Microminerlogists of the National Capital Area, Inc.

MNCA Website www.dcmicrominerals.org

The Mineral Mite

Vol. 58 – No. 10 Washington D.C. A Journal for Micromineralogists Dec 2025

Holiday Party Dec. 1 6:30pm Vol. Fire Dept. Dunn Loring, VA

Holiday Party with NVMC Dec 1; No Regular Meeting

By Jeff Guerber, Vice President

MNCA will gather with our friends from the Northern Virginia Mineral Club for a grand holiday party on Monday, Dec. 1. See details elsewhere in this issue. With the party, and how busy everything gets later this month, we decided that we will have NO REGULAR MEETING. Stay tuned for information about January's meeting. Merry Christmas/Happy Hanukkah/Etc. everyone! Party location: VFD is at 2148 Gallows Rd. Dunn Loring, VA, 22027. Please RSVP via Signup Genuis https://www.signupgenius.com/go/60B0C4BA5AD2DA6F58-2022

Mystery Micro Mineral of the Month

Easy Clue: Naturally occurring, then melts.
By Dennis Coskren filling in for Aloha Peter Chin, Honolulu, Hawaii Answer p 2.

President's Message:

By David Fryauff, PhD

Dear Santa,
All I want for Christmas is the new 880-piece Mineral Set by Legos. I have too much time on my hands & am trying to figure out what each mineral is.

Mystery Micro Mineral Answer

By Dennis Coskren, filling in for Aloha Peter Chin, Honolulu, Hawaii

Answer: Needle Ice, Alum Cave Bluff, Great Smokey Mountains National Park, TN. Self collected by Dennis Coskren.

Previous Meeting Minutes 11.25.2025

By John Sanborn, Secretary

Nine members of the MNCA gathered in the Kings Park Library large conference room at 3:30 pm on Monday November 24, 2025: President Dave Fryauff, Vice President Jeff Guerber, Secretary John Sanborn, Editor Kathy Hrechka, Jason Krusling, Bob Cooke, Dave Hennessey, Craig Moore and Dennis Coskren.

The library video display (TV) now has a remote control that greatly simplifies the process of turning the system on and connecting. Thank you to those that provided excellent "give away" specimens. After re-acquainting and Mineral viewing, President Dave Fryauff brought the meeting to order. Minutes of the October meeting were approved as published in the Mineral Mite. MNCA's Micromount Demonstration table was discussed as were other experiences and events at the GMU/NVMC mineral show. We voted to NOT have a regular meeting in December.

Dec 1 Holiday Party will take place at the Dunn Loring Volunteer Fire and Rescue Department station, 2148 Gallows Road Dunn Loring, VA 22027. The meeting room is at the back of the building. Setup will begin at 6:00pm with dinner to begin at about 6:30. We hold this gathering jointly with the Northern Virginia Mineral Club.

The clubs (NVMC and MNCA) will be providing a main course and non-alcoholic drinks. MNCA members approved the expenditure of up to $50.00 for the purchase of drinks and ice. John Sanborn will take care of this. Guests may bring a side dish or desert, (please note in signup Genuis what you are bringing). If you are unfamiliar with Signup Genuis or simply do not want your name "out there", send me an email or text and I will get you on the list. There will be games and puzzles and prizes.

If you are interested in participating in the gift exchange, please bring a mineral-themed wrapped gift valued at under $20.

