-date by reporting new e-mail addresses to Membership Chair Dianne Soccio (see page 4).

Soon, email may be replaced by texting. If you don't have a smart phone for texting, consider getting one (Australian Aborigines have been seen with smart phones; people who cannot read or write own smart phones; and people who should not own a phone, own smart phones). Learn texting. It's not difficult, and it's the future if it's not already here.

Board of Directors News

The Chapter Board of Directors met on June 23 to review plans for the Symposium, with the theme of Pennsylvania Mineralogy and Geology. Our usual venue at F&M is set. During and since the meeting, several talks have been planned, but a few more are still needed (see article, above left). *Continued on page 2*

Board of Directors *continued*

Ongoing items of interest from the Board include:

Our Chapter now has a Family Membership category with the fee set at \$25 per year. This is now included in our membership application, available at <http://www.rasloto.com/FM/>.

Anyone knowing of old localities that might be productive for field trips is asked to contact Joe Marchesani (see page 4).

It's never too early to plan for our annual symposium. If you could give a presentation on Pennsylvania mines or minerals, or a related topic of interest to our Chapter, or know of someone who might, please see the article on page 1, and contact Joe Marchesani (see page 4).

Geologic Guidebooks Database

From American Geosciences Institute's (AGI) web site: "The Geologic Guidebooks of North America Database consists of references to geologic field trip guidebooks of North America (United States, Canada, Mexico)." There are various browsing and search options; advanced search allows filtering by state or region. See <http://guidebooks.americangeosciences.org/vufind/>

110 Years Ago in The Mineral Collector

The April 1908 issue reports on the Philadelphia Mineralogical Club meeting of March 10. "As subject of the evening, Mr. Moriz Bernstein described the new Walnut Lane bridge over the Wissahickon Creek... The bridge is built entirely of concrete and is the largest structure of its kind in the world."

The May 1908 issue lists that Club's Spring Trips, including:

April 12th- Avondale and Lewis' Paper Mill, Delaware County, Pa. Meet at Darby, 9 a.m. Total expenses about 30 cents.

May 17th- Phoenixville, Chester County, Pa. Meet at 31st St and Girard Ave. Trains leave Reading Terminal 7:06 and 9 a.m. Total expenses \$1.08.

Bulletin of FM

The Bulletin of Friends of Mineralogy, FM's national newsletter, can be found at <http://www.friendsofmineralogy.org/newsletters/> The first two issues of 2018 are available now.

Of particular interest in issue 1, pages 12-15, is a 1981 article by John Sinkankas, "submitted to the MSA - FM Symposium on Mineralogy of Pegmatites, Tucson, Arizona, February 15 - 16, 1981" which was not widely distributed. It is ALPINE-TYPE BERYL-EMERALD DEPOSITS NEAR HIDDENITE, NORTH CAROLINA by John Sinkankas, San Diego, California

Issue 2 includes reports on the FM meetings, displays, and several awards at Tucson in February. A new topic is described on pages 9-11: "BlueCap Productions is starting a new initiative to create a mineral-based series of podcasts entitled 'Breakfast with Minerals.' The purpose of these podcasts will be to educate the public and inform the mineral community about minerals, collect mining and collecting stories and be a catalyst for further discussions." A further expansion proposes to collect funds to provide audio recording kits for FM chapters to record their events and collect oral mineral collecting histories.

New Articles on Axis online

Mineralogical Record's peer-reviewed, online-only journal Axis has new articles since our last report. See <http://www.minrec.org/journal.asp> for:

James R. Gregory Labels List, 1873 7/7/2018

James R. Gregory Labels, 1873 Courtesy of Hugh Grenfell 7/1/2018

Specimens Stolen from the Fallbrook Museum 9/26/2017

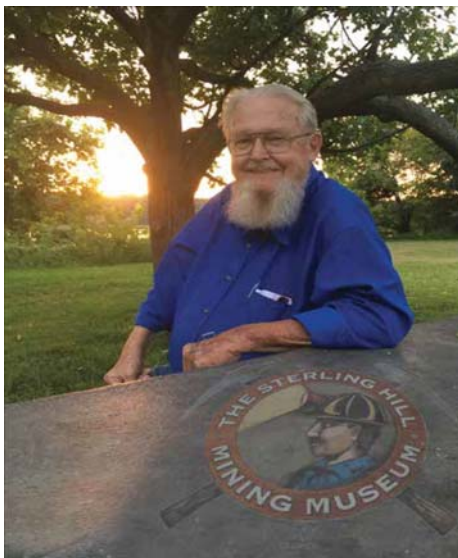
The Calumet & Hecla Mining Company Semi-Centennial Employee Service Medals of 1916: A Personal View by William A. N. Severance 8/28/2017

The Kay Robertson Collection by Thomas P. Moore 4/6/2017

Pete Dunn: Mineralogist and Author 1942-2017

It is with great sadness that I report the passing of Dr. Pete J. Dunn on November 8, 2017, two days short of his 75th birthday. Pete was a museum specialist and mineralogist in the Smithsonian's Department of Mineral Sciences from 1972 until he retired in January, 2008. Prior to his arrival at the Museum of Natural History, he was a curator in the Geology Department at Boston University and he served in the United States Air Force. He completed his Masters degree in mineralogy at Boston University and his Ph.D. in mineralogy/geology from the University of Delaware. During his time at the Smithsonian, Pete was internationally recognized for his research on the mineral collection that resulted in descriptions of 134 new minerals. He had a particular passion for the complicated and fascinating geology and mineralogy of the Franklin-Sterling Hill mining district in New Jersey, publishing more than 70 scientific papers and a nine volume monograph that are among the definitive scientific works for that locality for researchers, collectors and the public. In addition to his prolific research activities, Pete was the United States representative to the International Commission on New Minerals and Mineral Names for over two decades, and was associate editors for *American Mineralogist*, *Mineralogical Record* and *Neues Jahrbuch für Mineralogie*. Pete retired in January 2008 and immediately returned to the Museum as an Information Desk volunteer. He said that after so many years working behind the scenes, he wanted a chance to finally meet our visitors. He loved it, and rarely missed a day. My last conversation with Pete was at the visitor desk on the Friday before he died. Pete served as scientist and volunteer in the Museum of Natural History for 45 years. He was fascinated by minerals and thoroughly enjoyed helping lost museum visitors, but perhaps more than anything, he loved a good joke - always carrying in his shirt pocket index cards with punchlines to his favorites. His joyful, and very loud, laughter is now just a memory, but his many contributions to mineralogy and the Museum are forever part of a rich legacy.

Sincerely,
Jeffrey E. Post, Ph.D.
Chairman, Department of Mineral Sciences
Curator, National Gem and Mineral Collection
Smithsonian Institution



Dr. Pete Dunn. Photo from Celebration of Life notice, Sterling Hill Mining Museum.

More...

A Celebration of Life was held at Sterling Hill Mining Museum, May 19.

Mike Dunton reports: Pete Dunn had requested that a ginkgo tree (a "living fossil") be planted at Sterling Hill and his ashes spread around it. The tree was planted in the "fill quarry" opposite the fluorescent wall. The plaque will ultimately be affixed to the rock wall behind the tree.

See other remembrances on the MinDat message board
<https://www.mindat.org/forum.php?read,6,423949,424105>



Ginkgo tree planting and plaque. Mike Dunton photos.



Petedunnite (green; a zinc clinopyroxene) with willemite, calcite from the type locality - Buckwheat Dump, Franklin NJ. Mike Dunton photo.

From the Editor

David Glick

THANK YOU to everyone who has been providing material for the Newsletter! Everyone else - join the fun! Please provide materials for the next issue by **August 20, 2018**. Feel free to contact me at xidg@verizon.net, or 814-237-1094 days and evenings. Mail can be sent to 209 Spring Lea Dr., State College PA 16801.

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 to make them worthwhile! If you know people who have interesting material, please encourage them to submit it.

Visit the FM-PA Facebook page

<https://www.facebook.com/pages/Friends-of-Mineralogy-Pennsylvania-Chapter/1174230635931641>

Members and friends are invited to *Like* the page, post, and generally provide a good level of activity.

UPCOMING EVENTS

See www.mineralevents.com for more

Sept. 15-16, 2018: Annual Gem, Mineral & Jewelry Show by: Central Pennsylvania Rock and Mineral Club.

New location: Harrisburg Consistory (2701 North 3rd Street) Harrisburg PA 17110 Sat 10-6, Sun 10-5
<http://www.rockandmineral.org/annual%20show.html>

Sept. 29-30: Franklin-Sterling Hill Gem & Mineral Show. Littell Center, 10 Munsonhurst Road #12, Franklin NJ 07416 Sat. 9-5, Sun. 10-4.

