

MNCA Website www.dcmicrominerals.org

The Mineral Mite



Vol. 54 – No. 3 Washington D.C. – A Journal for Micromineralogists March 2021

Zoom Meeting March 24 Time: 7:30 p.m.

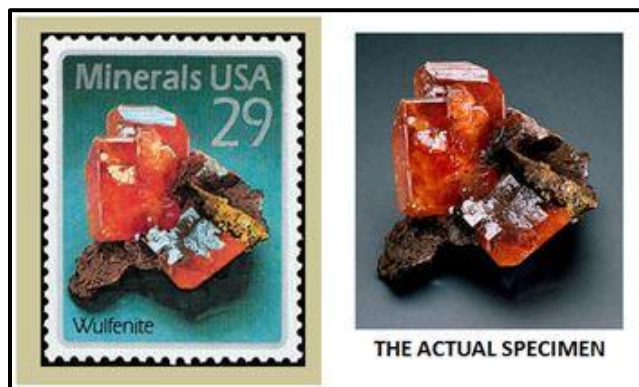
Program: Another Way to Collect Minerals – Postage Stamps

by Fred Haynes, Editor, Wayne County Gem and Mineral Club of New York



Did you know that there is an international organization of folks who collect gems and minerals on postage stamps? They call themselves the Gems, Minerals and Jewelry Study Unit (GMJSU) and they are one of 52 active affiliate organizations of the American Topical Association (ATA), a philatelic organization with almost 3000 thematic stamp collectors worldwide. The GMJSU publishes a quarterly newsletter called Philagems International and maintains an Excel spreadsheet listing all stamps depicting minerals, gems, and mining. At last count there are over 2700 individual listings although many reflect sets of stamps, so the list of actual stamps is larger. Of those listings, over 1500 are identified as strictly mineral stamps and over 400 as gem stamps. Over 90 countries are represented on the list.

Photo of the Month:



Red Cloud **wulfenite** stamp of September 17, 1992 designed by Leonard Buckley, Smithsonian mineral

President's Message:

by Dave MacLean

We will miss Ti Meredith VP of the Northern Virginia Mineral club NVMC, who died in February 2021. Let us offer our thoughts and prayers.



In current times of Covid-19, the 2021 Atlantic Micromounters' Conference goes online. We will hear about formation of the whole periodic table of elements in the stars and related minerals from Mike Seeds. Quintin Wight will present the Scientific Value of Micromounting. In between the online talks, our own Michael Pabst will conduct the auction of attractive microminerals. All this is on Saturday 10 April by Zoom in the comfort of home. We will see each other again. Hopefully, we can meet in the fall at the BMS and can conference together in 2022.

Atlantic Micromounters' Conference Saturday April 10, 2021 1-4pm Zoom

by Kathy Hrechka, Conference Chair

We have decided to remain with caution and broadcast our conference via Zoom for free.

Speakers include:

- * Quintin Wight, Canada
- * Mike Seeds, Lancaster, Pennsylvania
- * Micromineral auction will be moderated by Michael Pabst, Penn Laird, Virginia
- * Mark Kucera, New York host on Zoom

Details are on listed on page 5 & our club website. No registration fees.

Micromineralogists of the National Capital Area, Inc.

Another Way to Collect Minerals – Postage Stamps by Fred Haynes, NY

Biography: Fred Haynes is a retired geologist living in Rochester, NY. After earning his Ph.D. at the University of Michigan Fred spent his career as a petroleum geologist/petrophysicist for ExxonMobil living in places like Stavanger, Norway, St. John's, Newfoundland, and Midland, Texas. Although he retired about a decade ago, Fred continues to "practice" geology in one way or another just about every day. He is a field collector of rocks, minerals, fossils, and most recently, sand, and he edits the monthly newsletter for Wayne County Gem and Mineral Club. He also collects postage stamps and at our March meeting he will share with us some of the minerals that the countries of the world have placed on postage stamps. There might even be a micromount or two involved.

It is the middle of February in upstate New York and the weather outside is not particularly conducive to mineral and fossil digs. Yes, I can plan, and I am. Yes, I can clean and organize last year's bounty, and I try to make time for that, but even the rocks in the garden remain covered and out of reach. BUT there is another way to collect minerals in the winter and I keep busy doing just that when the spirit moves. They can be collected on postage stamps.



First Day cover from the 1974 Mineral Heritage Set. The first day ceremony was held at the 1974 National Gem and Mineral Show in Lincoln, Nebraska. The United States has issued two sets of mineral stamps. In 1973, four 10 cent denomination diamond shaped stamps were issued depicting mineral specimens from the Smithsonian Museum of Natural History.

The tourmaline specimen is from the Tourmaline Queen Mine in San Diego County, California and since the stamp was issued the specimen has been affectionately dubbed "Postage Stamp Tourmaline."



The Postage Stamp **Tourmaline** (upper left) and the stamp depicting the famous specimen. The designer benefitted from a pen and ink drawing (upper right) by Wendell Wilson, editor of Mineralogical Record.

Nineteen years later and with a postal rate that had almost tripled, a second set of four stamps was issued. One of these, the Red Cloud wulfenite stamp, may be my favorite mineral stamp of all. I have collected at the Red Cloud Mine, without much success, and believe the thick brilliantly red wulfenite from that mine is simply exquisite



The Red Cloud **wulfenite** stamp of Sept. 17, 1992 was designed by Leonard Buckley from the specimen that remains on display at the Baird Auditorium of the Smithsonian. Continued next page

Mineral postage Stamps continued

I would like to have that specimen in my collection, but I have settled for having the stamp and several versions of First Day covers. The other stamps in this set reflect equally famous mineral locations. See if you can pick them out in the collage at the base of this note? By expanding your collecting worldwide, the variety and beauty of the stamps is amazing. Some come in large sets of many denominations and even sizes, others come as single stamps. Some commemorate minerals from the country issuing the stamps, others simply depict beautiful minerals or gems. At this point I think I will just let some pictures do the talking.



Are you short on space? Are your flats of dirty minerals from last year stacked in the corner of the basement or the garage? Not sure where you will put your finds from next summer? Did you make a mess in the sink cleaning minerals? Well, a good collection of minerals on stamps sits in a 2-3" space on a bookcase and generally requires no cleaning. I just had to move mine from a 2" loose-leaf binder to a 3" binder and now I have room for many more acquisitions. It was not a messy job. I did not need soap and water and chemicals and none of them broke when I tried to move them.