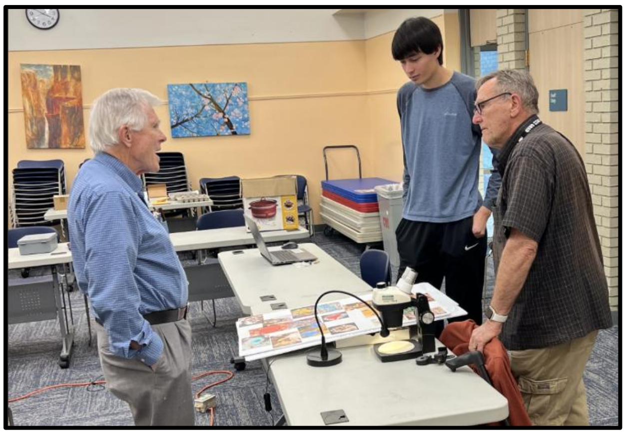
Please RSVP via Signup Genuis https://www.signup-genius.com/go/60B0C4BA5AD2DA6F58-2022

Our Next MNCA meeting will be in January 2026, date and time to be determined. We cleared the room at 5:59 pm. Have a safe and happy holiday season.

David Fryauff & John Sanborn with MNCA exhibit which was used at the NVMC show. Photo by Kathy Hrechka

Our MNCA Betsy Martin Memorial Micromineral Collection assembled by John Sanborn. Photo by Kathy Hrechka

Bob Cooke, Dave Hennessey, Kathy Hrechka, & Craig Moore enjoy micromineral study. Photo by John Sanborn.



Dr. Dennis Coskren, Jason Krusling & David Fryauff. Photo by John Sandorn

Previous Program Review 11.25.2025

By Kathy Hrechka, Editor & Webmaster

Dr. Dennis Coskren presented The Minerals of Alum Cave Bluff, Great Smokey Mountain National Park, Tennessee. Dennis has been collecting at this locality since 1982 and has the only archival collection from ACB. He has collected twenty-six different minerals, with some unknowns including Coskrenite.

Dennis stated, "ACB has been known as a mineral locality since the 1800's, but had never been properly investigated with modern methods, so that many minerals passed unrecognized. It shares this with many localities, far too many to enumerate. A likely corollary is many "rare" minerals are far commoner than is known but are rarely identified. A deep investigation will probably confirm this conjecture for most localities.

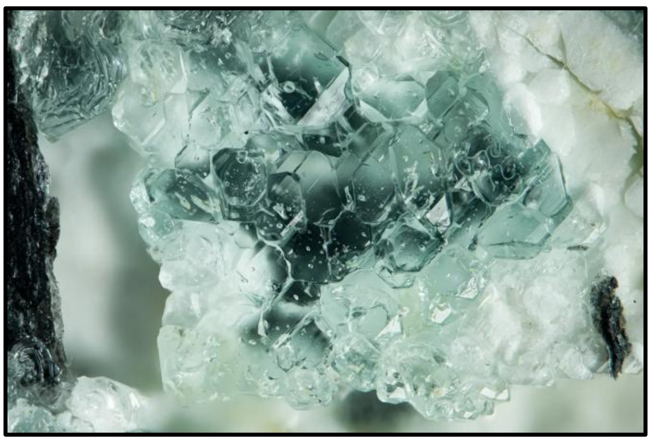
Alum Cave Bluff was effectively destroyed by Hurricane Helene on September 27, 2024. The evaporite minerals of ACB comprise a dynamic system. Helene cannot have been the first and only storm to affect the locality. The destruction wrought by the hurricane is unfortunate, but it has created a golden opportunity: the minerals have already begun to regenerate, and we can follow the development of a complex evaporite system from its inception. This should be a long-term project, as the resurrection of the deposit may require decades. Such an investigation should begin soon, in order to provide a baseline."

His research has been featured in Rocks and Minerals Vol 71, No.3 May/June 1996. We were privileged to hear his program at our meeting.

Dr. Dennis Cosskren sharing a slide of the self- collected mineral named after him ***Coskrenite,*** *Alum Cave Bluff, GSMNP, TN. Photo by Kathy Hrechka*

Coskrenite, *Alum Cave Bluff, GSMNP, TN. Photo by Jason Smith*

Needle Ice, *Alum Cave Bluff, GSMNP, TN.*
Photo by Dennis Coskren



Melanterite, *Alum Cave Bluff, GSMNP, TN.*
Photo by Jason Smith

Dr. Dennis Coskren's thumbnail ACB collection.