<http://spmom3.wixsite.com/franklin-gem-mineral>

October 6, 2018: Autumn Mineralfest, by PA Earth Sci. Ass'n. Macungie Mem. Park, Poplar St., Macungie, PA. One hundred tables overloaded with minerals, fossils, gems, jewelry, crystals and geodes from six continents - and possibly from outer space. Sat. only, 8:30-3.
www.mineralfest.com

Nov. 3-4, 2018: Friends of Mineralogy - PA Chapter Symposium: Pennsylvania Mineralogy and Geology. Franklin & Marshall College, Lancaster PA.

DONATIONS WELCOMED

The FM-PA Chapter is a 501(c)(3) nonprofit organization; donations are gratefully accepted and may be deducted 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 web site at
www.rasloto.com/FM/

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 Directory of Officers

OFFICERS and BOARD OF DIRECTORS members

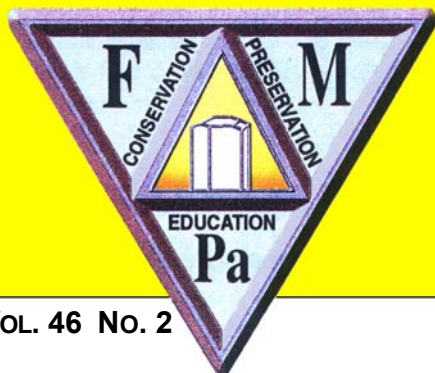
President	Joe Marchesani
Vice President	Dianne Soccio
Treasurer	Ron Sloto
Secretary	David Glick
	Mike Dunton
	William Kochanov
	Bill Stephens

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

COMMITTEE CHAIRS

Membership Chair	Dianne Soccio
Symposium Chair	
Field Trip Chair	Tom Pankratz
Web Manager	Ron Sloto
Newsletter Editor	David Glick
Grants Chairman	David Saja

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



FRIENDS OF MINERALOGY

Pennsylvania Chapter

NEWSLETTER

VOL. 46 No. 2

SUMMER 2018

Symposium on Pennsylvania Mining and Mineralogy

Mineral Collecting Enthusiasts
Meet and Learn

Saturday, November 3, 9 - 4
Franklin and Marshall College,
Lancaster, PA

Field Trip November 4, 9 - 1

Please Join Us!

Register in Advance or at the Door

The Friends of Mineralogy – Pennsylvania Chapter will hold our 2018 Symposium and field trip on the first weekend in November. Mineral collectors in attendance on Saturday will meet in the Hackman Physical Sciences Building at Franklin & Marshall College, Lancaster, PA., to hear several talks by experts on minerals, geology and mining in Pennsylvania and beyond. Doors open for registration by 8:30 a.m., but **anyone wishing to help set up** may arrive as early as 7:00. On Sunday, a field trip for those registered for the symposium will provide an opportunity for mineral collecting (please register by Saturday Nov. 3).

These presentations are scheduled so far:

James Van Fleet: Fluorescent Minerals of Pennsylvania

Ronald A. Sloto, PG: The Perkiomen-Ecton Lead-Copper Mines, Audubon, Montgomery County, Pennsylvania

Stan Mertzman, PhD: What a Spring for Volcano Lovers: Kilauea in Hawaii and Volcán Fuego in Guatemala: A Study in Contrasts

Other possibilities are being developed, including:

The Vaux Collection at Bryn Mawr College

The Hogg Mine 2018 Machine Dig

All interested mineral collectors are invited to register and attend.

OFFICIAL NOTICE: Annual Meeting and Elections on November 3

The November 3rd symposium will include a brief **Annual Meeting of the Membership**, in accordance with our bylaws. William Kochanov, Ron Sloto, Dianne Soccio, and Bill Stephens will be on the ballot for re-election to the Board of Directors.

As usual, select mineral dealers have been invited, and there will be a silent auction, give-away table, refreshments, and plenty of opportunities for visiting with fellow enthusiasts. Professional geologists can receive professional development hours for lecture attendance. Lunch is available at restaurants within walking distance. Please see the web site <http://www.rasloto.com/FM/> for details, updates, and the registration form.

The mineral collecting **field trip on Sunday** is planned for H&K Group's Penn/MD Quarry, Peach Bottom, PA, which has now expanded operations into Maryland. The trip is open **only** to symposium registrants (please register by Saturday Nov. 3). Safety equipment will be required; watch for details.

Registration: \$15 per person for current FM-Pa members; \$25 for non-members, free for students with student ID. Please register in advance or at the door; a form is available on the web site.

Donations of specimens, books, collecting equipment, etc., for the **silent auction and giveaway table** are greatly appreciated. The silent auction covers a significant portion of the symposium's expenses and helps keep registration costs low.

The web site will have any updates and a registration form:

<http://www.rasloto.com/FM/>

Pennsylvania Geology Magazine

The first two 2018 issues of Pennsylvania Geology magazine from the Bureau of Topographic and Geologic Survey are available via the list of issues at http://docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_20033210.pdf

The Spring 2018 issue (vol. 48 no. 1) includes a mineralogy article on pages 22 -23: *So Much for Conventional Wisdom in Mineralogy — Hercynite Spinel? Inclusions in Corundum from Shimersville, Lehigh County, Pennsylvania*, by Robert C. Smith, II, and John H. Barnes, Pennsylvania Geological Survey, retired, and Joe A. Dague, Chambersburg, Pa. It reports that all of the “common millimeter-sized dark inclusions in corundum crystals” from Shimersville which were analyzed were rutile, not spinel. All of those examined optically also had the characteristics of rutile.

The featured article in that issue is *Geology of the Mid-Nineteenth-Century Solferino (Italy) and Gettysburg (Pennsylvania) Battlefields—Similarities, Differences, and Possible Influences*, by Roger J. Cuffey, The Pennsylvania State University.

The Summer 2018 issue (vol. 48 no. 2) includes the featured article *Reflections on Petalodus, a Common Late Paleozoic “Shark” Tooth Found in Western Pennsylvania’s Rocks*, by John A. Harper, Pennsylvania Geological Survey (retired) and Carnegie Museum of Natural History.



Pyromorphite, Wheatley Mines, Phoenixville Mining District, Schuylkill Township, Chester County, Pennsylvania, USA. 3.9 x 2.9 x 2.4 cm. Ex. Dr. Gary Hansen Collection. Photo by Rob Lavinsky, iRocks.com CC-BY-SA-3.0 <https://creativecommons.org/licenses/by-sa/3.0>

Bulletin of FM

The Bulletin of Friends of Mineralogy, FM’s national newsletter, can be found at <http://www.friendsofmineralogy.org/newsletters/>

The third issue of 2018 is available now. It presents biographical data for six candidates for the four positions on The Friends of Mineralogy National Board of Directors. The ballot will be in the next edition. There are reports from several chapters. President Mark Jacobson describes a busy season of collecting and events in Colorado, some of which are available online (see next article).

FM - Colorado Chapter Videos and Publications

from Denver Gem and Mineral Guild,
<http://denvergem.org/News.html>

via Lake George Gem & Mineral Club Newsletter

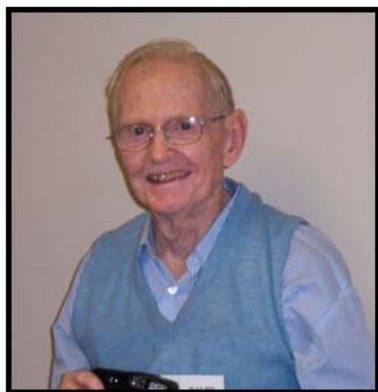
Worth noting: the Program, Abstracts, and Field Trip Guides, for the recent Aug. 4-5, 2018 symposium, “Minerals from the Metallic Ore Deposits of the American Southwest” are available for free download at the Friends of Mineralogy, Colorado Chapter, website, at <http://friendsofmineralogycolorado.org/mmodas/>. Video recordings of the oral presentations will also be available soon at the CSM Library website. Likewise, both the abstracts and field guides and video recordings of most presentations from last year’s symposium, “Gold and Silver Deposits in Colorado” (July 20-24, 2017) are available for free viewing and download online via the Colorado School of Mines Library website, at <https://dspace.library.colostate.edu/handle/11124/172170>.



Smoky Quartz with Amazonite, Crystal Peak area, Park and Teller Cos., Colorado, USA. 8.2 x 7 x 6.2 cm. Photo by Rob Lavinsky, iRocks.com CC-BY-SA-3.0 <https://creativecommons.org/licenses/by-sa/3.0>

Ralph Thomas

from
Eric Brosius



With great sadness, I was just informed of the passing this day, September 10, 2018 around 3:00 p.m., of Mineral Collecting

Icon Ralph Thomas. Ralph was known throughout the mineral world from fluorescents to micromounts. He will be greatly missed.