Another great thing about stamps: with a few notable exceptions most stamps depicting minerals are much more affordable than the minerals themselves. Whether you collect them mint (with gum and unused) or after circulation and therefore cancelled, or whether you collect just the stamps themselves or prefer First Day Cover envelopes like the American Heritage envelope depicted above, most can be purchased for a few dollars and many for much less than that. It is not hard to get started, but be careful, much like the real thing, it can be quite addictive.

Previous Meeting Minutes: 2/24/21

by Bob Cooke, Secretary



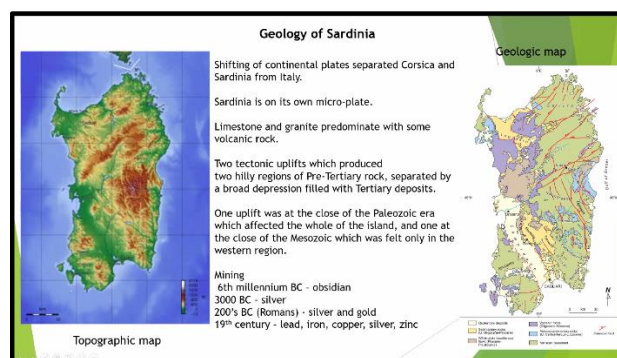
Since no business meeting was held, there are no minutes to report.

Previous Program Review: 2/24/21

Program: Minerals of Sardinia from the Lundgren Collection by Beth Heesacker, of Forest Grove, Oregon President of the Northwest Federation of the Mineralogical Societies and President of the Pacific Northwest Micro Mineral Study Group.



Beth presented some of her microminerals from the 7,800+ worldwide micros of the Lundgren collection, which included their handwritten catalogue. She has over 17,000 specimens in her computer-based catalog. Beth loves to make a home for orphan/estate collections. Besides microminerals, she included local photos of Sardinia, including her son and family who reside there. Program viewers appreciated her photography endeavors, including using a gaming laptop for speed in processing stacked photos.



Micromineralogists of the National Capital Area, Inc.

Mullite
Funtanafigu Quarry,
Oristano Province,
Sardinia, Italy



IT-JA 02 for 4.3 mm

SPHALERITE
San Giovanni Mine,
South Sardinia Province,
Sardinia, Italy



IT-JA 47 for 4.5 mm

BROCHANTITE
Montevecchio Mine, South
Sardinia Province,
Sardinia, Italy




IT-JA 30 for 2.23 mm

EPISTILBITE
Osilo, Sassari Province,
Sardinia, Italy



IT-JA 07 for 4.3 mm

SMITHSONITE
San Benedetto Mine,
South Sardinia Province,
Sardinia, Italy



IT-JA 39 for 4.3 mm

Lundgren's Catalogue - all handwritten, two three-inch binders and one one-inch binder

World-wide collection

Lived in Minnesota

Allen has passed, Barbara (in her 90's, is still alive)

Sold minerals briefly in the early 80's - Alabar Minerals

MICROMINERALS COLLECTION OF ALLEN & BARBARA LUNDGREN 741 Redwood Lane, New Brighton, Minnesota 55112		MICROMINERALS COLLECTION OF ALLEN & BARBARA LUNDGREN 741 Redwood Lane, New Brighton, Minnesota 55112	
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DOLOMITE
San Giovanni Mine,
South Sardinia Province,
Sardinia, Italy



IT-JA 25 for 4.3mm

My Setup:

- Rail support from Surplus Gizmos
- Stack Shot Rail
- Stages from Surplus Gizmos
- Canon T6i with AC adapter
- Canon 1-5x macro zoom lens
- 4 Ikea Led lights
- Vellum report covers from Office Depot as light diffuser
- Zerene Stacker
- Photoshop Elements for color correction
- Capture and stack the photos: Gaming Laptop - ROG Zephyrus
- Photoshop on desktop computer with 27-inch monitor



Atlantic Micromounters' Conference
Saturday April 10, 2021 1-4pm Zoom
by Kathy Hrechka, Conference Chair
Details www.dcmicrominerals.org

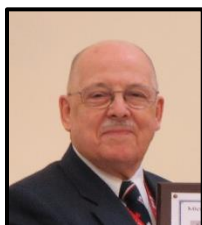
Speakers:

- *Quintin Wight, Ottawa, Ontario, Canada
- *Mike Seeds, Lancaster, Pennsylvania
- *Micromineral auction by Michael Pabst

The Scientific Value of Micromounting

by Colonel (Ret.) Quintin Wight, CD, MA Canada

For a long time micromounters have felt rather scorned by the collectors of large, showy pieces who spend thousands on their collections. Museum curators also tend to dislike micromounts because they are difficult to display. This talk demonstrates that micromounters have every reason to be proud of their accomplishments and introduces some of the people and institutions that are keeping the science of mineralogy alive and up to date through micromounting. In the last few years, micromounters have discovered more than 270 new mineral species. How many have the cabinet collectors found?



Biography: Quintin's thirty-seven-year career in the RCAF/CF took him, a graduate of Queen's, Carleton, and Concordia Universities, to many localities in which he could find mineral specimens to add to a growing collection. He began writing about minerals in 1966 and has since published a book *The Complete Book of Micromounting*, which was published in 1993. He has also written over 185 articles and reviews on mineral-related subjects. He began to specialize in mineral photomicrography in 1973 and has given more than 180 presentations to groups across North America, and in England, Belgium, Italy, Switzerland, Tanzania, and New Zealand. Inducted to the Micromounters' Hall of Fame in 1990, he now coordinates that organization in Baltimore, Maryland, and heads an annual gathering of specialists in microscopic minerals in Rochester, New York. The mineral *quintinite* was named in his honor in 1992.

The Universe in a Micro Box

by Mike Seeds PhD, Lancaster, Pennsylvania

Hydrogen and helium atoms were made in the big bang, but where did all the heavier elements come from? They were cooked up in stars and, in some cases, blasted into existence in cataclysmic explosions called supernovae.



Mike Seeds combines his experience as an astronomer with his love of minerals to trace the different ways stars have made the atoms in our minerals and in our bodies. The iron in our blood and in our pyrite crystals exists because dead stars called white dwarfs explode in supernovae and blast newly formed atoms into space. Mike's talk is illustrated with photos of exploding stars and beautiful minerals.

