

MNCA Website www.dcmicrominerals.org

The Mineral Mite



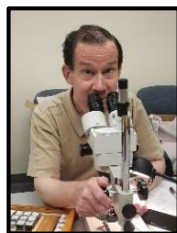
Vol. 57 – No. 10 Washington D.C. A Journal for Micromineralogists Dec 2024

Meetings: Dec 2nd 6:30pm DLF & Dec 30th 3pm KPL

Dec 2 Holiday Party

By Jeff Guerber, Vice president

We will celebrate our festive joint holiday party with the Northern VA Mineral Club, 6:30pm at the Dunn Loring Volunteer Fire Department, 2148 Gallows Rd., Dunn Loring (at Wolftrap Rd., right in front of Kilmer Middle School). Please Park and enter in the rear! Main dishes and drinks will be provided by the clubs; bring a side dish or dessert. Also, if you wish, bring a wrapped geo-related gift (<\$20) for the traditional gift exchange.



President's Message:

By David Fryauff, President

I wish to express my sincere thanks to friends and members of the MNCA for all of their support and assistance during this incredibly interesting and turbulent year of 2024. Special thanks to those of you who helped out with our MNCA demo table at the recent NOVA gem, mineral & fossil show at George Mason University on the busy weekend of 23-24 November.



I wish you all a safe and enjoyable holiday season. In these closing days of 2024, I cannot and should not be giving anyone advice on how to live and act. But each of us can and should reflect on what we have been doing, right, and wrong, and how we can do better with the time and talents we have. Keep doing what you are doing so well: Finding joy and beauty and fascination with SMALL THINGS!!!

Dec 30 MNCA Elections, Show & Tell Micromineral Study

Dec. 30 will be our regular monthly club meeting, 3-5:30pm at the Kings Park Library large meeting room. We'll hold club elections for 2025! Also, bring interesting or recent micros to show and discuss.

Mystery Micro Mineral of the Month



Clue: Pale greenish blue acicular crystals with platy blue Yvonite crystal aggregates. Salsigne Mine, Salsigne, Aude, Occitanie, France. FOV=2.5mm.

By Aloha Peter Chin, Honolulu, Hawaii. Answer p 2.



Northern Virginia Mineral Club 25th Annual Show at George Mason University Nov 23-24, 2024. MNCA had a demonstration area staffed by John Sanborn, Dave MacLean, David Fryauff, and Bob Cooke.

The Mineral Mite December 2024

Micromineralogists of the National Capital Area, Inc.

Mystery Micro Mineral of the Month

By Aloha Peter Chin, Honolulu, Hawaii

Answer: **Puscharovskite** Pale greenish blue acicular crystals with platy blue Yvonite crystal aggregates. Salsigne Mine, Salsigne, Aude, Occitanie, France. FOV=2.5mm.

Previous Meeting Minutes 11.25.2024

By Bob Cooke, Secretary

President Dave Fryauff called the meeting to order at 3:45 PM November 25, 2024. Eventually, nine members were present: Bob Cooke, Dave Fryauff, Jeff Guerber, Dave Hennessey, John Kress, Dave MacLean, Craig Moore, John Sanborn, Corrine Wilson.



Members approved the expenditure of \$40 as MNCA's contribution to the joint MNCA/NVMC Holiday Party on December 2 at the Dunn Loring Firehouse.

During discussion of the elections for 2025 MNCA officers, there was unanimous agreement to nominate Dave Fryauff for President, Jeff Guerber for Vice-President and Michael Pabst as Treasurer. Bob Cooke stated he would no longer serve as secretary because he could not reliably hear discussions during the business meetings. The group agreed to leave the Secretary position vacant. Elections will be held at the December meeting.

John Sanborn thanked members for their support of the MNCA's Micromount Demonstration table at last weekend's GMU/NVMC mineral show.

Non-functioning aspects of the MNCA website were noted. There was extensive discussion of events at the recent GMU/NVMC mineral show. Dave MacLean noted the advantage of having space in front of the MNCA demonstration table for members to interface with visitors. A similar spatial arrangement was suggested for the GLMSMC mineral show on March 15/16. Members discussed ways "to grow" the club. There was no conclusion.

Next meeting will be on December 30th at 3PM in the Kings Park Library meeting room. Meeting adjourned at 4:45 PM



MNCA Meeting: L-R David Fryauff, Jeff Guerber, Dave MacLean, John Kress. Photo by John Sanborn



MNCA Meeting: L-R Corrine Wilson, Dave Hennessey, Bob Cooke, Craig Moore. Photo John Sanborn

Previous Program Review 11.25.2024

By David Fryauff, President

Spruce Pine, Mitchell Co., NC – Minerals & Mining History: The picturesque little town of Spruce Pine, in Mitchell County, North Carolina (Pop. 2194) came very suddenly into the national and international news recently because of the devastating torrential rain and flooding from hurricane Helene that struck the Appalachian states on September 30, 2024. More than 24 inches of rain fell in a single day causing massive destruction and death. Hurricane Helene affected a large region of the eastern US that included FL, GA, TN, SC, NC, and VA but it seems that western NC suffered the greatest devastation.

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Spruce Pine continued

The mountainous western half of NC is a beautiful country that is also rich in minerals. One of the most important minerals mined in Spruce Pine is Quartz. Super abundant Ultra high purity quartz that is needed to make semiconductors solar panels, fiberoptics, precision optics, and dozens of other specialty items that we cannot live without.

As a teenager, back in 1968, I visited this area with my grandma and dug for rubies, sapphires, and garnets in one of the many gem mines in the famous Franklin, Cowee Valley Ruby mines.