Rock Chatter's 50th Anniversary Edition, dedicated to Ralph Thomas, describes some of his history: One thing that stands out about Ralph and the 50 years of our club's existence is the lack of self promotion of this humble man... Over the years Ralph has served as President, Vice President, Program Chairman, Field Trip Chairman, Activities Chairman, Publicity Chairman, Membership Chairman, Temporary Newsletter Editor, Temporary Treasurer and Show Committee Chairman. In 1972 he was elected as the Program Chairman and has held that office officially or behind the scenes for most of the club's 50 years of existence... His accomplishments on behalf of the club have been legendary...

The contacts Ralph has made, including famous mineralogists and collectors, have directed his passion towards two specialties micromounting and fluorescent minerals. He was instrumental in initiating the club's "Micromineral Study Group" which led to the formation of the club's first micromount Swap-& Sell. Eventually this evolved into the club's "Micromount Symposium" in 1976 that Ralph organized along with fellow member Bob Cox. In 2018 this show will celebrate its 42nd year through the Leidy Microscopical Society... In 1989, he organized the club's first fluorescent mineral show "ULTRAVIOLATION" devoted exclusively to minerals that glow! This show is known nationally for this unique aspect and earned Ralph the official title "Glow Father". At the age of 92 he recently participated in "ULTRAVIOLATION 2017" the 28th year of this glowing event.

When it comes to promoting the mineral collecting hobby to the general public Ralph unselfishly volunteers to give talks to school groups, scouts, other clubs and organizations, even museums... Ralph has written numerous articles and conducted various programs throughout his years with the club.

I have printed the following statement by Ralph Thomas and his ongoing endeavor to get people involved with mineral collecting. The following excerpt was taken from Ralph's President's Message to the club in February 1986. It was appropriate back then and is even more so today.

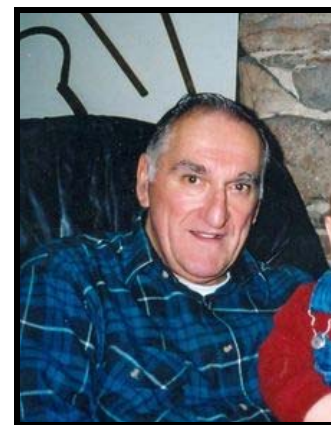
- Eric Brosius, Editor, Rock and Mineral Club of Lower Bucks County's *Rock Chatter*

By Ralph Thomas:

It has always been a mystery to me why there are not more people, young or old, interested in the mineral hobby, and that includes fossils, lapidary and gemstones. Maybe I am biased but I don't think there is any comparison with stamp, coin, match cover, beer can or any other type of collecting. With minerals there is one and only one kind - there are no two specimens alike. The hobby takes you out-of-doors, it is inexpensive, and is scientific because you are dealing with nature.

Lee Tori 1928-2018

Leander P. Tori, Jr. of Holicong passed away April 20, 2018, at age 89. An obituary is available at <https://www.legacy.com/obituaries/name/by/tori/leander>



Although not an FM-Pa member, Lee was a very active member of the Philadelphia Mineralogical Society, the Rock and Mineral Club of Lower Bucks County, as well as the Leidy Microscopical Society of Philadelphia. He also served as a contact between those and many other clubs. Lee is survived by his wife of 61 years, Marilyn; children, grandchildren, and great-grandchildren.

Visit the FM-PA Facebook page

<https://www.facebook.com/pages/Friends-of-Mineralogy-Pennsylvania-Chapter/1174230635931641>

Members and friends are invited to *Like* the page, post, and generally provide a good level of activity.

John "Pen" Ambler 1936 - 2018

by David Glick

We are deeply saddened to report that our friend, avid mineral collector and FM-PA member John "Pen" Ambler died on January 14, 2018, at age 81. He is survived by his wife of 36 years, Trish, four step-children, fourteen grandchildren, and his brother Tom. An obituary is available at www.sorgefuneralhome.com

Pen was born January 28, 1936, in Williamsport. The obituary states, "Pen was a graduate of Mt. Lebanon High School, class of 1953; and Grove City College with a Bachelors of Science degree in Education. He retired with 18 years of service from the Blair County Office of Mental Health and Retardation; was self-employed with The Shepards Guide; prior to that he worked on survey corps with RMB Engineers in northern Indiana. He had been a teacher in Michigan City, IN; and he also worked for the Department of Public Assistance." He was gratified that younger members of his family also followed a career in social services. Pen would want us to remember that his faith was central to his life. He attended Center City Church, Altoona, as well as First United Methodist Church, Hollidaysburg.

Pen founded the Blair County Rock and Mineral Club while living and collecting in the Altoona area. He then lived in the Harrisburg area for many years; he was close to many of the most interesting mineral collecting areas of Pennsylvania, and was active in Friends of Mineralogy - Pennsylvania Chapter (first known as Region 3). The Fall 1973 issue of the Chapter's



newsletter contains an article on "Multi-colored fluorite at New Paris," by professionals Robert C. Smith II and John H. Way Jr, which concludes, "Mr. Pen Ambler of Hollidaysburg brought this locality to our attention. It is through help such as his that we can better understand the geology of the Commonwealth." Pen moved back to Blair County about seven years ago, renewing acquaintances and collecting activities there, while continuing to collect in southeastern Pennsylvania.

He also bought collections from others, so a large amount of material passed through his hands over the years. He donated significant numbers of specimens to Nittany Mineralogical Society, Delaware Mineralogical Society, and others.



Pen breaking boulders to find ruizite, Cornwall PA, summer 2008. *Photo courtesy of Trish Ambler.*

Pen enjoyed the camaraderie of collecting and was enthusiastic in helping collectors who were new to the hobby or new to a collecting site, regardless of age. At his funeral, his grandchildren related how they looked forward to being old enough to receive a starting mineral collection as a gift from Pen. He was active in the community; the Facebook page of Fort Roberdeau, the Revolutionary War lead mine site near Altoona, states, "Volunteering at the Fort, Pen shared his knowledge and passion for geology, the sinkhole and the lead mines with school groups.



Pen testifying at the State Capitol, 1993, in favor of naming celestine Pennsylvania's state mineral. *Photo courtesy of Trish Ambler.*

Pen encouraged his grandson, Aaron Kuhn, to do his Eagle Scout project at Fort Roberdeau. The project included benches along the walking trail and five interpretive panels. Pen researched background information and located images for the panel installed at the sinkhole. This panel will educate Fort visitors about local geology for years to come.” ❄



Purple and green fluorite collected in 1973, New Paris, PA. 16 cm. D. Glick collection, ex-Pen Ambler, ex-Ed Carper. D. Glick photo.



Pen (top right), Jay Lininger (next to Pen) and other collectors, date unknown. Photo courtesy of Trish Ambler.



December 2004 FM-Pa Board meeting. Left to right: Fred Stohl, John Ebner, George Rambo (behind John), Sue McInnis (standing), Pen Ambler, Arnold Mogel, Juliet Reed, Doug Rambo. Photo by Heyward Wharton, courtesy of Doug Rambo.



Right: Some specimens brought by the family to Pen's funeral service. Note celestine from Meckley's Quarry, lower left. E. Echler photo.

From the Editor

David Glick

We are getting closer to being back on schedule; thank you for your patience.

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 814-237-1094 days and evenings. Mail can be sent to 209 Spring Lea Dr., State College PA 16801.

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UPCOMING EVENTS

See www.mineralevents.com for more

October 6, 2018: Autumn Mineralfest, by PA Earth Sci. Ass'n. Macungie Mem. Park, Poplar St., Macungie, PA. One hundred tables overloaded with minerals, fossils, gems, jewelry, crystals and geodes from six continents, & more. Sat. only, 8:30-3. www.mineralfest.com

October 27, 2018: Ultraviolation: Fluorescent Minerals from Around the World, by R&MC of Lower Bucks County PA & the UV Nomads. First United Methodist Church, 840 Trenton Rd., Fairless Hills PA 19030. Sat. only, 9-4.

October 27, 2018: 27: South Penn Fall Rock and Mineral SWAP & Sale: South Mountain Fairgrounds, 1.5 miles West of Arendtsville, PA. Sat. only, 8-3.

Nov. 3-4, 2018: FM-Pa Symposium & Field Trip; see p. 1

Lapidary Equipment For Sale

13" vibrating lap; MASTER faceting arm (needs motor); grinding/buffing arbor; buffing wheels; carbide grinding wheels; several pounds of 500 carbide grit; slabbing material (various agates and unidentified material); plate-glass shelving (8" x 39"); rock collecting hammers and chisels; grey metal storage cabinet (18"d x 36"w x 78"h); four wooden specimen storage cabinets (27.5"d x 24"w x 36"h), and more. I have posted images of most everything on a website: sites.google.com/a/case.edu/sajas_stuff/rocks Contact me, David Saja, at dsajas1984@gmail.com I have it in storage in Downingtown PA 19335.