Biography: Mike Seeds is Emeritus Professor of Astronomy at Franklin & Marshall College, in Lancaster, Pennsylvania. He has enjoyed minerals since childhood, and his wife and daughter joined him in the family hobby of geology and minerals. They often attended mineral shows, and Mike most enjoyed the micromounters showing off tiny minerals under their 'scopes. He bought his first microscope in 1999 and has been making micromounts ever since. He is past president of the Baltimore Mineral Society, Chair of the Desautels Micromount Symposium, and has been editor of the club newsletter for over 10 years. He has written over 100 articles about RV d was inducted into the Micromounters Hall of Fame in 2020.

Micromineral Auction: Michael Pabst of Penn Laird, Virginia will conduct the micromineral auction in between speakers. **Serpierite** will be featured from one of the fathers of micromounting, Neal Yedlin.

Serpierite from Lavrion, Greece. FOV 7 mm. Photo by Michael Pabst, using macro lens + Raynox lens, stacking 23 images.
Chemistry:
 $\text{Ca}(\text{Cu,Zn})_4(\text{SO}_4)_2(\text{OH})_6 \cdot 3\text{H}_2\text{O}$.
Crystallography: Monoclinic
 $2/m$ prismatic.



**The Leidy Microscopical Society of PA
Quintin Wight - Feb 18 program recap**

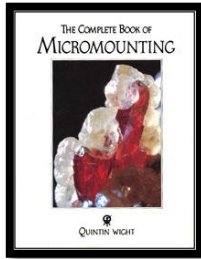
by Kathy Hrechka, Editor

Donald J. McAlarnen, The Leidy Microscopical Society's Treasurer invited MNCA members to their February 18 meeting via Zoom featuring Quintin Wight in Canada.

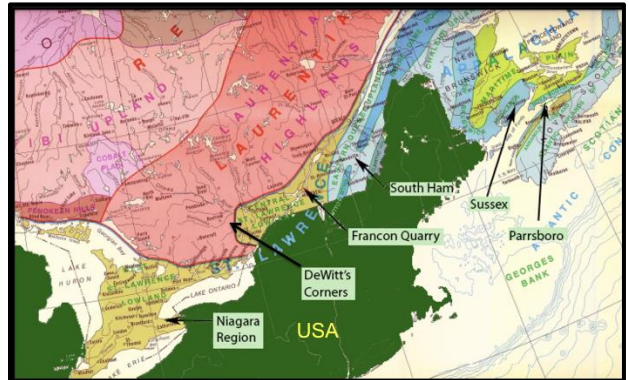


Quintin presented "Smaller Localities across Eastern Canada." His presentation began with a scattering of quarries in the Siliurian Lockport dolomite of Niagara Falls, then proceeded east to a Precambrian outcrop with högbomite and corundum, on to Montreal and the Francon quarry, then the South Ham antimony mine, and east again to boron deposits in New Brunswick (volkovskite, penobsquisite, etc.—not a "collecting" locality), and finally a quick look at the zeolites on the Bay of Fundy.

Biography: Col (Ret) Quintin Wight, CD MA, has been a mineral collector, micromounter and photomicrographer for more than 50 years. During that time, he has published more than 185 articles, on mineral subjects. He has also given more than 180 presentations to mineral groups in venues around the world. He was inducted to the *Micromounters' Hall of Fame* in 1990. His book, *The Complete Book of Micromounting*, was published in 1993, and the mineral *quintinite* was named in his honor in 1997.



Quintinite is a carbonate mineral with the chemical formula $Mg_4 Al_2 (OH)_{12} CO_3 \cdot 3H_2O$. The mineral was named after **Quintin Wight** of Ottawa, Ontario, Canada (b. 1935), who was a significant contributor to mineral studies at Mont Saint-Hilaire.



A sweep from the sediments of Niagara through the intrusives and metamorphics to the evaporites and basalts of the coast.



Dolomite on spherulite, Frontier Quarry, Lockport, NY.

Dolomite cluster is 4.5 mm in length.



But I found högbomite! $[(Mg, Fe^{2+}, Zn)_4(Al, Ti, Fe^{3+})_{10}O_{19}(OH)_2]$ (It's actually magnesiohögbomite, and that's one formula of four.)



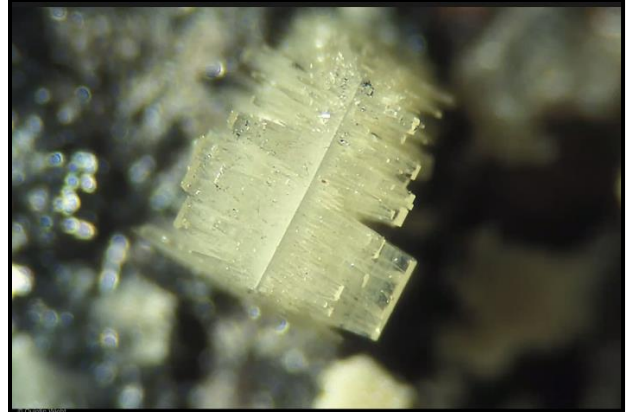
Magnesiohögbomite— $[(Mg, Fe^{2+}, Zn)_4(Al, Ti, Fe^{3+})_{10}O_{19}(OH)_2]$ —on calcite.

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The mineral that brought the Francon Quarry to the attention of collectors is weloganite, named after Sir William E. Logan, the founding director of the Geological Survey of Canada.

Weloganite, $\text{Sr}_3\text{Na}_2\text{Zr}(\text{CO}_3)_6 \cdot 3\text{H}_2\text{O}$, is triclinic, pseudo trigonal, and very fragile!



Valentinite. Again, an oriented overgrowth.

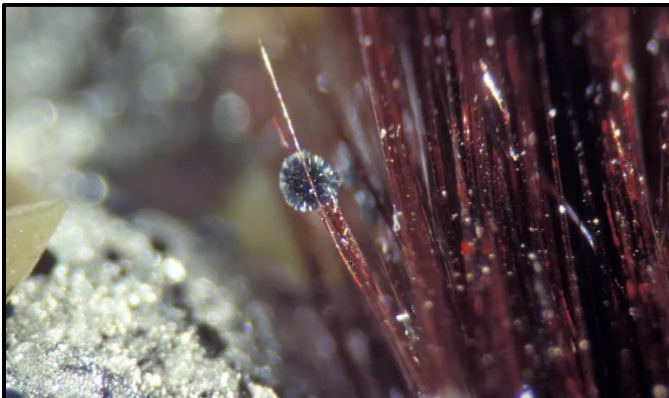


Dawsonite, $\text{NaAl}(\text{CO}_3)(\text{OH})_2$, was named after Sir John William Dawson, first Principal of McGill University in Montreal. The mineral was discovered while they were digging foundations behind the university library.