I never heard of Spruce Pine until I joined the MNCA in 2011 and met a young geologist from North Carolina named Jason Smith. Jason got me really interested in mineral collecting in North Carolina, and I also became acquainted with Spruce Pine and its Chalk Mountain Mine during a week at the Wildacres Retreat in Little Switzerland, just a short drive to Spruce Pine. I made several camping trips down to Mitchell Co., NC for mineral collecting at some of the old mines--Crabtree Emerald Mine, McKinney Mine, Sinkhole Mine, Ray Mica Mine. But the famous Chalk Mountain Mine overlooking Spruce Pine was no longer just a feldspar-kaolin-quartz-mica & garnet mine. It was strictly off limits and under high-level production. Luckily, I found a few good quality Chalk Mountain minerals at shows and especially at James Madison University when they deaccessioned their old collections.

My presentation introduces us to the mining history, the mineral species, and the enormously important deposit of ultra-high purity quartz that occurs in the Spruce Pine pegmatite. Some screen shots follow.

Spruce Pine Mining Quartz: USGS 2019 Report of total global High Purity Quartz (HPQ) raw mineral resources:

- Brazil: 21.11 metric tons from crystalline quartz.
- USA: 18.22 metric tons from granite pegmatite.
- Canada: 10 metric tons from vein quartz.

A tiny town just got slammed by Helene. It could massively disrupt the tech industry

Hurricane Helene Shuttters 'Critical' Quartz Mines That Power the World's Electronics, Solar Panels and A.I.

UPDATED OCTOBER 1, 2024 - 11:30 AM ET | HEARD ON ALL THINGS CONSIDERED

By Geoff Brumfiel, Scott Neuman, Camila Demomonte

North Carolina town that produces quartz needed for tech products is devastated by Helene

Two mines in North Carolina are the world's only producer of the quartz necessary for semiconductor manufacturing

If they were to stop operating, it would mean a few years of catastrophic disruption, says Wharton professor Ethan Mollick

By Erika Murphy March 24, 2024 at 7:55 AM | 28 comments

Largest Spruce Pine quartz mine restarts after Helene battered mountain town

BY ISSAN GORDON | UPDATED OCTOBER 10, 2024 10:08 PM |

Spruce Pine Quartz Mine headlines Oct. 1 – 10, 2024

Sibelco(Belgium & US)/The Quartz Corp. (TQC) Norway

Unimin (Sibelco) US - Spruce Pine Plant (Since 1970):

- Quarrying
- Crushing
- Sorting
- Primary Flotation
- Shipping semi-refined quartz sand to Norway for "Deep Processing"

The Quartz Corp. (TQC)

- Secondary Flotation
- Magnetic separation
- Acid leaching
- High Temp. roasting

Spruce Pine Plant / Belgium / US / Norway



Chalk Mountain Mine, Spruce Pine, North Carolina

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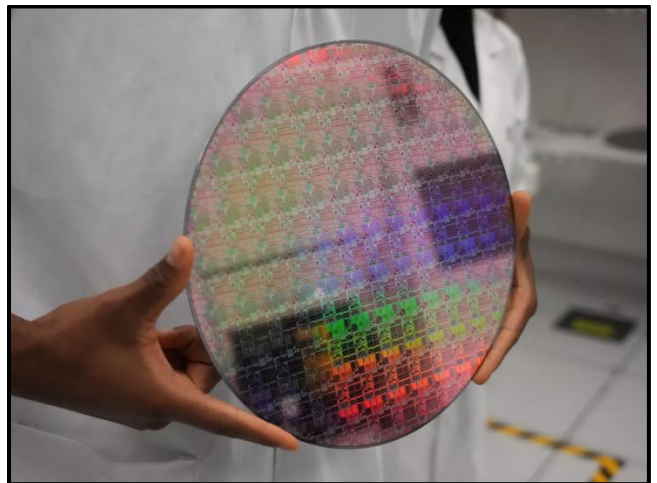
Spruce Pine Mining area, Spruce Pine, North Carolina. Google Earth photo



Sibelco US, The Quartz Corporation. Internet photo



Spruce Pine Pegmatite, David Fryauff photo.



Final purified quartz product for the semi-conductor industries. Internet photo



Quartz, Spruce Pine Mining Operations, NC



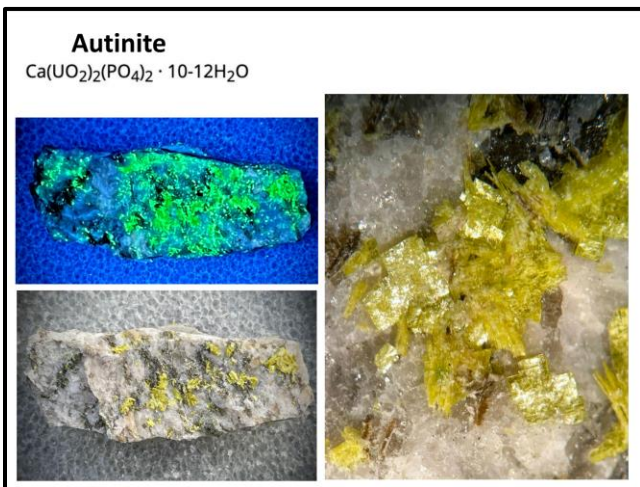
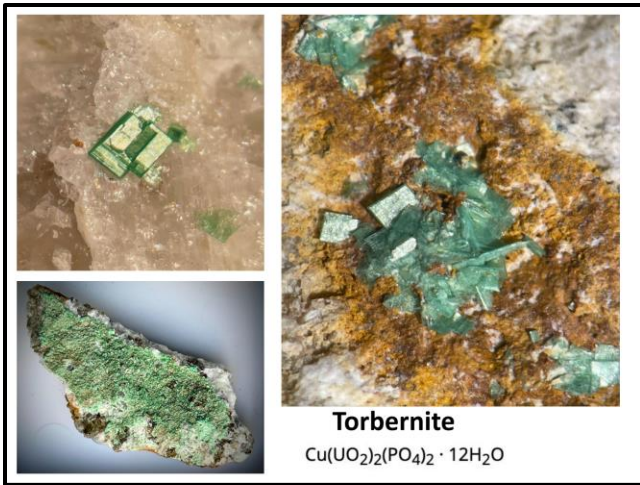
*Purified quartz crucibles for semi-conductor industry.
Continued next page.*

Micromineralogists of the National Capital Area, Inc.