FM on the WWW

Please explore the FM-PA 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 Directory of Officers

OFFICERS and BOARD OF DIRECTORS members

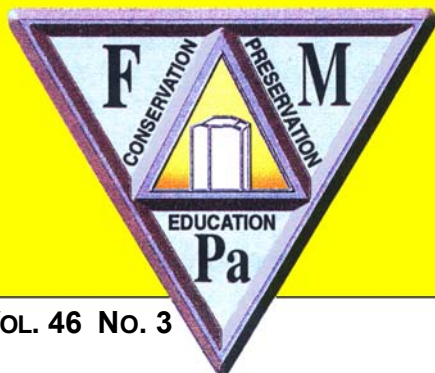
President	Joe Marchesani
Vice President	Dianne Soccio
Treasurer	Ron Sloto
Secretary	David Glick
	Mike Dunton
	William Kochanov
	Bill Stephens

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

COMMITTEE CHAIRS

Membership Chair	Dianne Soccio
Field Trip Chair	Tom Pankratz
Web Manager	Ron Sloto
Newsletter Editor	David Glick

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



FRIENDS OF MINERALOGY

Pennsylvania Chapter

NEWSLETTER

VOL. 46 No. 3

FALL 2018

Another Successful Pennsylvania Chapter Symposium

The Friends of Mineralogy – Pennsylvania Chapter held its 2018 Symposium and field trip on the first weekend in November. The Saturday symposium was held in the Hackman Physical Sciences Building at Franklin & Marshall College, Lancaster, PA; our Chapter is grateful to have access the facilities there.

The collectors attending heard several talks by experts on minerals, geology and mining in Pennsylvania and beyond. New members joined, the silent auction and dealer fees raised funds, and there was lots of time for visiting with other collectors at refreshment breaks and lunch.

Chapter President Joe Marchesani had led the Board of Directors' efforts to organize this symposium. He started the morning by welcoming the participants, and introduced the speakers.

Stan Mertzman, professor and our host at F&M, spoke on *What a Spring for Volcano Lovers: Fascinating Activity at Kilauea Volcano in Hawaii*. The presentation included discussion of Pennsylvania geology students visiting the island, and the sequence of fissures from which lava was extruded.

Ron Sloto presented *The Perkiomen-Ecton Lead-Copper Mines, Audubon, Montgomery County, Pennsylvania*. Mining there began early in the 1800s and produced a variety of specimens. Ron's book on Montgomery County is nearing completion.

Dr. Maria Luisa Crawford of Bryn Mawr College discussed George Vaux Jr and the Vaux Collection. Vaux sent a young Sam Gordon to Bolivia in 1921 to collect minerals, resulting in the identification of the

minerals vauxite and paravauxite. They were published and named by Gordon in 1923. Vaux lived near the Bryn Mawr campus and Bryn Mawr classes visited his home to see the collection, which later became property of the College. Dr. Crawford brought a selection of attractive specimens which the audience had an opportunity to examine.



Vauxite and paravauxite specimens displayed by Dr. Crawford.
D. Glick photo



Dr. Stan Mertzman (right) addresses the symposium in the auditorium at F&M.

D. Glick photo

James Van Fleet's presentation on Fluorescent Minerals of Pennsylvania showed a variety of species and fluorescent and phosphorescent responses. It included photographs fading from one wavelength of ultraviolet excitation to another. He also demonstrated the new Convoy longwave ultraviolet LED flashlight.

Bill Stephens related the story of his participation in the Hogg Mine 2018 Machine Dig in Georgia. The mine has produced large well-formed beryl crystals, gem grade aquamarine and rose quartz, kaolin, quartz and mica.

At the annual meeting of the membership in the morning, William Kochanov, Ron Sloto, Dianne Soccio, and Bill Stephens were re-elected to the Board of Directors. In the Board meeting following the symposium, the incumbent officers were re-elected to their positions by the Board (see page 8).

For the mineral collecting field trip on Sunday, the group met at H&K Group's Penn/MD Quarry, Peach Bottom, PA. Serpentine rock and related minerals were collected. Your editor uncovered a 10-foot long ridge, the top of a vein of nice, green material in the floor of the quarry. Its surface sloped down into the floor in two directions, and at each end it also sloped down into the floor. Extensive digging around the perimeter revealed no edge which could be pried on to extract a piece. Only a photograph was collected.



Dave's solid vein.

D. Glick photo



Sunday field trip at H&K Group's Penn/MD Quarry, Peach Bottom, PA.

D. Glick photo

Pennsylvania Geology Magazine

The third 2018 issue of Pennsylvania Geology magazine 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

The Fall 2018 issue (vol. 48 no. 3) includes an extensive article on "Evidence of Connectivity Between the Gilberton and Lawrence Mine Pools, Western Middle Anthracite Field, Pennsylvania," by Joseph M. Sassaman of PA DEP's Bureau of Abandoned Mine Land Reclamation. It includes a brief description of the geology and mining history, and focuses on the extensive pumping of water and its effects. A second article by Gary M. Fleeger addresses "Revisiting the Pymatuning Earthquake Groundwater Effects 20 Years Later."

Bulletin of FM

The Bulletin of Friends of Mineralogy, FM's national newsletter, can be found at <http://www.friendsofmineralogy.org/newsletters/>

The fourth issue of 2018 is expected to be available soon.

Mineralogical Record Online Reports

In addition to their free online *Axis: An Eclectic Journal of Mineralogy* site, the Mineralogical Record web site includes a series by Thomas P. Moore on *What's New in the Mineral World* <<https://mineralogicalrecord.com/whatsnew.asp>>.

The latest installment (number 51) was posted December 5th and includes discussion of new and interesting specimens available from dealers at shows and online, with lots of good color photos. There's nothing from Pennsylvania in this installment, but there is on page 8 a photo of hemimorphite from the Sterling Hill mine, New Jersey, which nicely illustrates why the old miners called it "maggot ore." From the Millington Quarry, New Jersey, there's a photo of a "rosette-shaped aggregate of apophyllite" and one of pectolite offered by John Betts Fine Minerals. At the end, there's a preview guide to the various parts of the 2019 Tucson Show, January 31 - February 17, more or less.

110 Years Ago in The Mineral Collector

In the July through December, 1908, issues of the Mineral Collector, Charles H. Pennypacker wrote a series of articles on calcite (and his stories on the people who collect it), saying, "Calcite is one of the most beautiful, variable and interesting minerals known to science." The July installment began:

"The first specimen of calcite that I ever saw was produced in the dump heap at the Wheatley Lead Mine, near Phoenixville, Chester Co., Pa. The largest specimen from this locality remained in the office of the mining company at the Wheatley mine for a great many years. It was a slab about four feet high, about three feet wide, and about four inches in thickness. Mr. Wheatley, while superintending the mine, was told by some of his workmen of the incident of this remarkable exposure of calcite, and it was carefully detached from the adjoining rock and brought to the surface. After passing through the hands of several of his friends it was finally found a home in the collection of the Smithsonian Institute at Washington."

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 814-237-1094 days and evenings. Mail can be sent to 209 Spring Lea Dr., State College PA 16801.

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.

Chalcanthite from the Ecton Mine 80-Foot Stope, Audubon, Montgomery County, Pennsylvania

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

INTRODUCTION

The Ecton mine is located on the Mill Grove estate in Audubon, Montgomery County. The entrance to the Ecton mine 80-foot stope (fig. 1) is east of Mine Run at 40° 07' 40" latitude and 75° 26' 35" longitude. The entrance is caved, and the 80-foot stope is no longer accessible. The 80-foot stope may not have been connected to the main Ecton mine shaft, as all walls are reported to be solid and do not reveal any passages to the shaft. The 80-foot stope was reopened, or rediscovered, by Arthur J. Boucot about 1949 (Boucot, 1949). The adit penetrates the hill for over 300 feet to a right-angle drift. The drift extends about 200 feet. In the 1950s and 1960s, brave mineral collectors entered the flooded adit and waded through cold water to collect minerals in the 80-foot stope.

In the 1960s, William Shinn collected a number of specimens from inside the 80-foot stope. They were acquired from Shinn by the author for study and analysis. One specimen had minute, white crystals on part of the matrix (fig. 2). When the crystals were examined under the microscope, they appeared to be curving, acicular crystals (fig. 3). Analysis by energy dispersive X-ray spectrometer (EDS) showed the mineral to be a copper sulfate mineral with an average of 1.4 weight percent zinc. Based on the analysis and scanning electron microscope (SEM) images, the mineral is a slightly dehydrated chalcanthite. Images acquired with the SEM showed long, thin, curving crystals (fig. 4) that were often entwined (fig. 5).

Chalcanthite is a water-soluble copper sulfate. It commonly is found in late-stage oxidation zones of copper deposits as a secondary mineral and often is formed as a post-mining mineral. It is likely that the chalcanthite from the 80-foot stope was formed as a post-mining mineral. It may have even formed in William Shinn's basement! The author has examined many specimens from the 80-foot stope, including many collected by Harold Evans in the 1950s and 1960s, and this is the only chalcanthite observed.