Alum-K, *Alum Cave Bluff, GSMNP, TN.*
Photo by Jason Smith

Slavikite, *Alum Cave GSMNP, TN.*
Photo by Jason Smith

Dr. Dennis Coskren featured his ACB collection at the Oct 2025 Baltimore Micromineral Symposium.

Leightonite, Kröhnkite and Ktenasite

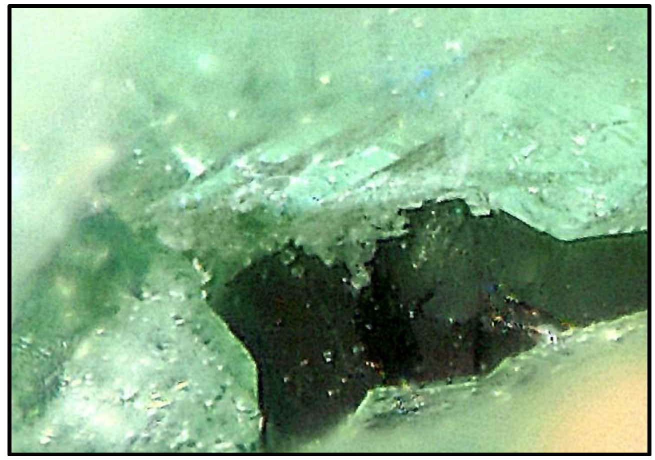
By Michael Pabst PhD, Treasurer

Leightonite, Kröhnkite and Ktenasite are copper sulfate minerals with additional common cations like K1+ or Na1+ or Zn2+ or Ca2+ present in their formulas.

Leightonite. Leightonite K2Ca2Cu(SO4)4·2H2O was first found at the Chuquicamata Mine, Antofagasta, Chile. It is pale greenish blue and transparent. Hardness 3. Leightonite is monoclinic 2/m – prismatic, β = 125.21°. Leightonite is soluble in water (although Mindat fails to mention it), so you can find it only in a desert, like the Atacama Desert in Chile.

Leightonite. *Chuquicamata Mine, Calama, El Loa Province, Antofagasta, Chile. FOV 10 mm. Photo by Michael Pabst. Specimen from the MNCA collection.*

The next photo shows darker green crystals hiding in a crack in Leightonite. The darker crystals are probably Natrochalcite $NaCu_2(SO_4)_2(OH)\cdot 2H_2O$, which is also monoclinic 2/*m* – prismatic, but with β = 118.74°. Other possibilities are Atacamite $Cu_2(OH)_3Cl$, Paratacamite $Cu_3(Cu,Zn)(OH)_6Cl_2$, or Kröhnkite $Na_2Cu(SO_4)_2\cdot 2H_2O$.



Leightonite *(pale blue green) and* ***Natrochalcite*** *(dark green). Chuquicamata Mine, Chile. FOV 2 mm. Photo and specimen (#374) by Michael Pabst, using stereo microscope, stacking 9 images.*

Here is photo in Mindat by Gianfranco Ciccolini showing individual crystals of ~1 mm of Leightonite from Chuquicamata Mine, Antofagasta, Chile: https://www.mindat.org/photo-1165689.html. (wonderful magnification!)

Another photo of Leightonite taken by Enrico Bonacina (he allows our use by a Creative Commons License).

Leightonite *from Salvadora Mine, Caracoles, Tocopilla province, Antofagasta, Chile. Crystals up to 1.6 mm. Photo by Enrico Bonacina (Creative Commons License).*
https://www.mindat.org/photo-258595.html.