Spruce Pine continued



David's Magnet Cove, Arkansas Mystery



David Fryauff's mystery mineral from Jones Quarry, Magnet Cove, Arkansas, photomicrography by David Fryauff.

Micromineralogists of the National Capital Area, Inc.

Micromount Demonstration: MNCA

By John Sanborn

The Micromineralogists of the National Capitol Area (MNCA) had a demonstration table for microscopes and micro mount minerals at the Northern Virginia Mineral Club Show at George Mason University November 2024. Our table was staffed by Dave MacLean, David Fryauff, Bob Cooke, and John Sanborn. We stretched the mission statement of the MNCA slightly by having geology posters near the table. They did, however, attract attention from many people. Children, adults, and college students all enjoyed the microscopes and micro mounts. Dave McLean made it a point to show the operation of a loupe to most attendees. While somewhat difficult to master, the visitors did get the idea. From the loupe to a simple three power magnifying glass, to the microscopes, visitors had a sample of the different styles of magnification and the amazing world they open visually.

We all had great satisfaction providing kids, adults, and college students with some enjoyment and knowledge of minerals. A few memories stand out; A small child had purchased a souvenir one-inch stone statue of a cat. She mistakenly left the statue in its package on our table as she was looking through a microscope. After they and the next visitors had left, I noticed the statue and immediately felt terrible for the kid. Dave MacLean had pointed out each time he gave away a sample stone to a kid, he asked them to put it in their pocket for safekeeping, or have their parents keep it, knowing that they would feel terrible later if they lost their souvenir. I took the lost cat statue to the show front desk in case someone came around looking for it. Shortly after I returned, I noticed a family was looking for something, and I asked them if they had lost a cat statue. They said yes, and I felt so good that we had found the owner. I walked them up to the front desk, presented the souvenir to the little kid and she was so happy as her parents were.

Another great memory was seeing a junior level college student in biology, sitting down with Dave MacLean to talk for nearly an hour about various things. The student had the awareness to know that Dave was one of the most knowledgeable and accessible people at the show to talk to.



Our table was in the “buffer” hallway between the main show galley and the kid’s room, very good for a somewhat quiet conversation.

Another memory was of a college student, with a couple of her friends who stopped at our table. We pointed out various mineral specimens they could have for free. They were so happy. I suggested they visit the kids’ room, and they said, well we are not really kids, but kids at heart. I said most of us are. They walked in, picked up a few more samples and came back to show them to me. One girl then returned a while later with more samples she had collected elsewhere in the show. It was great to see and talk with an enthusiastic person, there were many age groups.

On Sunday, a boy and his mother stopped by with a bag of rocks he had collected in the area. They had been at the show on Saturday and asked me to help identify the stones that they had collected. I said I am sorry I am not an expert, but there are people in the show that are. I provided encouragement that they had nice, interesting and “cool” specimens. Another adult stopped by with a piece of iron and asked me if I thought it might be a meteorite. I said it certainly could be, but I am not the person that could identify it. She had found it in a street somewhere. It looked like a piece of iron, (I did not have a magnet), no discernible shape like a bolt or a nut. I am sure most of you that have volunteered at a show have experienced these or similar interactions with visitors.

My final memory was of Dr. Julia Nord, George Mason University sponsor of the show for 25 years, who is retiring. She was driving the shuttle for visitors back to the parking lot after the show, quite the honor to be driven by Dr. Nord.



John’s initial set up for our MNCA demonstration. Continued next page

Micromineralogists of the National Capital Area, Inc.

Micromounting continued



John Sanborn with a junior science enthusiast.



Dave MacLean and John Sanborn



Dave MacLean is conversing with a student.



MNCA Demonstration table with John Sanborn.

Connellite and Buttgenbachite

By Michael Pabst PhD, Treasurer

In my review of copper sulfate minerals, I had planned to cover both Connellite and Langite in this article. To my delight, I found that I had so many nice specimens of Connellite that Langite will have to wait for the next article. Moreover, Connellite has many interesting features to explore, and so deserves its own article. In reading about Connellite, I discovered that it was one end-member of a series between Connellite and Buttgenbachite. Connellite is a copper sulfate and Buttgenbachite is the nitrate analog. Here are the formulas:

$\text{Cu}_{19}(\text{SO}_4)(\text{OH})_{32}\text{Cl}_4 \cdot 3\text{H}_2\text{O}$

$\text{Cu}_{19}(\text{NO}_3)_2(\text{OH})_{32}\text{Cl}_4 \cdot 2\text{H}_2\text{O}$. Both species contain chloride and hydroxyl groups. The hydroxyl groups indicate that the minerals formed in alkaline conditions, making them less soluble in water, and adding to their stability. (Unlike, for example, Chalcantite $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$, which is readily soluble in water and prone to damage from humidity.)