Analysis and imaging was done on an FEI Quanta 400 environmental scanning electron microscope integrated with an Oxford AZTEC X-ray energy dispersive spectrometer at the West Chester University Center for Microanalysis and Imaging, Research and Training.

REFERENCE

Boucot, A.J., 1949, Notes on the Ecton Mine, Montgomery County, Pennsylvania: *Rocks and Minerals*, v. 24, no. 9-10, p. 492-495.

All photographs by Ronald A. Sloto.



Figure 1. Entrance to the Ecton mine 80-foot stope, April 11, 2018.



Figure 2. Chalcantite from the Ecton mine 80-foot stope, 4 cm.

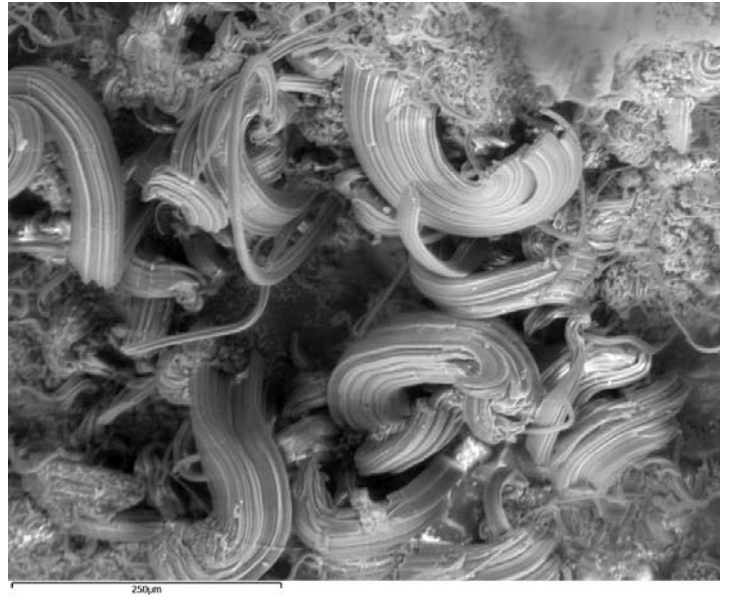


Figure 4. Scanning electron microscope image of chalcantite from the Ecton mine 80-foot stope, magnification approximately 400X. Scale bar at bottom left is 250 μm .

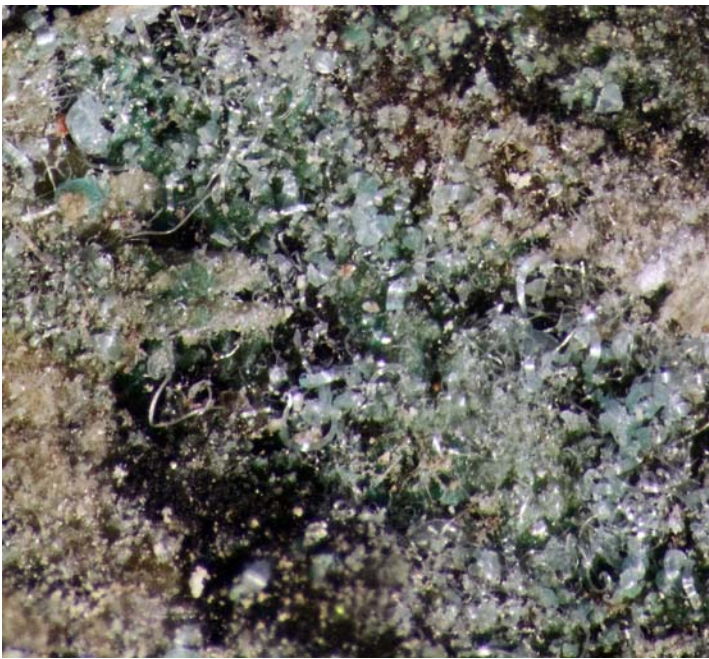


Figure 3. Photograph of chalcantite from the Ecton mine 80-foot stope taken through the microscope.

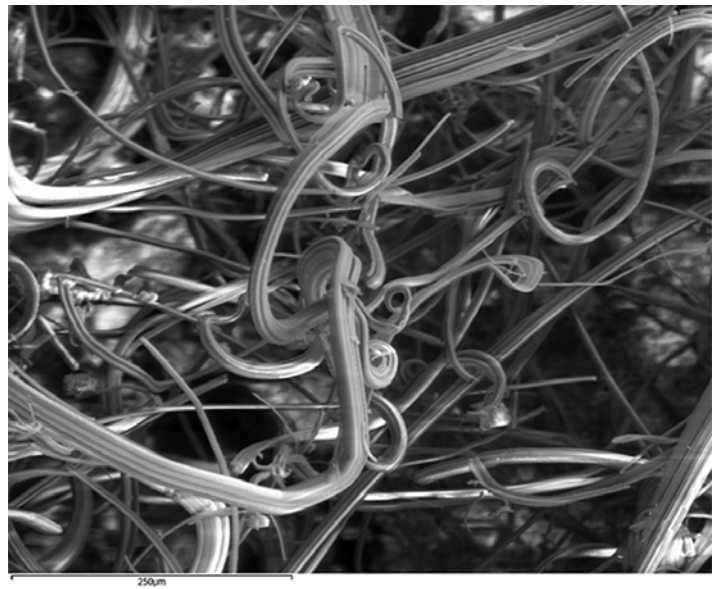


Figure 5. Scanning electron microscope image of chalcantite from the Ecton mine 80-foot stope, magnification approximately 360X. Scale bar at bottom left is 250 μm .

43rd Annual



MICROMOUNT SYMPOSIUM



****NEW LOCATION****

Advent Lutheran Church

45 Worthington Mill Rd

Richboro, Pa. 18954



>>>>Two Days<<<<<<

Friday March 8th, 2019 - noon to 6pm

& Saturday March 9th, 2019 — 9am to 6pm

(Lunch provided on Saturday)

SPONSORED BY: *Leidy Microscopical Society*

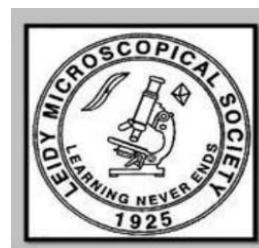


TABLE SPACE \$20.00

RAFFLE DOOR PRIZES

CLUB SALES TABLE—MINERALS AND SUPPLIES

**Reservations/ Admission: Send Check for \$20.00 , make checks payable to;
Don McAlarnen, 916 Senator Rd, East Norriton, PA 19403 (610) 584-1364
Email: donmcalarnen@outlook.com**

Directions:

From I-295 (old I-95): I-95 North turns into I-295 after Pa. Turnpike. Continue on I-295 7.3 miles to RT 332, (Yardley, Newtown Rd) exit. Turn LEFT onto RT 332 west (Yardley Newtown Rd) for 8 miles to RT 232 (2nd St. Pike), Turn RIGHT into RT 232 (2nd St. Pike). Go 0.8 miles to Worthington Mill Rd (forks off to the right), continue 500 feet, church is on the left.

From PA Turnpike: Exit RT 1, go south on RT 1 400 feet to Street Rd WEST (RT 132). Continue on Street Rd (RT 132) 4.9 miles to 2nd St Pike (RT 232), turn right into 2nd St Pike (RT 232), continue 4.3 miles to Worthington Mill Rd (forks off to the right), continue 500 feet, church is on the left.

Hotels

(at I-295 & RT 332 exit approx. 8.5, miles from show):

Hampton Inn, 1000 Stoney Hill Rd, Yardley, Pa. 19067 (215) 860-1700

(in Newtown, approx. 5.5 miles from show):

Brick Hotel, 1 Washington Av., Newtown, Pa. 18940 (267) 685-6443

Temperance House, 5 S State St, Newtown, Pa. 18940 (215) 944-8050

(in Warminster, approx. 6.5 miles from show):

Motel 6, 265 E. Street Rd., Warminster, Pa 18974 (215) 674-2200

Holiday Inn Express, 240 Veterans Way, Warminster, Pa. 18974 (215) 443-4300

(in Feasterville/Trevese, approx. 8.5 miles from show):

Wyndham, 4700 E. Street Rd, Feasterville, Pa. 19053 (215) 364-2000



Our New Location



Curb-side drop-off with ramp from parking lot to show room entrance – NO STEPS!!

UPCOMING EVENTS

See www.mineralevents.com for more

March 2-3, 2019: Earth Science, Gem and Mineral Show, by Delaware Mineralogical Society. New Location: DoubleTree by Hilton, 4727 Concord Pike (Rt 202), Wilmington DE 19803. Sat. 10-5, Sun. 11-5. Information and coupons at <http://www.delminsociety.net>

March 8-9, 2019: Micromount Symposium by Leidy Microscopical Society, Richboro, PA. See pages 6-7.