The crystal shown is so clear that only the edges are visible in reflected light.



Volkovskite, $\text{KCa}_4\text{B}_{22}\text{O}_{32}(\text{OH})_{10}\text{Cl} \cdot 4\text{H}_2\text{O}$ (triclinic).



But you can also get stibnite on kermesite!



Epidote, $\text{Ca}_2\text{Al}_2(\text{Fe}^{3+}, \text{Al})\text{Si}_3\text{O}_{12}(\text{OH})$, is found at Clarke Head.



We hope Willow and Quintin return home safely from their private safari in Africa. It appears they have been seen there for many months via Zoom.

Proustite

by Michael Pabst PhD, Treasurer

In the past several columns, we have looked at red and orange silver sulfosalts. Here we focus on Proustite Ag_3AsS_3 . Proustite is the arsenic analog of Pyrargyrite Ag_3SbS_3 which contains antimony. Proustite is sometimes called light ruby silver, and Pyrargyrite dark ruby silver. The lightness-darkness probably has more to do with the size of the crystals and their exposure to light. However, I will say that Proustite often has an orange overtone, which I do not see in Pyrargyrite.

If you would like to skip my scribblings and amateur photography, then just look at a beautiful photograph of Proustite, taken by one of the great Mindat photographers, Jean-Mark Johannet. You can click on this link: www.mindat.org/photo-684301.html. He used my model of camera, an Olympus OM-D EM5 Mark II, to take a high-resolution photo of 40 megapixels, using a special feature of the camera that involves slight movements of the sensor. In the legend to this photo, Jean-Mark invites the viewer to zoom-in, which you should try. When you compare this with my photos, you will understand when I say that the photographer is more important than the equipment.

In my days at Boston College, I would visit the Harvard Mineral Museum to admire the minerals, especially the Proustite from Chañarcillo, Chile. I have not seen the specimen that I remember on more recent visits; perhaps it was just a dream. Maybe this is the specimen that I remember:

www.mindat.org/photo-668307.html.



The first of my specimens that I would like to show is from Imiter, Morocco. It is a fleck of material I found loose in the packaging of larger specimen:



Proustite, Imiter Mine, Draa-Tafilalet Region, Tinghir Province, Morocco. FOV 1.5 mm. Photo taken with stereo microscope, stacking 9 images. The crystals are sitting on gray plastic packaging wrap. (Anyone who has adopted a stray kitten might understand my delight in rescuing this tiny specimen.)

There are no photos of Pyrargyrite from Imiter on Mindat, suggesting that Pyrargyrite, the antimony analog of Proustite, is rare at Imiter. I have read that samples from all known localities are either definitely Proustite or definitely Pyrargyrite, with no known examples near a 50:50 mixture.

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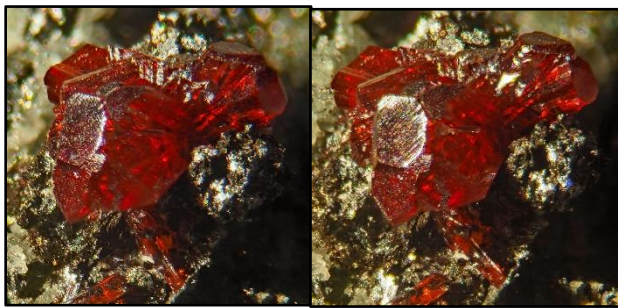
Proustite continued

Here is a larger group of Proustite crystals from Imiter:



Proustite from Imiter, Morocco. FOV 5 mm. Photo taken with 60 mm macro lens + Raynox extension lens, stacking 23 images.

Here is a cross-eye stereo image of another Proustite from Imiter.



Proustite, Imiter, Morocco, stereo pair, cross-eye mode. FOV 3 mm. Photos taken with stereo microscope, stacking 21 images on the left, and 24 images on the right. (#142)

If you have trouble with the cross-eye method of viewing, here is a parallel stereo pair of photos of Proustite from Schneeberg, Saxony, Germany.



Proustite, Schneeberg, Saxony, Germany. FOV 2.5 mm. Photos taken with stereo microscope, stacking 8 images on the right, and 5 on the left.

Next is a Proustite, with what looks like drusy Quartz, from Peru. These crystals are darker than the previous examples because the crystals are about 5 times bigger.



Proustite, Uchucchacua Mine, Oyon Province, Lima Department, Peru. FOV 11 mm. Photo by Michael Pabst. Photo taken with macro lens + Raynox lens, stacking 23 images.

Continued next page

Proustite continued



Proustite: Another crystal from the same Uchucchacua specimen. FOV 4 mm. Photo by Michael Pabst. Photo taken with stereo microscope, stacking 15 images.

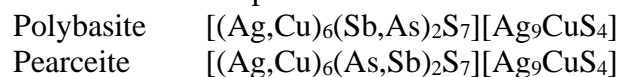
Finally, a Proustite from Ontario, showing a slight orange tone.



Proustite, Gowganda, Timiskaming District, Ontario. FOV 3.5 mm. Photo by Michael Pabst. Photographed by stereo microscope, stacking 3 images.

Proustite is trigonal $\bar{3}m$ hexagonal scalenohedral; Pyrargyrite is also trigonal, but slightly different, being $3m$ ditrigonal pyramidal. This small difference might explain why a near 50:50 arsenic:antimony hybrid has never been observed. Hardness $2-2\frac{1}{2}$ on Mohs scale. Adamantine luster. Intense deep red color. What a spectacular mineral! Proustite was named for Joseph-Louis Proust (1754-1826), a French chemist who discovered the Law of Constant Composition. Altogether, Proustite is a beautiful mineral to observe under the microscope and an interesting mineral to read about.

There are more interesting silver sulfosalts. The next article will examine Polybasite and Pearceite, another antimony-arsenic pair of silver minerals with complex structures:



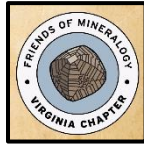
Michael Pabst is a retired professor of biochemistry who has collected minerals all his life. He has a long-term interest in minerals containing rare earth elements. He and his wife Karen, like to travel and check out mineral museums in the distant lands.