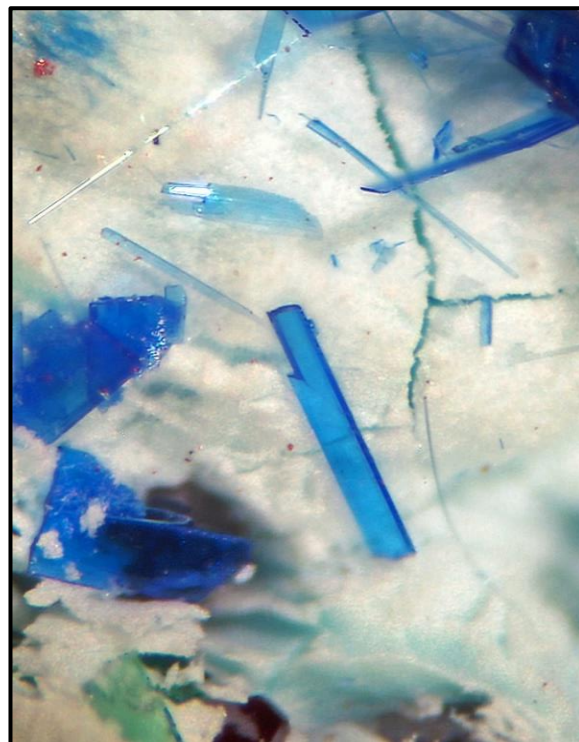
There are uncertainties about the chemical composition of Connellite, because most specimens contain both sulfate and nitrate. As a rule, specimens from Likasi in the Democratic Republic of Congo are more nitrate, making them Buttgenbachite, while many other localities are predominantly sulfate. There are also uncertainties because Connellite can absorb and exchange ions somewhat like a zeolite. This makes deducing and balancing formulas from elemental analysis tricky, and so there are several versions of the chemical formula in different publications and websites. Here we are using the formulas from Mindat.org. There is a technical article by Hibbs, Leverett, and Williams about the composition and crystallography of Connellite in *Axis*, the *Mineralogical Record's* online magazine, which you can access here: <https://mineralogicalrecord.com/wp-content/uploads/2020/10/pdfs/CONNELLITE.pdf>.

Besides discussing the problems of chemistry and crystallography mentioned above, the article does have a nice photo of Connellite from Bisbee, Arizona, taken by Wendell Wilson at the Harvard Museum.



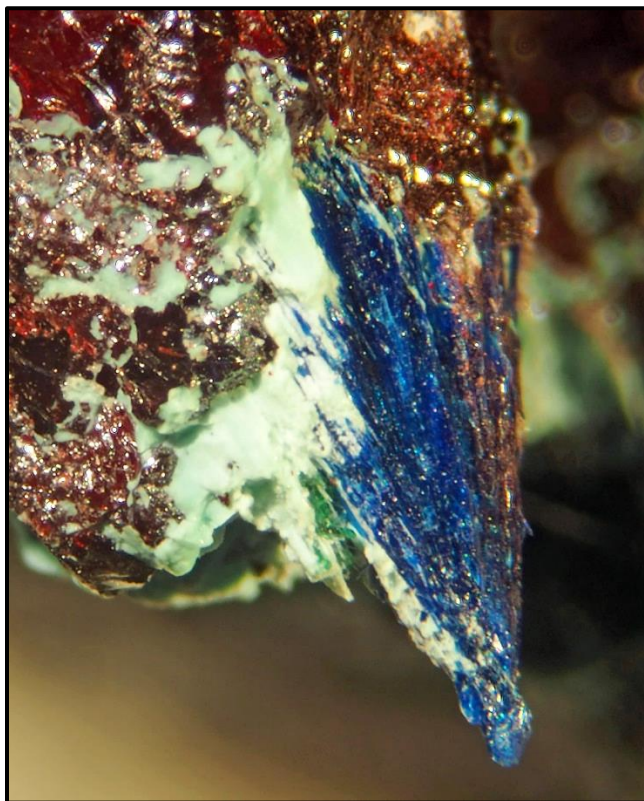
Regarding the crystallography of Connellite and Buttgenbachite, which form an isostructural series, both have similar crystallographic properties. Mindat.org reports that Connellite crystals are Hexagonal $\bar{6}m2$ – Ditrigonal Dipyramidal, space group $P\bar{6}_2c$, whereas Buttgenbachite crystals are Hexagonal $6/mmm$ – Dihexagonal Dipyramidal, space group $P6_3/mmc$. However, the *Axis* paper cited above gives Connellite as space group $P6_3/mmc$ (in Table 2). To be truly isostructural, they should both be Dihexagonal – Dipyramidal, space group $P6_3/mmc$.

Buttgenbachite. Buttgenbachite was named by Alfred Schoep for Henri Buttgenbach (1874-1964), a Belgian mineralogist who studied minerals from DR Congo. The type locality is the Likasi Mine, Likasi, Haut-Katanga, DR Congo (the former Belgian Congo). Below is my Buttgenbachite specimen from Likasi. The first photograph shows a close-up of a Buttgenbachite crystal. The second photograph of the same specimen shows a spray of Buttgenbachite crystals embedded in red Cuprite Cu_2O , along with some green Gerhardtite $\text{Cu}_2(\text{NO}_3)(\text{OH})_3$, another copper nitrate.



Buttgenbachite. Likasi, Haut-Katanga, DR Congo. FOV 2 mm. Photo by Michael Pabst, using stereo-microscope, stacking 9 images. Continued next page.

Connellite continued



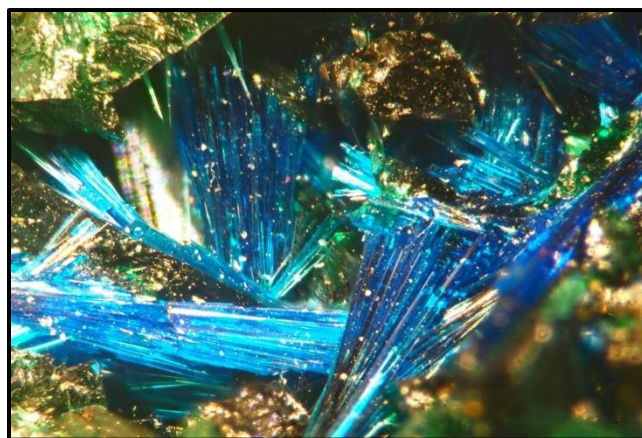
Buttgenbachite. Likasi, Haut-Katanga, DR Congo. FOV 6 mm. Photo and specimen by Michael Pabst, using microscope, stacking 10 images.