Leightonite etc. continued

Kröhnkite. Kröhnkite $Na_2Cu(SO_4)_2{\cdot}2H_2O$ is also found in the Chuquicamata Mine in Chile. Kröhnkite is also highly soluble in water. (Lack of (OH) in the formula hints that a mineral might be water-soluble. Presence of Na^{1+} or K^{1+} also suggests solubility in water.). Hardness 2½ - 3. Kröhnkite is monoclinic 2/*m* – prismatic, β = 108.32°. Named after Johann Berthold Christian Kröhnke (1832-1915), a German chemist who worked in Chile and first analyzed the mineral.

Kröhnkite. *Chuquicamata Mine, Antofagasta, Chile. FOV 3 mm. Photo by Michael Pabst, using stereo microscope, stacking 9 images. Specimen from the MNCA collection.*

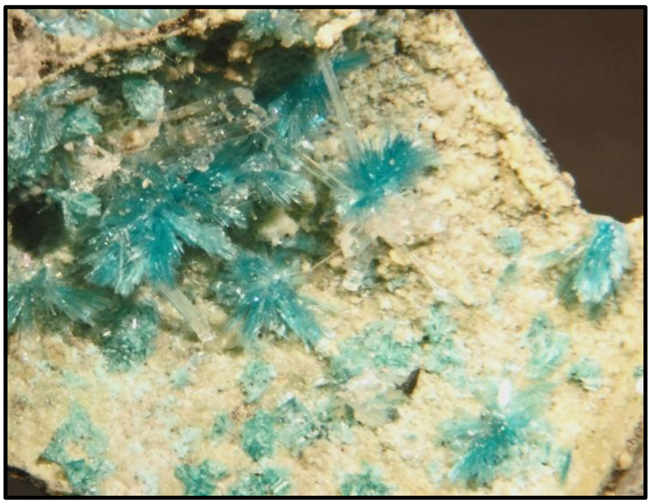
Enrico Bonacina has a beautiful photo on the ***Kröhnkite*** *page of Mineral Atlas:* https://www.mineralienatlas.de/lexikon/index.php/Bildanzeige?pict=1285653012.

Kröhnkite. *La Compañia Mine, Sierra Gorda, Antofagasta, Chile. FOV 4 mm. Crystals up to 1.9 mm. Photo by Enrico Bonacina (Creative Commons License).* https://www.mindat.org/photo-251371.html.

Leightonite etc. continued

Ktenasite. Ktenasite $ZnCu_4(SO_4)_2(OH)_6 \cdot 6H_2O$ was first described from Greece. Ktenasite is blue-green to green. Hardness 2 - 2½. Ktenasite was named for Konstantinos A. Ktenas (1885-1935), professor of mineralogy at the National University of Athens. Ktenasite is monoclinic 2/*m* – prismatic, $\beta = 95.55°$. Because it has (OH) in its composition, it is less soluble in water. Therefore, Ktenasite is not restricted to desert localities, unlike Leightonite and Kröhnkite.

My specimen of Ktenasite is from the Harz Mountains in Germany. The label says Lautenthal, but that might be incorrect because Mindat does not list Ktenasite from Lautenthal. Perhaps the locality is the Herzog Julius slag locality, Astfeld, Langelsheim, Goslar, Lower Saxony, Germany.



Ktenasite. *Lautenthal, Harz Mountains, Germany. FOV 5 mm. Photo and specimen (131) by Michael Pabst, using stereo microscope, stacking 24 images.*

Here is a closeup of one small crystal spray from the specimen:

Ktenasite. *Lautenthal, Harz Mountains, Germany. (Closeup of previous photo.) FOV 1.2 mm. Photo and specimen (131) by Michael Pabst, using stereo microscope, stacking 8 images.*

For a final treat, do click on this link to a tiny (0.4 mm) and perfect, transparent crystal of Ktenasite from Trentini Mine, Contrada Trentini, Monte Naro, Vicenza Province, Veneto, Italy. Photographed by Antonio Zordan: https://www.mindat.org/photo-481993.html.

Next article will be about Elyite, a copper lead sulfate of surprising purple color.