Friends of Mineralogy Virginia FMVA

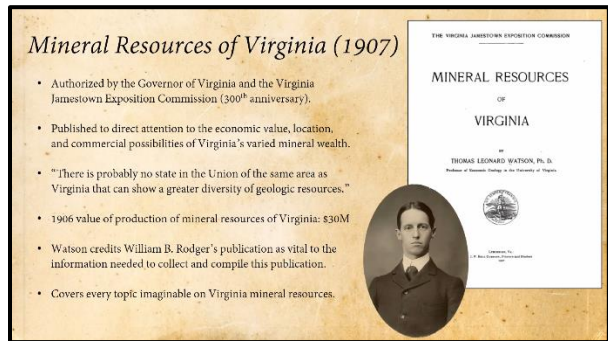
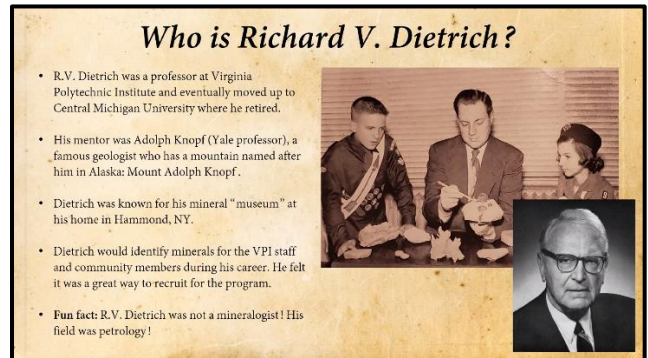
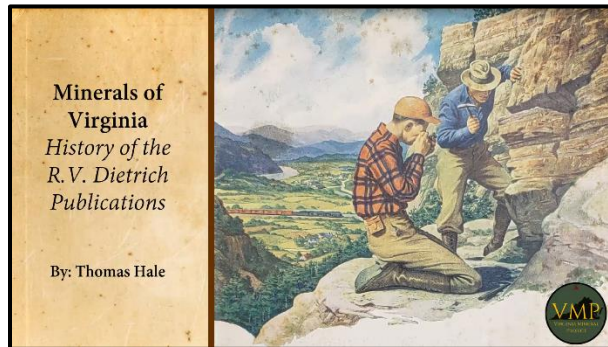
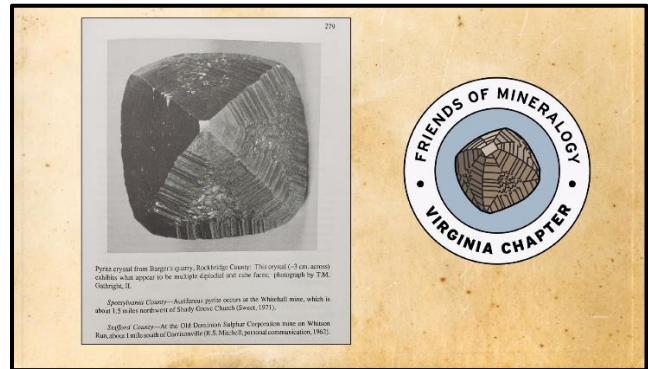
by Kathy Hrechka, Editor

On Feb 12 Thomas Hale, President of the Friends of Mineralogy Virginia chapter gave a presentation featuring the history of Virginia minerals, crediting Erich Grundel for providing archival documentation. Thomas's program detailed how Richard Dietrich has become the cornerstone of information of Virginia minerals. Note: the pyrite crystal from Barger's quarry that is included in the Friends of Mineralogy Virginia Chapter logo was inspired from Dietrich's book.



History of the R.V. Dietrich Publications

The 1990 *Minerals of Virginia* books by R.V. Dietrich inspired an entire generation of Virginia mineral collectors. Richard Dietrich was professor at Virginia Polytechnic Institute. Many of his articles were published for the Virginia Engineering Experiment Station, which was established in 1921. He was also known for his mineral museum at his home in Hammond, New York.



Friends of Mineralogy Virginia FMVA is a nonprofit organization dedicated to promoting and expanding the study of mineralogy and the hobby of mineral collecting. Our mission is to promote and preserve Virginia mineral and mining heritage while expanding the knowledge of minerals more broadly through community programs and partnerships. We appreciate your support!

<https://www.friendsofmineralogyvirginia.org/>
 Email: friendsofmineralogy.virginia@gmail.com

Matryoshka Diamond Yakutia, Russia

An unusual diamond with another diamond moving freely inside was mined in Yakutia at the Nyurba mining and processing division of ALROSA on October 4, 2019. Due to its peculiarity, the stone resembles a traditional Russian Matryoshka doll. According to scientists, diamond may be over 800 million years old. Despite its complex structure, it weighs only 0.62 carats (0.124 grams) and has maximum dimensions of 4.8 x 4.9 x 2.8 mm. The internal cavity volume is 6 cubic mm, and the internal crystal volume is 1.6 cubic mm with an estimated weight of 0.02 carats (0.004 grams). The inner diamond has a tabular shape and dimensions of 1.9×2.1×0.6 mm.

"The most interesting thing for us was to find out how the air space between the inner and outer diamonds was formed. We have two main hypotheses. According to the first version, a mantle mineral captured a diamond during its growth, and later it was dissolved in the Earth's surface. According to the second version, a layer of porous polycrystalline diamond substance was formed inside the diamond because of ultra-fast growth, and more aggressive mantle processes subsequently dissolved it.

Due to the presence of the dissolved zone, one diamond began to move freely inside another on the principle of matryoshka nesting doll," said Oleg Kovalchuk, Deputy Director for innovations at ALROSA's Research and Development Geological Enterprise. - As far as we know, there were no such diamonds in the history of global diamond mining yet. This is really a unique creation of nature, especially since nature does not like emptiness. Usually, some minerals are replaced by others without cavity formation."

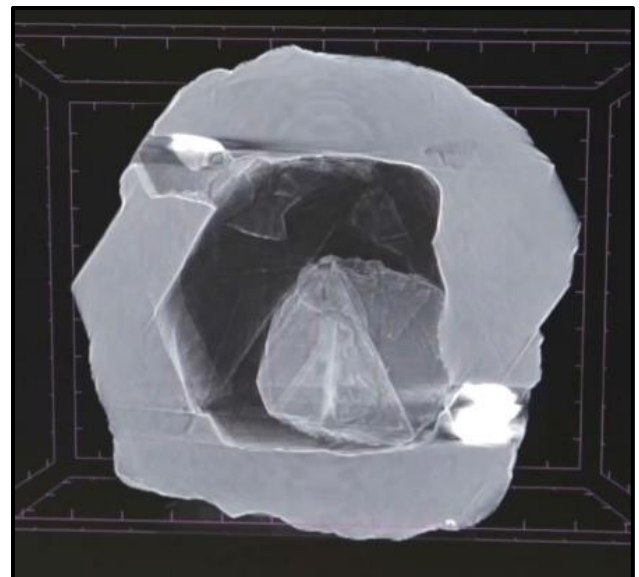
It was pulled from the depths of the Nyurba mine in Yakutia, Russia. The diamond was discovered only later as it was being assessed in Yakutsk—often referred to as Russia's diamond capital—by specialists at the Yakutsk Diamond Trade Enterprise. It was then given to the Research and Development Geological Enterprise of ALROSA, who used Raman and infrared spectroscopic imagery and x-ray microtomography to get a closer look at the gem.