Connellite. Connellite was named by James Dwight Dana in 1850 to honor Arthur Connell (1794-1863, professor of chemistry at St Andrew's University, Edinburgh, Scotland, who described the mineral. Type locality is Wheal Providence, St. Ives, Cornwall, England. Forms transparent blue needles. Hardness 3.

Here below are several of my specimens of Connellite. The first specimen is from Bisbee, Arizona. It looks a lot like the above specimen of Buttgenbachite, because the Connellite is embedded in massive red Cuprite and it is associated with green Brochantite $\text{Cu}_4(\text{SO}_4)(\text{OH})_6$, a copper sulfate mentioned in my previous article. First there is an overall view of the entire specimen showing the Connellite in a small vug in the Cuprite. Then there is a close-up photo of Connellite and Brochantite in the vug.



Connellite and Brochantite in Cuprite matrix. Southwest Mine, 5th level, Bisbee, Arizona. The specimen is 41 mm wide. Specimen and photo by Michael Pabst, using macro lens, stacking 15 images.



Connellite (blue) with Brochantite (dark green). Southwest Mine, 5th level, Bisbee, Arizona. FOV 3 mm. Specimen and photo by Michael Pabst, using stereomicroscope, stacking 26 images.

Another beautiful specimen is from Gold Hill, Tooele County, Utah. The Connellite occurs as fine deep-blue needles, resembling Cyanotrichite $\text{Cu}_4\text{Al}_2(\text{SO}_4)(\text{OH})_{12}\cdot 2\text{H}_2\text{O}$, which will appear in a later article.

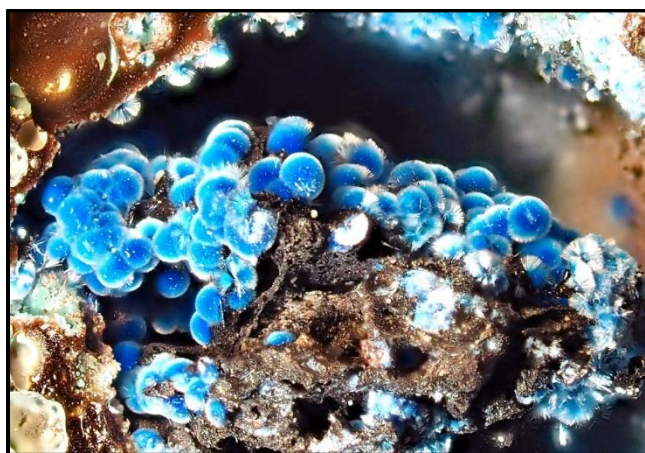
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Connellite. Gold Hill, Tooele County, Utah. FOV 3 mm. Specimen and photo by Michael Pabst, using macro + Raynox lenses, stacking 35 images.

The two samples of Connellite shown above are from natural rock. The next specimen is from a slag, in this case from Val Varena, Italy. Connellite is a common slag mineral, much appreciated for its beautiful color and tiny crystals that often form balls.



Connellite. Carpenara slag locality, Varena Valley, nr. Pegli, Genoa, Liguria, Italy. FOV 4 mm. Photo and specimen by Michael Pabst, using macro + Raynox lenses, stacking 65 images.

Here are some good photos of Connellite from Mindat: Connellite from Wheal Gorland in the Natural History Museum in London, by Jolyon Ralph:

<https://www.mindat.org/photo-196788.html>.

Connellite from Wheal Gorland by Steve Rust, a beautiful photograph that must be clicked!

<https://www.mindat.org/photo-964044.html>.

Connellite from New Cliffe Hill Quarry, one of our favorite localities, thanks to our late colleague George Reimherr and his English friend George W. Fletcher, who provided us at MNCA with beautiful micromounts. Photo by Colleen Thomson:

<https://www.mindat.org/photo-3678.html>.

My next article will be about Langite. For those wanting a preview, here is a photo by Manfred Groß of Connellite and Langite together in a medieval slag from Lautenthal, Goslar, Germany:

<https://www.mindat.org/photo-1294010.html>.



Connellite (blue balls) and Langite (blue-green blades) with Chalcophyllite (green plates, lower left) from Lautenthal slag, Lautenthal, Langelshelm, Goslar, Lower Saxony, Germany. FOV 2 mm. Photo by Manfred Groß. (Creative commons license.)

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Haines-Kibblehouse Penn-Md Trip