MNCA Demonstration at the NVMC Show George Mason University 2025

By John Sanborn, Secretary

The Microminerologists of the National Capitol Area (MNCA) had a demonstration table of microscopes and micro mount minerals at the Northern Virginia Mineral Club show at George Mason University on November 22 and 23, 2025.

The table was staffed by David Fryaff and John Sanborn. Jason Krusling and Eva assisted with setup and take down. We had a Landsat map of the National Capital Area attached to the wall as well as a Shaded Relief poster from the US Geological Survey. They attracted attention and several comments. One person said, “I see you tie the continental United States, down to the area, and down to the rocks and minerals.” Our table had the new display case containing the MNCA Betsy Martin Memorial Micromineral Collection as well as the spinning wheel of micros and microscope. John Widner again loaned us a digital scope that displayed on a laptop. This was a hit with kids and adults. David had a PC with a loop of his photos of his minerals.

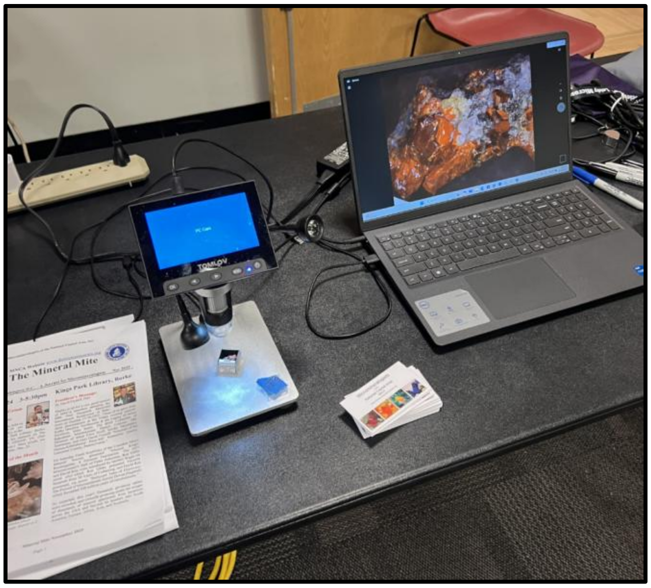
Our table was again in the buffer zone, non-commercial, (no cost), hallway between the main show galley and the kid’s room, very good for a somewhat quiet conversation. We provided information, education, and enjoyment of minerals.

We had a good selection of people with different interests and backgrounds. Several were potential club members. We pointed them toward our web site and invited them to join our meetings. University students, (from GMU and others), adults, and children all enjoyed the microscopes and microminerals. From a ten-power loupe to a magnifying glass, to the microscopes, visitors had a sample of the different styles of magnification and the amazing world they opened visually.

A few memories stand out: first, meeting Professor Jules Goldspiel, PhD. He is the new George Mason University sponsor liaison for the show this year. I was talking with him like any other visitor, asking about his interests, etc. when I noticed his name tag. A light bulb (LED) went off in my head and I said, “you are the new sponsor”. Yes. I said, What an honor to meet you and thanks. Another memory was when a kid about four feet tall, eight years old maybe, stepped up to our display case of about 300 micromounts and said, “I am an expert on these” I nodded in agreement saying something like, Great, not asking him to elaborate. He looked the case over for a while and said again upon leaving, “I am an expert.”

A couple of times two or three kids walked up, perhaps with their parents close by, sometimes not. One would start looking through the microscope at our display wheel. The second or third kid would say “I want a turn, or could I please have a turn?” The first kid said no and continued to have possession of the scope. The parents were not helpful, so I said to the second kid, look over here, do you want a free rock? Of course, both kids then moved to the giveaway area. The second kid then did get a chance to look through the microscope. Like that, A kid picked their free specimen and showed it to her sibling. The sibling would not return it, being a brat saying, it is mine now. The parents again were not nearby or not helpful. I said to the first kid, here is one that is better. I could never be a teacher of kids.