A spokesperson for the mining company said the diamond will be sent to the Gemological Institute of America for further testing. Hopefully it gets there in one piece.

Adapted from Jennifer Leman
February 22, 2021

[This Is the World's First Diamond Within a Diamond \(yahoo.com\)](#)

Photo credit: ALROSA



Mineral Talks Live: 1pm Wednesdays

by Kathy Hrechka, Editor

Each Wednesday at 1pm EST Bryan Swoboda, Blue Cap Productions in Honolulu, Hawaii has been moderating various mineral persons of interest on Zoom. Each of his programs are recorded, so you can view archived speaker topics. On February 24, Bryan featured Stuart Wilensky of New York in his new art gallery. The artistic exhibit interpretations highlight Stuart's exquisite minerals.

**Stuart Wilensky Exquisite Minerals
"Contrast" Exhibit Winter 2021**



Stuart is holding his "Contrast" brochure. He believes that his gallery is an educational vessel for minerals. Notice his Mineralogical Record collection on the shelves. To identify minerals in the screen shots, you may schedule an appointment for your private viewing. info@wilenskyminerals.com



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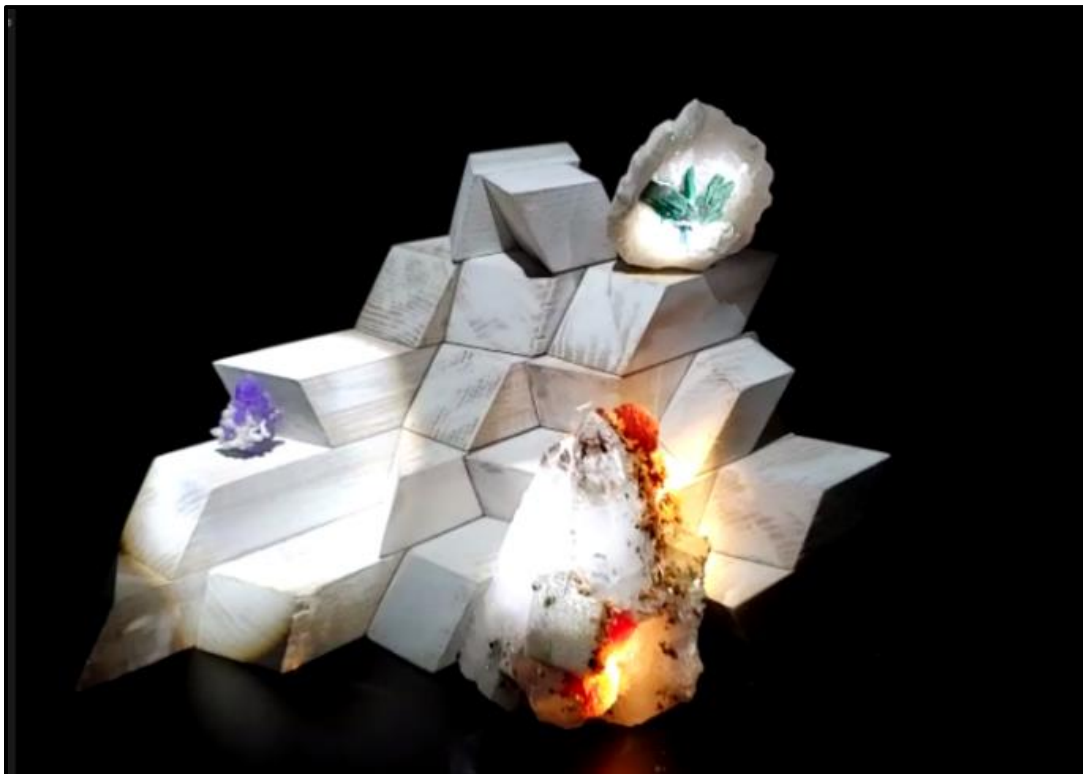


All Mineral Talks Live lectures are complementary to our geology community through the following individuals: Bryon Swoboda BCP, Dr. Rachel Alanzo Perez from the Mineralogical & Geological Museum at Harvard University, and Dr. Eloise-Gaillou, curator of the Mineralogy Museum Paris School of Mines in France representing the Society of Mineral Museum Professionals SMMP.

<http://go.mineraltalkslive.com>

WILENSKY
EXQUISITE MINERALS

173 10th Avenue New York, NY 10011



Current News on Scott Duresky's Rutherford Mine Research

by Scott Duresky, Charlottesville, VA

Over the next couple of months, Scott expects that he will have the opportunity to examine material that came from the core of the pegmatite. Since the 1950's material has only received a cursory examination. He would be incredibly surprised if something unusual did not turn up, and in those instances, will continue to work with Tony Nikischer at Excalibur Mineral for any EDS testing results that might be necessary.



An albite variety cleavelandite almost covered with bavenite crystals was a fairly large specimen with thick blades. I had noticed that it had an unusually large vug in which books of muscovite crystals had formed, which made it interesting to begin with. What I had not noticed was that delicately formed bavenite crystals had formed on the muscovite crystals! This was not entirely surprising, but it was the first time I had observed bavenite forming on muscovite, as opposed to albite or quartz.

I discovered cleavelandite, some of which may be fluorescent. What is interesting in this case is not the microlites that may be found within them, but that when broken down, there are sometimes pieces with associated clinocllore or jarosite, or sulfides like arsenopyrite, pyrite or pyrrhotite, which were always rare in the pegmatite. When doing this, I have also always been on the lookout for occasional vugs with a profusion of microscopic and terminated tourmaline crystals jutting out of the matrix, some coated with tiny orthoclase variety adularia crystals.

almandine was always quite rare, and I only found small pieces of it. That being said, its beautiful violet color is quite rare for the species, and I'm wondering if anybody ever found a piece large enough to cut.

There is a garnet species (andradite variety topazolite) that was only reported in the early days of the mine, and another, Grossular, that apparently petered out by the early 1960's. The Lora Robins Gallery has several examples in their collection, and I have a nice small crystal that is destined for their research collection.