March 23-24, 2019: 50th Annual Gem and Mineral Show sponsored by the Che-Hanna Rock & Mineral Club. Wysox Vol. Fire Co Social Hall, 111 Lake Rd; Wysox, PA 18854. Sat. 9-5, Sun. 10-4 <http://chehannarocks.com/show.html>

March 30-31, 2019: Philadelphia Mineral Treasures and Fossil Fair, by Philadelphia Mineralogical Society and Delaware Valley Paleontological Society. Lulu Temple, 5140 Butler Pike, Plymouth Meeting PA 19462. Sat. 10-5, Sun. 10-4. <http://www.phillyrocks.org/mineral-show/>

March 30-31, 2019: North Jersey Gem, Mineral & Fossil Show, by North Jersey Mineralogical Society. Midland Park High School, 250 Prospect St., Midland Park NJ. Sat. 10-5, Sun. 10-4. <http://www.nojms.webs.com>

May 18, 2019: Earth Science Show & Sale, by The Rock & Mineral Club of Lower Bucks County, PA. Christ United Methodist Church, 501 Wistar Rd., Fairless Hills PA. Sat. only, 9-3.

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.

Lapidary Equipment For Sale

13" vibrating lap; MASTER faceting arm (needs motor); grinding/buffing arbor; buffing wheels; carbide grinding wheels; several pounds of 500 carbide grit; slabbing material (various agates and unidentified material); plate-glass shelving (8" x 39"); rock collecting hammers and chisels; grey metal storage cabinet (18"d x 36"w x 78"h); four wooden specimen storage cabinets (27.5"d x 24"w x 36"h), and more. I have posted images of most everything on a website: sites.google.com/a/case.edu/sajas_stuff/rocks Contact me, David Saja, at dsajas1984@gmail.com I have it in storage in Downingtown PA 19335.

Visit the FM-PA Facebook page

<https://www.facebook.com/pages/Friends-of-Mineralogy-Pennsylvania-Chapter/1174230635931641>

Members and friends are invited to *Like* the page, post, and generally provide a good level of activity.

FM on the WWW

Please explore the FM-PA 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 Directory of Officers

OFFICERS and BOARD OF DIRECTORS members

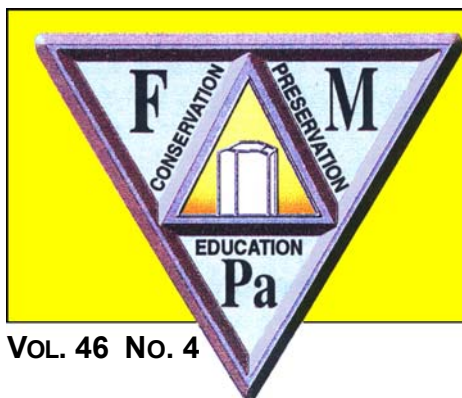
President	Joe Marchesani
Vice President	Dianne Soccio
Treasurer	Ron Sloto
Secretary	David Glick
	Mike Dunton
	William Kochanov
	Bill Stephens

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

COMMITTEE CHAIRS

Membership Chair	Dianne Soccio
Field Trip Chair	Tom Pankratz
Web Manager	Ron Sloto
Newsletter Editor	David Glick

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



FRIENDS OF MINERALOGY

Pennsylvania Chapter

NEWSLETTER

VOL. 46 No. 4

WINTER 2018

President's Year-End Message

We had a wonderful symposium November 3rd. There were lots of mineral specimens for the silent auction thanks to generous member support. The presentations were magnificent. Stan Mertzman started us off with a tour of Hawaii's ongoing volcanic activity and it just kept going from there. Ron Sloto discussed the Perkiomen-Ecton Mines, Dr. Maria Luisa Crawford gave a rare and fascinating presentation into the historic Vaux Collection at Bryn Mawr College, James Van Fleet offered an insight into the Fluorescent Minerals of Pennsylvania, which we think was part one of a possible upcoming encore presentation this year in Fall 2019, and Bill Stephens gave us some insight as to the 2018 Machine Dig at the Hogg Mine. Certificates for five Professional Development Hours were offered to those who participated. Lunch at one of our favorite spots across the street became a short reprieve from the day's pace. Vendors had beautiful specimens for sale, and seemed to do okay. Sunday's field trip to H&K was a great follow up to Saturday. Brucite seemed to be the find of the day, and a vein of clinochlore was also discovered, but it was weathered and tough to find a good specimen. There was also a good magnetite spinel found, maybe more.

Membership seems to be doing well. As of today, mid-January 2019, we have about 35 current members with more renewals coming in each day. A kind reminder that dues for 2019 are now being collected by Dianne Soccio, our membership chair, and they are also now payable online via our FM-PA website at <http://www.rasloto.com/FM/>. There is a two-dollar convenience fee added for online payment to cover the fees.

We will be having some nice field trips upcoming shortly. Tom Pankratz, Field Trip coordinator, is doing a fabulous job organizing these things. Last year we had about five field trips, and there very well could be another five trips this year (two or three spring trips and two or three fall trips). All current members are invited to participate. Tom sends out emails specifying the date, time and conditions for each trip.

I certainly hope to see you out on these upcoming field trips. If you can only make one trip, it is still a good thing. There will hopefully be plenty of trips from which to choose.

Finally, to our generous members who provide donations (of any type) goes out another hearty **THANK YOU!** Friends of Mineralogy, PA is a non-profit. Every little bit helps us to stay afloat, keep dues consistently low, and offer the symposium and field trips. We appreciate your support.

All the best to all!

Joseph Marchesani, President, FM-PA

Editor's Update

I thank all the members for your patience, and I do believe that this Newsletter issue will be the last one to be late. We're finishing off 2018 "only" one month late, and multiple articles are already in the works for the upcoming March issue, so we'll get back to our usual schedule of March - June - September - December. If you have interesting material for this Newsletter (the upcoming March issue or any other), please share it! See page 6 for more details.

DUES DETAILS

If you received a 2019 dues form with this newsletter, we had **not** received your dues as of about January 19. This is the last issue covered by your 2018 dues. We would welcome your renewal!

If you **have** paid for 2019, thank you!

Online News

Webmaster Ron Sloto has caught up on posting our Chapter newsletter on our web site. Check it out at www.rasloto.com/FM. Also visit the Facebook page, <https://www.facebook.com/pages/Friends-of-Mineralogy-Pennsylvania-Chapter/1174230635931641>. Members and friends are invited to *Like* the page, post, and generally provide a good level of activity.

The *Bulletin of Friends of Mineralogy*, FM's national newsletter, can be found at <http://www.friendsofmineralogy.org/newsletters/>. The fourth issue of 2018 was posted there recently.

Sulfarsenide Minerals from the Kibblehouse Quarry, Perkiomenville, Montgomery County, Pennsylvania

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

INTRODUCTION

The Kibblehouse quarry is a large, active quarry located in Perkiomenville, Montgomery County, Pennsylvania, at 40° 19' 29" N latitude and -75° 28' 06" W longitude. The quarry is operated by Highway Materials, Inc. for aggregate and is known as their Perkiomenville quarry. The quarry is in hornfels adjacent to the Sassamansville diabase sill. The adjacent sedimentary rock was thermally metamorphosed to hornfels by the intrusion of the rift-related York Haven Diabase at 201.509 Ma (Blackburn and others, 2013).

An area on the north side of the second level of the Kibblehouse quarry was named the cobaltite corner because of the occurrence of cobaltite. The cobaltite occurrence was confined to a single metasedimentary layer about 1 foot thick, which was exposed for about 100 feet. Cobaltite occurred as grains and crystals disseminated in the rock matrix or in calcite veins. Two types of cobaltite-bearing calcite veins were recognized: (1) irregular calcite veins containing cobaltite, actinolite var. byssolite, diopside, mariolite, and titanite; and (2) planar calcite veins containing cobaltite (Montgomery, 1973).

Spear and others (1978) described cobaltite from one of the irregular calcite veins. The crystals were sharp, silver-white octahedrons and cuboctahedrons to 3 mm on an edge. The cobaltite contained a number of inclusions, including silicates, carbonates, safflorite, and a bismuth sulfotelluride. Chemical analysis showed a relatively homogeneous interior of composition $(\text{Co}_{0.3}\text{Ni}_{0.5}\text{Fe}_{0.2})\text{AsS}$ with a fairly rapid transition to an 0.1 mm-thick cobaltite rim of composition $(\text{Co}_{0.97}\text{Ni}_{0.01}\text{Fe}_{0.02})\text{AsS}$. The composition ranged from an CoAsS end-member cobaltite to an $(\text{Ni}_{0.59}\text{Co}_{0.24}\text{Fe}_{0.17})\text{AsS}$ cobaltian and ferrian gersdorffite. A large, irregular-shaped inclusion in the cobaltite crystal was identified by microprobe analysis as cobalt-iron-nickel diarsenide or safflorite of composition $(\text{Co}_{0.43}\text{Fe}_{0.34}\text{Ni}_{0.23})\text{As}_2$.