John Sanborn designer of the MNCA demonstration booth. Photo by Corrine Wilson



John Weidner's digital microscope along with David Fryauff's laptop which is set on auto rotation of his microminerals. Photo by John Sanborn

MNCA Demonstration continued

New MNCA business card designed by John Sanborn

John Sanborn, Jason Krusling, & David Fryauff

Periodic Table of Critical Minerals 2018 - 2025 Update

By Kathy Hrechka, Editor

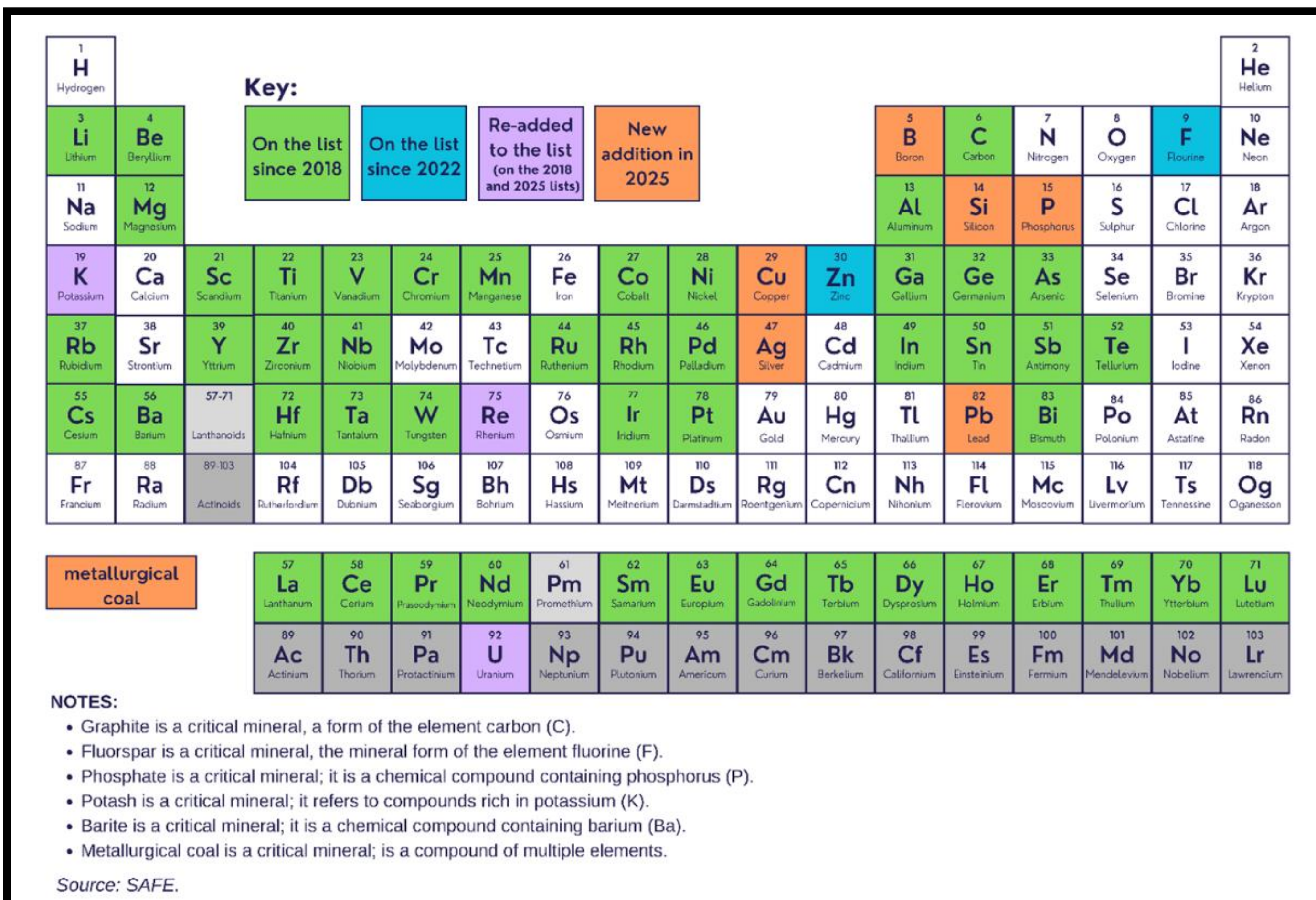
I subscribe digitally to SAFE, Energy Security Matters. The November 12, 2025 report included the newly updated periodic table of elements revealing sixty critical minerals which we are dependent on. New elements include B, Si, P, Cu, Ag, Pb, K, Re, and U.