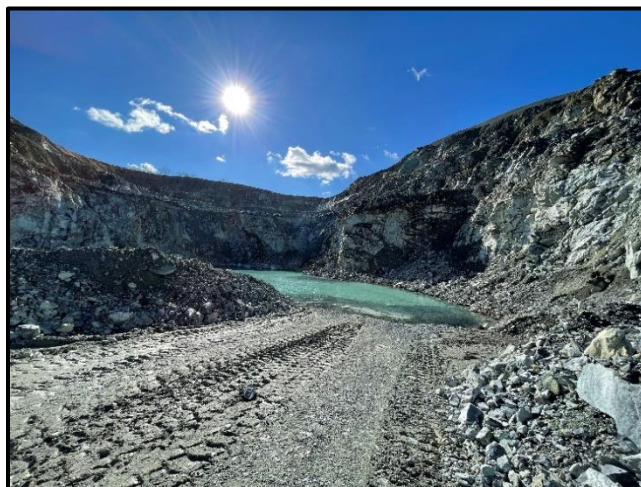
By David Fruauff, President

Our last field trip for mineral collecting in 2024 was held on Saturday morning, November 23 at the Haines-Kibblehouse Penn-Md serpentine quarry in Fulton Township, Lancaster Co., PA. This aggregate quarry straddles the border of Maryland and Pennsylvania and has one of the original Mason Dixon marker stones on its property (These stone markers were produced in England and emplaced from 1765-1768). This field trip was open to members of EFMLS mineral clubs in the DMV area but limited to 25 participants. I signed up back in September when I heard about plans for this field trip and was keen to go because I missed the annual Willis Mountain Kyanite Mine field trip back in mid-September. I was surprised that our field trip coordinator scheduled the Penn-Md quarry event so late in the year, but it turned out to be a good thing.

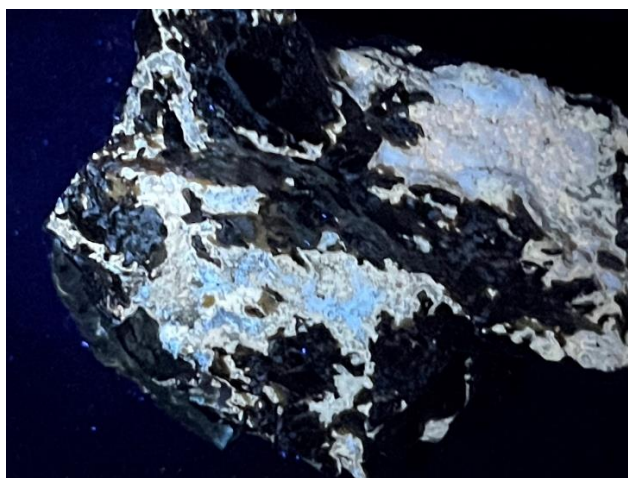
The entire month of October was dry, and the Penn-Md serpentine quarry must have been terribly dusty. Lucky for us we got some good rains just a week before our visit. That Saturday was an early start, and we had to leave home at 5:30 to get there by 7:30 for check-in and safety briefing. There were 14 or 15 of us in total. I was the only representative from MNCA. It was freezing cold, but the sun was coming up and the road down into the pit was very muddy, but the rocks were really clean!!!! Also interesting was the fact that they had been pumping out the water that had filled the bottom two levels of this quarry. Those bottom two levels were the most interesting levels and seemed to have the most brucite. Everyone wanted to find the beautiful green antigorite mineral called "williamsite" and if possible brucite.

Mindat listed 15 valid mineral species occurring in the Penn-Md quarry, but the much older, bigger, and more famous Cedar Hill Quarry sat just 100 yards to the northeast of the Penn-Md quarry and boasted 33 valid minerals. It was obvious to us all that the same 33 minerals must also occur in the Penn-Md-quarry. In fact, I had already found clinocllore, macguinnessite, pyroaurite, coalingite, goethite, and manganese oxide in the Penn-Md quarry and had documented these new finds with photos submitted to Mindat for the purpose of updating the site. We moved downward and toward the west where bright sunshine was hitting the rocks.

I found a number of brucite occurrences, but way too big and not worth the effort. I found some dark antigorite that was streaked with a bright white mineral that I thought was magnesite and worked on this until our noon endpoint. This certainly looked like magnesite and had the typical dry taste when touched to my tongue. Later, at home I discovered that my best find was the fluorescent blue hydromagnesite that was clustered on the white magnesite. I also picked up a large piece of bright green garnierite, a nickel silicate that is mined for Ni and Co when it occurs in sufficient volume.



Haines-Kibblehouse Penn-Md serpentine quarry in Fulton Township, Lancaster Co., PA. D. Fryauff pic.



*Fluorescent LW UV response of **hydromagnesite** (blue) & **magnesite** (white) on dark **antigorite** FOV = 6.0 cm. Photo by David Fryauff*



Bright white **magnesite** with pale brown aragonite
FOV = 3.0 cm. Photo by David Fryauff



Green (due to Cr) **magnesite** balls on dark antigorite
matrix FOV = 5.0 cm. Photo by David Fryauff



Haines-Kibblehouse Penn-Md serpentine quarry in
Fulton Township, Lancaster Co., PA. D. Fryauff pic.

David's NVMC Show Treasures

By David Fryauff, President

I purchased microminerals from Dave Henessey that originated within the serpentinite pluton at Hunting Hill, Rockville, MD.



Brucite, white hexagonal mineral FOV is 3.0 mm



Diopside, transparent green mineral. FOV 3.0mm

Discovery of Haynesite – Geo Word of the Day 10.31.2024

By Pat Haynes, retired geologist



In 1986 in Cortez, Colorado I had a neighbor who worked at the White Mesa mill in Blanding, Utah. This was the only operating uranium/vanadium mill in the USA. This neighbor had some cousins who were uranium/vanadium miners. These cousins were currently working a mine named the Repete Mine, North of Aneth, Utah. Through my neighbor, I obtained permission to visit the mine on a weekday, while they were mining.

My first visit to the Repete Mine was on November 26, 1986. There was no one outside when I arrived at the mine. However, there was a pile of rocks with three different, mostly yellow, secondary uranium minerals on some of the rocks. This was their ore pile. The most common mineral had tiny botryoids and coatings of a yellowish-green mineral, that turned out to be boltwoodite. There also were some yellow to rarely orangish-yellow prisms of an unknown mineral. Thirdly, there were fluorescent seams and coatings of the highly fluorescent mineral, andersonite.