The sulfarsenides of Fe, Co, and Ni include arsenopyrite (FeAsS), allosclerite ($\text{CoAs}_{1+x}\text{S}_{1-x}$), gersdorffite (NiAsS), cobaltite (CoAsS), and glaucodot $[(\text{Co}_{0.5}\text{Fe}_{0.5})\text{AsS}]$. Cobaltite and gersdorffite form a solid-solution series; the Ni and Co in the two minerals are substitutable. Arsenopyrite and glaucodot also form a solid-solution series; Co will substitute for some of the Fe in the arsenopyrite crystal structure.

For this study, 10 samples (fig. 1, table 1) were analyzed. Nine of the samples were labeled cobaltite, and one (RS-3828) was labeled gersdorffite. The bright silver-white cuboctahedral crystals were less than 1 mm in size.

Table 1. Description of analyzed samples from the Kibblehouse quarry, Perkiomenville, Montgomery County, Pa

Sample number	Sample label	Notes
RS-1300	Cobaltite	Ex Vince and Marge Matula collection
RS-3602	Cobaltite	Ex Bill Yocum collection
RS-3668	Cobaltite	Ex Vince and Marge Matula collection
RS-3669	Cobaltite	Ex Vince and Marge Matula collection
RS-3828	Gersdorffite	Ex Vince and Marge Matula collection
RS-3923	Cobaltite	Ex Ralph Thomas collection
RS-4017	Cobaltite	Purchased from David Garske
RS-4021	Cobaltite	Ex Bill Yocum collection
RS-4084	Cobaltite	Ex Bill Yocum collection
RS-4085	Cobaltite	Ex Bill Yocum collection

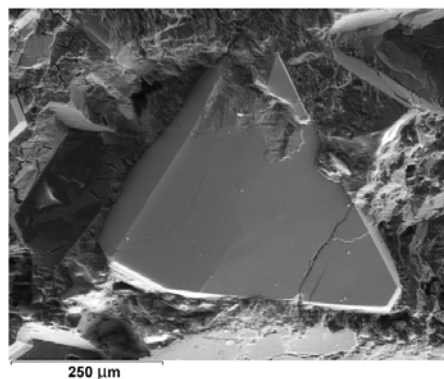
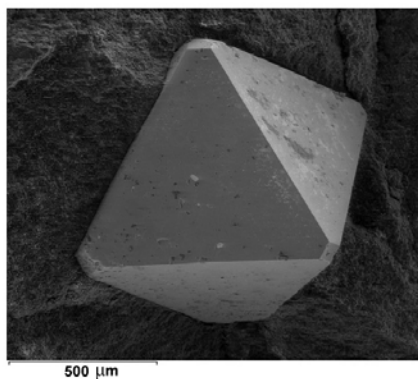
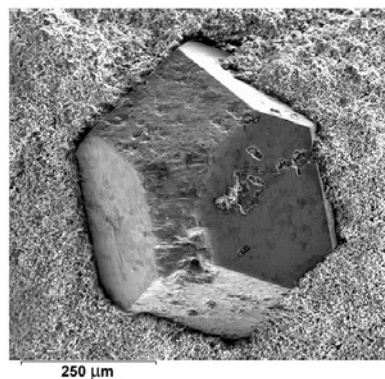
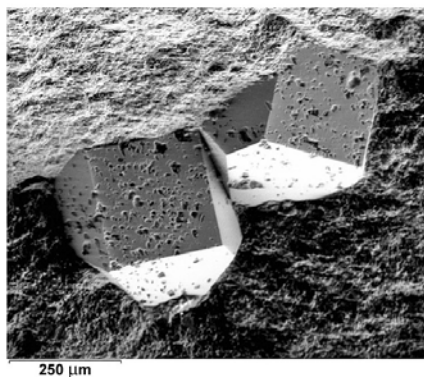
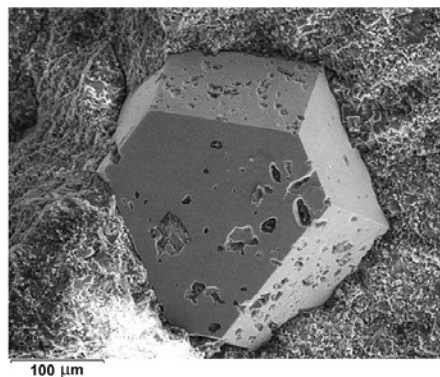
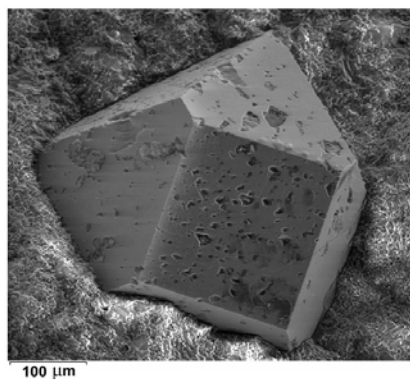
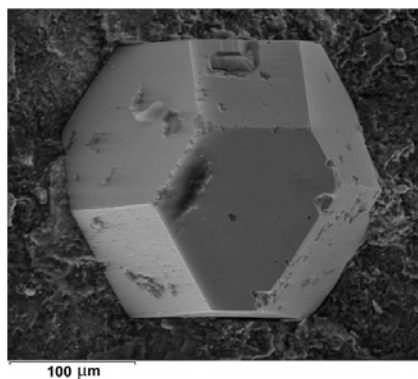
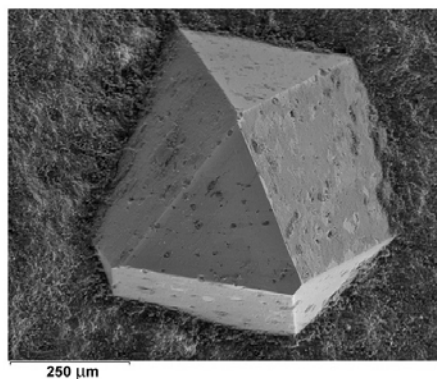
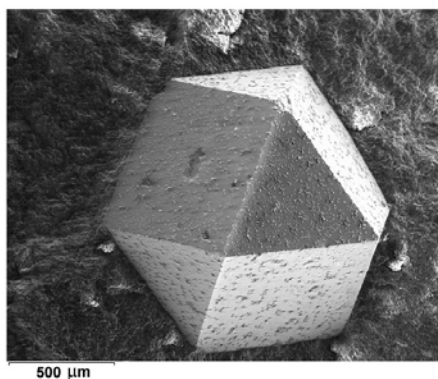
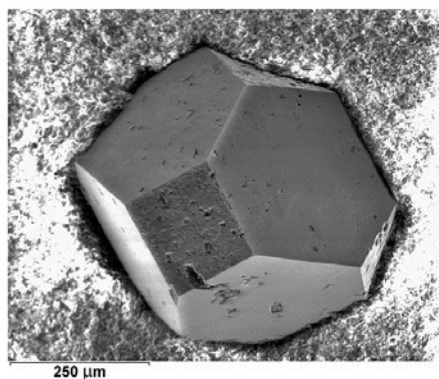
RS-3828**RS-3668****RS-4017****RS-1300****RS-3923****RS-3602****RS-4921****RS-4085****RS-3669****RS-4084**

Figure 1. Sulfarsenide specimens analyzed from the Kibblehouse quarry, Perkiomenville, Montgomery County, Pa.

The samples were analyzed by scanning electron microscope/energy dispersive X-ray spectroscopy (SEM-EDS). Analyses were done on an FEI Quanta 400 environmental scanning electron microscope integrated with an Oxford AZtec X-ray energy dispersive spectrometer at the West Chester University Center for Microanalysis and Imaging, Research and Training. Samples were unpolished, uncoated crystals in matrix.

RESULTS OF ANALYSIS

In addition to As and S, all 10 samples contained Co, Ni, and Fe (table 2) with Ni and Fe substituting for Co in the crystal matrix. Cobaltite has the ideal composition CoAsS , but significant amounts of nickel and iron may substitute for the cobalt, and sulphur and arsenic may substitute for each other (Bayliss, 1982).

The SEM-EDS data (table 2) show that the compositional variability of cobaltite, expressed as $(\text{Co}_{0.66-0.95}\text{Ni}_{0.03-0.16}\text{Fe}_{0.02-0.23})\text{As}_{0.74-1.37}\text{S}_{0.88-1.02}$, exhibits a well-defined trend characterized by the substitution of Co by a mixture of Ni and Fe (fig. 2). Sample RS-4085, which lies outside this trend, has about equal amounts of Co and Ni. Yang and Downs (2008) found that glaucodot was likely to have an ideal stoichiometry of $(\text{Co}_{0.5}\text{Fe}_{0.5})\text{AsS}$, with a limited tolerance for the variation of the Co/Fe ratio. Glaucodot is closely related to arsenopyrite in composition, crystal form, and X-ray diffraction pattern, but it contains nearly equal amounts of iron and cobalt, and its crystal structure is different from that of arsenopyrite.