"The U.S. Geological Survey (USGS) and the U.S. Department of the Interior (DOI) unveiled the 2025 List of Critical Minerals, an expanded catalog now covering 60 minerals deemed essential to U.S. economic and national security. With the last list released in 2022, the update was highly anticipated.

Unlike the separate critical or strategic materials lists maintained by the U.S. Department of Energy and the Defense Logistics Agency, the USGS list is developed through an interagency process and is widely viewed by industry as the closest thing to a whole-of-government benchmark for identifying and addressing mineral supply risks. As such, inclusion on the list is often coveted by both producers and consumers seeking recognition of market or supply-chain vulnerabilities—and the policy attention that can follow."

by: Zubeyde Oysul, Senior Policy Analyst for the Center for Critical Minerals Strategy, SAFE
SAFEinfo@secureenergy.org

Periodic Table of Critical Minerals 2018 - 2025



Micromount 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.

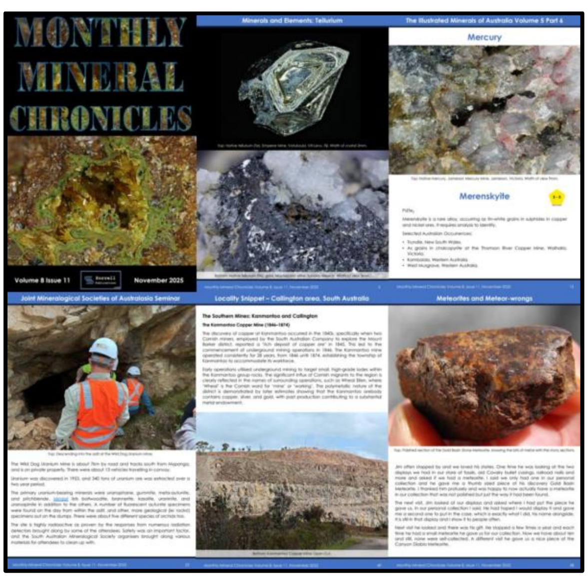
https://crocoite.com/index.php/2023/07/the-micromount-club-zoom-sessions/

https://us02web.zoom.us/meeting/register/YrXhTbomRkG810lIoIrLzw

All sessions are held on the third Wednesday of the month (unless noted otherwise) **6am Australian time**. Steve has set up a recurring Zoom meeting, which means you only need to register once, and join as many sessions as you like.

2025 Micromount Club Zoom Meetings
Dec 16, 2025, 2pm ET. Topic: Uranium Minerals in the Northwestern Territory, Australia.

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.



Thanksgiving, a Turkey, and Crystals

By George Loud "My true story"

This Thanksgiving I once again ate Turkey with a gusto way beyond enjoying the taste. The extra gusto is my revenge.
About 10 years ago a battle was fought in Florida, a battle that was little known and previously unrecorded. The location of the battle was Ruck's Crystal Farm, aka Ruck's Pit, known among mineral aficionados for its fossil clam shells containing beautiful yellow to orange, transparent calcite crystals. Upon arrival at Ruck's Crystal Farm, I met Eddie Ruck, his hired hand, and their prized Tom Turkey. At that time Ruck's Pit was no longer owned by Eddie, but Eddie had moved piles of the muck from the pit across the highway to a property he still owned and advertised as his crystal farm. Upon paying a small fee I donned boots and attacked one of the muck piles with a shovel. After an hour or so I gave up, purchased a few specimens, and sat on the rear bumper of my car to remove my boots.