Three miners emerged from the mine for a lunch break. After the introductions and lunch, I asked the miners where they were finding the secondary minerals. They guided me to the locations where they had been finding the secondary uranium minerals. They allowed me to explore and collect freely in the mine. Some flats of the unknown mineral were collected.

After I sent out some samples for testing, it was discovered that the yellow to orangish-yellow prisms were a hydrated uranium selenite, and that it was new! Around 1989 a Belgian mineralogist named Michel Deliens had finished the research on the new mineral. It became official when it was published in 1991 and named haynesite!

The Repete Mine lies in the Brushy Basin Member of the Jurassic Morrison Formation of dinosaur fame. Unfortunately, I found no dinosaur bones at the mine. The ore was found in mudstones, and the mine had frequent cave ins. After less than a year of mining, these cave ins occurred frequently enough to cause the miners to cease mining in January 1987. Immediately after they left, two of four adits collapsed!

I was able to return to the mine a few times before a third adit collapsed, leaving a single adit open, on the wrong side of the hill, at an unsafe distance from the good mineralization. I had a map of the underground workings, but trekking through the mine was risky. One could hear falling rock shortly after entering the mine. The mine wasn't safe. Neither was the air in the mine, as the lack of ventilation caused the radon levels to increase. My last visit was on April 4, 1992, collecting boltwoodite and non-uranium minerals near the entrance of the last remaining adit. Reclamation work was performed by the state of Utah shortly thereafter.

1991 was a good year for my discoveries. Within three months maxwellite and squawcreekite (now discredited) from New Mexico were published. Also published were metamunirite from Colorado and haynesite from Utah. It was an exciting, happy time!



Haynesite, Repete Mine, Montezuma Canyon Mining District, San Juan County, Utah, USA Mindat photo

I wrote an article entitled "The Repete Mine, San Juan County, Utah". It was published in *Rocks and Minerals* in 1993 (vol. 68, No.6, pages 398-400). The information above can be gleaned from that article.

Mindat.org:

Formula: $(\text{UO}_2)_3(\text{Se}^{4+}\text{O}_3)_2(\text{OH})_2 \cdot 5\text{H}_2\text{O}$

Colour: Amber-yellow

Lustre: Vitreous

Hardness: 1½ - 2

Specific Gravity: 4.1

Crystal System: Orthorhombic

Name: Named after Mr. Patrick Haynes (1953-), geologist, formerly from Colorado, now living in New Mexico. He explored old mines in the Uravan belt and discovered several new mineral species. Continued next page.

Discovery of Haynesite continued

I collected it in the late 1980's. It was published in 1991, right after 3 other newly discovered minerals that I had found were published, all published within about 3 months! Haynesite was named after me. With the publication of the other new minerals, it made 1991 an awesome year! I have been told that it was my field success that led to other collectors to venture out to the Colorado Plateau to search for rare minerals. A long time ago I wrote an article about haynesite in Rocks and Minerals magazine. The article lists lots of details about the mine. Apparently, I was the only person who had ever collected haynesite at the Repete Mine, as there were later tunnel collapses and then some reclamation that closed up everything.

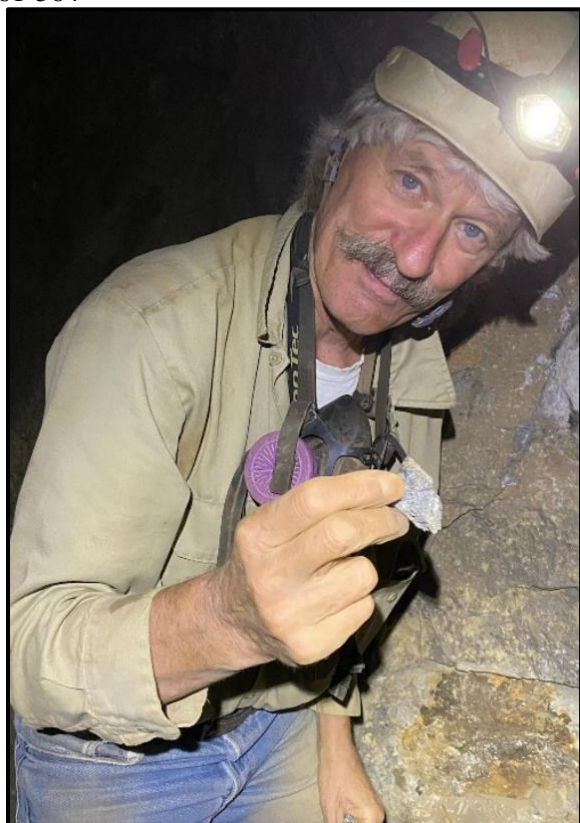
Type Locality: Repete Mine, Montezuma Canyon Mining District, San Juan County, Utah, USA

IMA Classification of Haynesite

IMA status: Approved

First published: 1991

Type description reference: Deliens, M., Piret, P. (1991) La haynesite, sélénite hydraté d'uranyle, nouvelle espèce minérale de la Mine Repete, Comté de San Juan, Utah. The Canadian Mineralogist, 29 (3) 561-564



Pat Haynes collecting silver, undisclosed location 2021.

Micro Club Zoom Session - Australia

Micro Club Zoom Host: Steve Sorrell resides in Melbourne, Australia and hosts various geology persons of interest at his micromount meeting each month on Zoom. You can sign up for Steve's programs, while enjoying friendly faces within our geology community around the globe.



Micromount Club Zoom Meeting 2024-010.
Wednesday 18th December at 6am. (Australia)

Rod Martin will present the Mineralogy of Mayor Island. Mayor Island has been closed for collecting for a number of years, but many mineral samples still exist in older collections. It is the type locality for tuhualite and one of the few localities in New Zealand where precious opal has been found.