Table 2. Results of X-ray energy dispersive spectrometer (EDS) analysis of 10 specimens from the Kibblehouse quarry, Perkiomenville, Montgomery County, Pa. Values are mean values in weight percent. Calculated formulas are based on the equivalent of one cobalt atom.

Sample number	Co	Fe	Ni	As	S	Calculated approximate formula	Mineral
RS-1300	28.24	4.21	4.02	45.25	18.28	$(\text{Co}_{0.77}\text{Fe}_{0.12}\text{Ni}_{0.11})\text{As}_{0.97}\text{S}_{0.92}$	Cobaltite
RS-3602	24.86	2.71	1.33	50.74	20.35	$(\text{Co}_{0.85}\text{Fe}_{0.10}\text{Ni}_{0.05})\text{As}_{1.37}\text{S}_{1.29}$	Cobaltite
RS-3668	34.35	2.63	3.54	41.36	18.13	$(\text{Co}_{0.84}\text{Fe}_{0.07}\text{Ni}_{0.09})\text{As}_{0.80}\text{S}_{0.82}$	Cobaltite
RS-3669	19.65	5.25	4.80	51.08	19.23	$(\text{Co}_{0.66}\text{Fe}_{0.18}\text{Ni}_{0.16})\text{As}_{1.34}\text{S}_{1.18}$	Cobaltite
RS-3828	35.57	0.68	1.12	43.81	18.82	$(\text{Co}_{0.95}\text{Fe}_{0.02}\text{Ni}_{0.03})\text{As}_{0.92}\text{S}_{0.94}$	Cobaltite
RS-3923	39.33	1.58	1.05	39.39	18.65	$(\text{Co}_{0.93}\text{Fe}_{0.04}\text{Ni}_{0.03})\text{As}_{0.74}\text{S}_{0.81}$	Cobaltite
RS-4017	22.87	7.29	3.44	49.00	17.40	$(\text{Co}_{0.67}\text{Fe}_{0.23}\text{Ni}_{0.10})\text{As}_{1.13}\text{S}_{0.94}$	Cobaltite
RS-4021	36.67	3.64	2.33	40.76	16.60	$(\text{Co}_{0.86}\text{Fe}_{0.09}\text{Ni}_{0.05})\text{As}_{0.75}\text{S}_{0.71}$	Cobaltite
RS-4084	29.44	3.63	1.97	46.92	18.05	$(\text{Co}_{0.83}\text{Fe}_{0.11}\text{Ni}_{0.06})\text{As}_{1.04}\text{S}_{0.94}$	Cobaltite
RS-4085	17.11	16.65	0.88	53.23	12.12	$(\text{Co}_{0.48}\text{Fe}_{0.49}\text{Ni}_{0.03})\text{As}_{1.18}\text{S}_{0.63}$	Glaucodot

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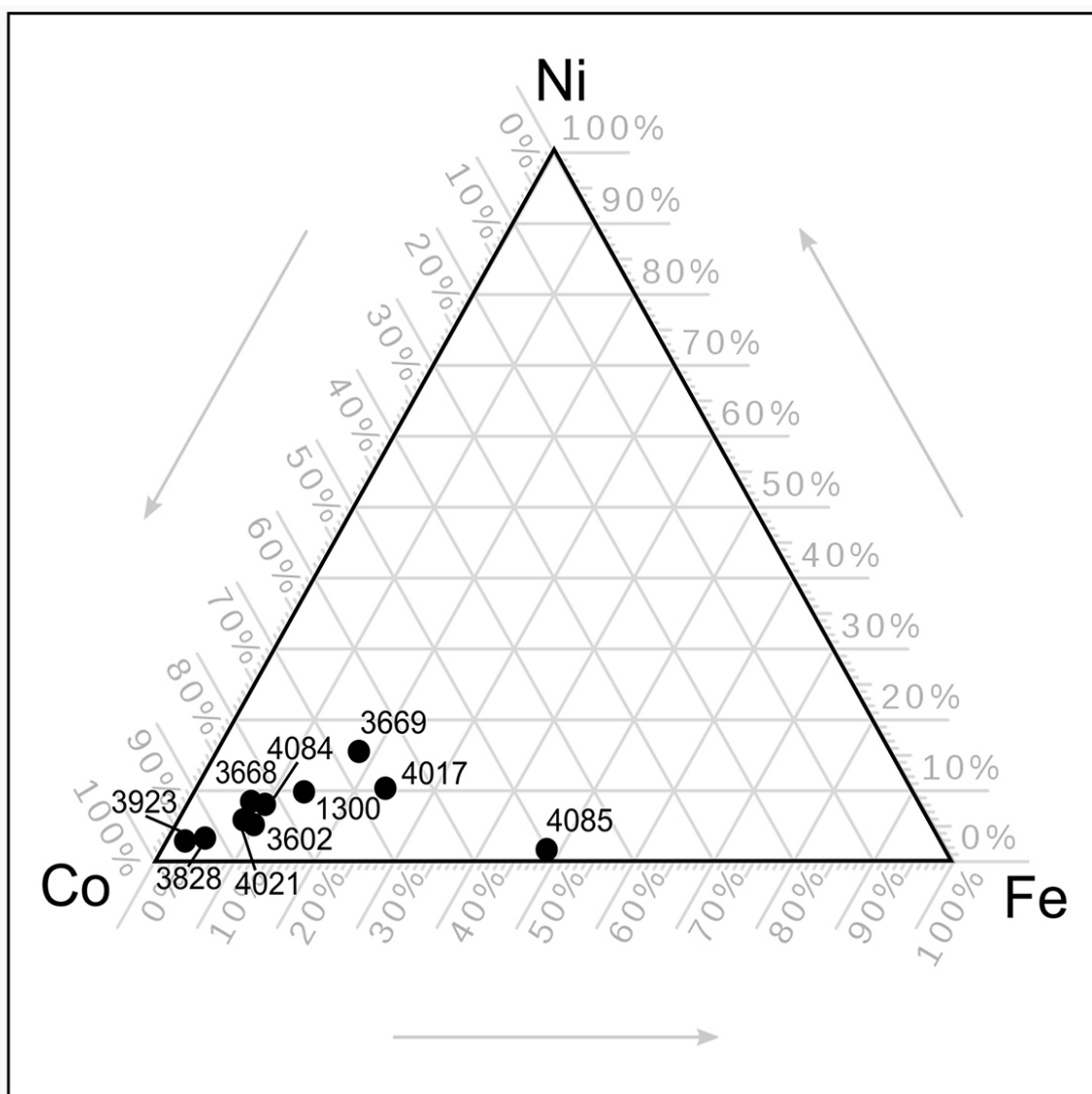


Figure 2. Ratios of cobalt, iron, and nickel in sulfarsenides from the Kibblehouse quarry, Perkiomenville, Montgomery County, Pa.

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 814-237-1094 days and evenings. Mail can be sent to 209 Spring Lea Dr., State College PA 16801. Materials for the March issue should be submitted by March 18.

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.

UPCOMING EVENTS

See www.mineralevents.com for more

March 2-3, 2019: Earth Science, Gem and Mineral Show, by Delaware Mineralogical Society. New Location: DoubleTree by Hilton, 4727 Concord Pike (Rt 202), Wilmington DE 19803. Sat. 10-5, Sun. 11-5. Information and coupons at <http://www.delminsociety.net>

March 8-9, 2019: Micromount Symposium by Leidy Microscopical Society, Richboro, PA. Reservations required. See pages 6-7 of the last FM-Pa Newsletter (v 46, no. 3), or contact Don McAlarnen, Phone: 610-584-1364, Email: donmcalarnen@outlook.com

March 23-24, 2019: 50th Annual Gem and Mineral Show sponsored by the Che-Hanna Rock & Mineral Club. Wysox Vol. Fire Co Social Hall, 111 Lake Rd; Wysox, PA 18854. Sat. 9-5, Sun. 10

March 30-31, 2019: Philadelphia Mineral Treasures and Fossil Fair, by Philadelphia Mineralogical Society and Delaware Valley Paleontological Society. Lulu Temple, 5140 Butler Pike, Plymouth Meeting PA 19462. Sat. 10-5, Sun. 10-4. <http://www.phillyrocks.org/mineral-show/>

March 30-31, 2019: North Jersey Gem, Mineral & Fossil Show, by North Jersey Mineralogical Society. Midland Park High Sch., 250 Prospect St., Midland Park NJ. Sat. 10-5, Sun. 10-4.

May 18, 2019: Earth Science Show & Sale, by The Rock & Mineral Club of Lower Bucks County, PA. Christ United Methodist Church, 501 Wistar Rd., Fairless Hills PA. Sat. only, 9-3

FM on the WWW

Please explore the FM-PA 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

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