As I sat on the car bumper, I noticed approach of the prized Tom Turkey or, more precisely, the approach of huge, sharp talons which indicated need for action on my part. I thrust out my leg's full length confident that my boots would offer protection. This plan A worked well for a while as it fended off the turkey, but I soon realized that I was tiring faster than the turkey. On to plan B. Plan B was to grab a tool from the trunk with which to bop the turkey. I grabbed the first thing I saw which happened to be a large bottle of rum. With my arm fully outstretched and holding the rum I charged the turkey. The turkey squawked and backed off in a cloud of feathers, flapping its wings. Unfortunately, plan B proved to suffer from the same defect as plan A – the turkey withdrew temporarily but returned to the fight again and again. On to plan C which was to run like hell. I circled the car with the turkey in hot pursuit until I paused to open the driver-side door and jump in. Although now safe I was curious as to the whereabouts of the turkey. My view through the car windows revealed no turkey. I cracked open the driver-side door and came face-to-face with that mean turkey. I quickly closed the door and headed for our hotel in Vero Beach. I strongly suspect that Eddie and his hired hand were hiding behind their storage building, watching the whole affair, and laughing their butts off.

American Federation of Mineralogical Societies

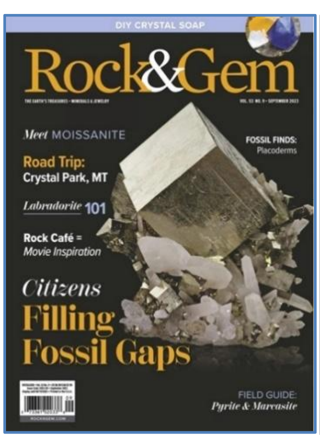
(AFMS)
www.amfed.org

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

2025 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 over 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 2025 Geology Club Meetings

1: Micromineralogists of the National Capital Area, Inc. MNCA/NVMC Holiday party 6:30pm Dunn Loring VFD 2148 Gallows Rd. Dunn Loring, VA, 22027
www.dcmicrominerals.org

1: Northern Virginia Mineral Club NVMC/MNCA Holiday party 6:30pm Dunn Loring VFD 2148 Gallows Rd. Dunn Loring, VA, 22027
www.novamineralclub.org

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

15: 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

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

american geosciences institute
connecting earth, science, and people

Geo Word of the Day and its definition

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]().

brecciated [meteorite] A term incorrectly applied to a meteorite of intermediate type (between iron and stony iron), in which the main mass is iron with octahedral or hexahedral structure but there are also relatively large silicate inclusions of rounded or angular form. Also, said of such a texture occurring in a meteorite, including stony meteorites.

philipsbornite (phil-ips-born'-ite) A grayish-green rhombohedral mineral of the *crandallite* group: $PbAl_3(AsO_4)_2(OH)_5 \cdot H_2O$.

satimolite (sa-tim'-o-lite) A white orthorhombic mineral: $KNa_2Al_4B_6O_{15}Cl_3 \cdot 13H_2O$.

tanzanite (tan'-za-nite) A sapphire-blue gem variety of zoisite that exhibits strong pleochroism.

umbite (umb'-ite) A vitreous colorless or yellowish orthorhombic mineral: $K_2ZrSi_3O_9 \cdot H_2O$. It is an inosilicate with wollastonite-like tetrahedral chains. Cf: *kostylevite; paraumbite.*

Micromineralogists of the National Capital Area
[www.dcmicrominerals.org]()

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

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

President: David Fryauff
Vice President: Jeff Guerber
Secretary: John Sanborn
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
* Peter Chin
* John Sanborn
* Kathy Hrechka
* Dennis Coskren
* George Loud