You can register for these sessions at crocoite.com. Once registered, you will receive an email and the opportunity to save the Zoom session to your Google, Yahoo, or Outlook calendar, and this will be in your local time zone.

The Micromount Club Facebook group has been meeting on Zoom regularly, hosted by Steve Sorrell in Australia. Meetings are now scheduled monthly. Most previous presentations up to #24-05 are available through the Volume 58-08 Page 15 of 22 Aug 2024 followinglink:

<https://www.youtube.com/playlist?list=PLwdOHcjmducFKcDw8d2qgAoEEEB0M7vht>.

Micromount Club Zoom Meeting #24-06 was on Tuesday 16th July at 4 pm EDT. It was entitled "From Aosta to Sicily, a Mineralogical Journey through Italy, Part 2", presented by Henk Smeets. Here is the link: <https://www.youtube.com/watch?v=562hCbbxWRg>.

MNCA Editor's note: thanks to Steve Sorrell from Melbourne, Australia, we have been connecting with new mineral friends around the world for the past three years. I have learned that he is a master photomicrographer, as well as an author of mineral books and a talented mineral artist.

49th Annual Leidy Microscopical Society Micromount Symposium



TWO GREAT LECTURES

SATURDAY

“Diving Into Olivine”

By P.M.S. member Chris Duerr
Geologist



“The Fascinating World of Diatoms”

By Bill Dailey

Bill is a collector of high-quality
samples of diatomite and freshly
collected diatom samples from all over
the world for 25 years.



*Silent Auctions*Give-Away Tables*



Celebrating 100 Years of Microscopical Magnificence

March 7th – 8th Fri. Noon to 6:00 PM
2025 Sat. 9:00 AM to 6:00 PM

Lunch to be Provided on Saturday with Paid Admission

Table Space for Two Days: \$30.00 for ½ of 6 Foot Table, \$40.00 for Full 6 Foot Table

Visitor's Fee: \$5.00 for Friday, \$10.00 for Saturday (Includes Lunch)

RESERVATIONS & ADMISSIONS:

Make Checks Payable to: The Leidy Microscopical Society

Mail to: Don McAlarnen, Treasurer

916 Senator Road

East Norriton, PA 19403

For Questions: Contact Don at (610) 584-1364

Or Email: donmcalarnen@outlook.com

Same Great Location:

Advent Lutheran Church
45 Worthington Mill Road
Richboro, PA 18954

Micromineralogists of the National Capital Area, Inc.



American Federation of Mineralogical Societies

(AFMS)
www.amfed.org

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

2024 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.



Celebrating 50 years!

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

Free archived downloads

[Rock & Gem Magazine Archive : Free Download, Borrow, and Streaming : Internet Archive](#)



Eastern Federation of Mineralogical and Lapidary Societies

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

**Communication and Involvement
Are the Keys to Our Success!**

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

December 2024 Local Geology Club Meetings

2: Micromineralogists of the National Capital Area, Inc. MNCA Holiday Party with NVMC

6:30:pm Dunn Loring Fire Station
www.dcmicrominerals.org

2: Northern Virginia Mineral Club NVMC

Meeting 6:30pm Holiday Party with MNCA
www.novamineralclub.org

4: Mineralogical Society of the District of Columbia MSDC Meeting 7:30pm on Zoom
www.mineralogicalsocietyofdc.org

9: The Gem, Lapidary and Mineral Society of Montgomery County, Maryland - GLMSMC
Meeting 7:30 pm www.glmsmc.com

?: The Gem, Lapidary and Mineral Society of Washington, DC - GLMS-DC meeting 7 p.m.
Chevy Chase Community Center, 5601 Connecticut Ave; Washington, DC. www.glmsdc.org

18: Baltimore Mineral Society BMS meeting
www.baltimoremineralsociety.org



Micromineralogists of the National Capital Area, Inc.



Geo Word of the Day and its definition

haynesite A yellow orthorhombic mineral: $(\text{UO}_2)_3(\text{Se}^{4+}\text{O}_3)_2(\text{OH})_2 \cdot 5\text{H}_2\text{O}$. Article on p. 12-13. Pat Haynes “I collected it in the late 1980’s. It was published in 1991, right after 3 other newly discovered minerals that I had found were published, all published within about 3 months! **Haynesite** was named after me. With the publication of the other new minerals, it made 1991 an awesome year! I have been told that it was my field success that led to other collectors to venture out to the Colorado Plateau to search for rare minerals. A long time ago I wrote an article about **haynesite** in Rocks and Minerals magazine. The article lists lots of details about the mine. Apparently, I was the only person who had ever collected haynesite at the Repete Mine, as there were later tunnel collapses and then some reclamation that closed everything”. Geo Word of Day Oct 31, 2024



Haynesite, Repete Mine, Montezuma Canyon Mining District, San Juan County, Utah, USA Mindat photo

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

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

Micromineralogists of the National Capital Area
www.dcmicrominerals.org

We are meeting at Kings Park Library in Burke, 3-5:30pm (forth Monday or Wednesday).

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

President: David Fryauff
Vice President: Jeff Guerber
Secretary: Bob Cooke
Treasurer: Michael Pabst
Editor/Historian: Kathy Hrechka
Website: Kathy Hrechka
AMC Conference: open

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 **Dues 2025**
\$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 the 1st of each month.
The Mineral Mite will be emailed by the 5th.
No newsletter July/August

Inducted into Editor's Hall of Fame – 2018
EFMLS Trophy 2021 Small bulletins



Newsletter inputs:

- * David Fryauff
- * Jeff Guerber
- * Michael Pabst
- * Pete Chin
- * Bob Cooke
- * John Sanborn
- * Pat Haynes
- * Kathy Hrechka
- * Don McAlarnen