There are also species like stibnite and several of the uranium minerals which were reported early on, none of which I have (although I'm always looking), and there are others, like ankerite and anglesite, that I do have, but apparently were always uncommon.

I have a speculation that when the minerals were solidifying in the pegmatite, very rarely, and possibly only in a single area of the pegmatite, tiny nodules of fluorapatite formed as inclusions in the cleavelandite, which could possibly account for the rarity of fluorescent cleavelandite. Otherwise, Fluorapatite crystals were quite rare in the pegmatite, and the mineral was usually found as intergrowths with matrix specimens of albite that had associated rare-earth minerals, usually allanite -(Ce) and/or fergusonite -(Y). Black lights have proven to be quite useful in confirming the presence of fluorapatite, whose yellow-orange fluorescence is considerable brighter in long-wave UV light.

I do have a single example of pale blue, non-fluorescent fluorapatite crystals in a matrix with cassiterite (these were thought by John Sinkankas as possibly due to tourmaline inclusions), and a single example of transparent pink crystals in an albite matrix. I have even seen (but do not have in my collection) a non-crystalline bleb of neon blue fluorapatite in albite.

Both the white and green varieties of fluorite variety chlorophane are uncommon varieties throughout the world, with the green variety more prominently demonstrating the unusual qualities of being non-fluorescent, yet thermo-luminescent with an enduring and ghostly blue-green phosphorescence when heated once. These qualities are still not thoroughly understood, and by the 1960's, very few matrix specimens were found. However, earlier in the mine's history, it was reported that in the matrix, they were always associated. with rare-earth minerals. This would lend support to the theory of minute amounts of yttrium or one of the other rare earths being responsible for these qualities.

Finally, this brings us to zircon, the source of one of the lingering mysteries about the pegmatite. Zircon crystals were usually found in association with rare-earth minerals, usually as dark brown, radiating crystals, with the curved crystals thought to be the thorium-rich variety cyrtolite. Continued next page

Rutherford Mine continued

Occasionally, dark brownish-black terminated crystals were found either in the matrix or as floaters; rarely, gemmy and transparent golden-brown glades were observed, along with hyacinth-colored crystals

Where the mystery lies is that rarely, and up until the early 1970's, black, dodecahedral crystals measuring up to 1/4' in diameter and resembling black microlites were coming out of the secondary zone. These were described by Lumpkin in 1998 as zircon's, and yet were always identified as "hatchettolite", a uranian pyrochlore, and labelled as such. However, "hatchettolite" has long been discredited, with no uranium having been identified in the first cation position. Unfortunately, no test results remain are known from that time, and outside a single example that I saw in my early 1970's collecting days, I have not seen one of these, or know of anyone who has one. So, what was it? Obviously, this is an area of open research that may not be closed.

Again, anyone who has material from the Rutherford Mine are encouraged to consider making donations of their own by contacting Scott.
Scott Duresky's phone (434) 882-3863

LORA ROBINS GALLERY of Design from Nature, University of Richmond promotes an awareness and appreciation of nature, which was a special publication of the Rochester Mineralogical Symposium in 1991.

Microminerals "Down Under"

by Kathy Hrechka, editor

Our December 23, 2020 featured speaker was Steve Sorrell from Melbourne, Australia. He hosts a program every other Tuesday at 2pm (EST) with various geology persons of interest. Sign up for Steve's programs, and meet new presenters, while enjoying friendly faces within our geology community around the globe.

steve@sorrellpublications.com



Ti Nguyen Meredith July 28, 1961 – Feb 23, 2021

It is with deep sorrow that we announce the death of Ti Nguyen Meredith of Manassas, Virginia, who passed away on February 23, 2021, at the age of 59, leaving to mourn family and friends. Family and friends can send flowers and/or light a candle as a loving gesture for their loved one. Leave a sympathy message to the family in the guestbook on this memorial page of Ti Nguyen Meredith to show support.



She was loved and cherished by many people including: her parents, Ronald Meredith, and Sophie Meredith; her siblings, Tom, Kim, and Phuong; her children, Cuu and Erica Godfrey; and the father of her children Tim Godfrey.

A memorial service will be held on Friday, March 19th, 2021 at 2:00 PM at the Gainesville United Methodist Church (13710 Milestone Ct, Gainesville, VA 20155). Funeral arrangement under the care of Pierce Funeral Home Inc, 9609 Center St, Manassas, VA (703) 257-6028



It is with great sadness, that the Lake Jackson Volunteer Fire Department of Manassas, Virginia announces the sudden passing of FF/EMT Ti Meredith. Ti joined our department in January of 2018. She has been a volunteer for the past 20 years in Prince William and surrounding counties. Her smile was contagious, and her dedication was unparalleled, the true meaning of what it is to be called a Volunteer. We will miss you Ti. Rest forever in peace my friend.

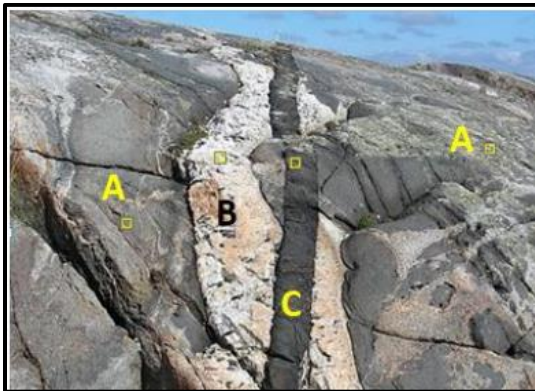


Paragenesis

By Fred Haynes, Editor, Wayne County Gem and Mineral Club of New York

Article is adapted from Wayne County Gem and Mineral Club News March 2021

Paragenesis is a five syllable word geologists use to sound smart and confuse people. OK, maybe not. But in reality, it has a very simple meaning. The term is used to describe the sequence of geologic events leading to the formation of a rock that has a complex history. The paragenetic sequence in mineral or rock formation is important in deciphering the detailed geologic history of ore deposits, or of igneous and metamorphic events. This is probably best illustrated by example.



Example #1: Igneous rock formation from Kosterhavet National Park in Sweden.

The paragenetic sequence of igneous events in this example starts with the black host rock labeled A. This is an igneous intrusion of gabbroic composition. After that rock had been fully crystallized, it was intruded by a pegmatite dike (B) containing large pink feldspar and quartz crystals. Long after that the gabbro and the pegmatite cracked and a very different magma intruded to form a diabase dike (C). The cross-cutting relationships in this outcrop clearly reveal the paragenesis.



Example #2: a bit closer to home, Herkimer Diamond in a vug in dolostone

In this second example, the paragenesis starts with the formation of a sedimentary dolostone host rock over 500 million years ago during the Cambrian Period of the Paleozoic Era. The second event is the formation of a vug by dissolution, probably by circulating groundwater below a regional unconformity much later. The black material underlying the Herkimer quartz crystal and preceding its growth is a form of hydrocarbon called anthraxolite that coated the vug when the formation was again deeply buried. The wonderful Herkimer quartz completes the paragenesis, growing in the open vug.



Example #3: even closer to home (my home)

Perhaps this final example is even easier to understand. The first mineral to form was the pile of snow on the patio where I had raked it off the roof. Second were the large icicles, broken from the roofline and stuck into the snow. Finally, later that day it snowed again, depositing a snow cap atop each icicle. In this case the mineralogy of each sequential deposition is the same (ice, H₂O), but each form is distinct, allowing the paragenesis to be determined even without knowledge of actual processes involved.

Micromineralogists of the National Capital Area, Inc.



American Federation of Mineralogical Societies

(AFMS)
www.amfed.org



Eastern Federation of Mineralogical and Lapidary Societies

(EFMLS)
<https://efmls.org>

Please read the AFMS bulletin attached in original monthly email to MNCA members.

2021 Purpose of the AFMS: To promote popular interest and education in the various Earth Sciences, and in particular the subjects of Geology, Mineralogy, Paleontology, Lapidary and related subjects, and to sponsor and provide ways to coordinate the work and efforts of all interested persons and groups; to sponsor and encourage the formation and international development of Societies and Regional Federations and thereby to strive toward greater international good will and fellowship.

The A.F.M.S. Newsletter is normally published monthly except January, July, and August by the American Federation of Mineralogical Societies. Each Regional Federation Club is entitled to receive three (3) copies of the AFMS Newsletter. These are usually sent to the President, Federation Director and Editor. Subscription Information, Distribution Questions and address changes should be sent to the AFMS Central Office.



The Rock & Gem magazine is recognized as the official magazine of the AFMS.

Communication and Involvement
Are the Keys to Our Success!

Please read the EFMLS bulletin attached in original monthly email to MNCA members.

Local Geology Club Meetings: **Zoom**
March 2021

3: Mineralogical Society of the District of Columbia - MSDC 7:30 Mike Seeds **Zoom**
www.mineralogicalsocietyofdc.org

8: The Gem, Lapidary and Mineral Society of Montgomery County, Maryland - GLMSMC
7:30 pm Kathy Hrechka - **Zoom** www.glmsmc.com

? The Gem, Lapidary and Mineral Society of Washington, DC - GLMS-DC meeting
www.glmsdc.org

17: The Baltimore Mineral Society 7pm **Zoom**
18: Leidy Microscopical Society, Pennsylvania
7:30pm **Zoom**

22: Northern VA Mineral Club – NVMC meeting
7:30 **Zoom** www.novamineralclub.org

24: Micromineralogists of the National Capital Area, Inc. - MNCA 7:30pm Fred Haynes **Zoom**
www.dcmicrominerals.org

April 10: Atlantic Micromounters' Conference will be held 1-4pm via **Zoom**
*Quintin Wight, Canada
*Mike Seeds, Lancaster, Pennsylvania
*Micromineral auction will be moderated by Michael Pabst, Penn Laird, Virginia
www.dcmicrominerals.org
by Kathy Hrechka, Conference Chair

April 17: Rochester Mineralogical Symposium will be hosted via **Zoom this year.**

Micromineralogists of the National Capital Area, Inc.



GeoWord of the Day and its definition:

doreite (dore'-ite) An andesitic lava containing approximately equal amounts of potassium and sodium; the extrusive equivalent of *mangerite* (Streckeisen, 1967, p.209). The name (for Mont Dore, Auvergne, France) was proposed by Lacroix in 1923 for olivine-bearing *trachyandesite*. Obsolete.

structure type A group of crystals having the same atomic structure, i.e., having the constituent atoms arranged in a geometrically analogous way. An example is the NaCl structure type, in which equal numbers of cations and anions occur in six coordination; it includes sylvite, periclase, and galena.

All terms and definitions come from the [Glossary of Geology, 5th Edition Revised](#).

GeoWord of the Day is brought to you by: EnviroTech!

envirotechonline.comwordoftheday@agiweb.org

AGI was founded in 1948, under a directive of the National Academy of Sciences, as a network of associations representing geoscientists with a diverse array of skills and knowledge of our planet. The Institute provides information services to geoscientists, serves as a voice of shared interests in our profession, plays a major role in strengthening geoscience education, and strives to increase public awareness of the vital role the geosciences play in society's use of resources, resilience to natural hazards, and the health of the environment.

AGI is a not-for-profit 501(c)(3) organization dedicated to serving the geoscience community and addressing the needs of society. AGI headquarters are in Alexandria, Virginia.

Micromineralogists of the National Capital Area Meeting: The 4th Wed. of each month 7:30 -10 p.m.
Long Branch Nature Center (No meetings July & Aug)
625 S. Carlin Springs Road, Arlington VA 22204
Phone (703) 228-6535 (Long Branch is still closed)

MNCA Purpose: To promote, educate and encourage interest in geology, mineralogy, and related sciences.

President: Dave MacLean
Vice President: David Fryauff
Secretary: Bob Cooke
Treasurer: Michael Pabst
Editor/Historian: Kathy Hrechka
Website: Kathy Hrechka
AMC Conference: Kathy Hrechka

The society is a member of:

* Eastern Federation of Mineralogical and Lapidary Societies (EFMLS) www.efmls.org
* American Federation of Mineralogical Societies (AFMS) www.amfed.org affiliation

Dues: MNCA Membership **No Dues 2021**
\$15 (single) or \$20 (family) donations
MNCA - Michael Pabst, Treasurer
270 Rachel Drive
Penn Laird, VA 22846



Editor's Note:
By
Kathy Hrechka



Send your articles and photos to your editor.
Club Article Deadline is 1st of each month.
The Mineral Mite will be emailed on 5th.
No newsletter July/August

Inducted into Editor's Hall of Fame – 2018
AFMS Trophy 2019 Small bulletins



Newsletter inputs:

*Fred Haynes
*Dave MacLean
*David Fryauff
*Bob Cooke
*Michael Pabst
*Kathy Hrechka
*Scott Duresky

