



The Mineral Newsletter

Meeting: June 24 Time: 7:45 p.m.

Long Branch Nature Center, 625 S. Carlin Springs Rd., Arlington, VA



Erythrite

from Bou Azzer, Morocco

Photo: Bob Cooke.

Volume 60, No. 6

June 2019

Explore our [website!](#)

June Meeting Program:

Rutherford Mine Pegmatites

details on page 4

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Deadline for Submissions

August 20

Please make your submission by the 20th of the month before the next newsletter. Submissions received later might go into a later newsletter.



Mineral of the Month Erythrite

by Sue Marcus

Long ago, my mineralogy professor taught me that color should not be used to identify minerals. Don't believe everything you were taught—erythrite, June's Mineral of the Month, is an exception.

Some references call its color "crimson," although that shade is redder and hotter in my perception than erythrite. I'd agree with "magenta," the hue it was dubbed by another source.

The color, an identifying characteristic of this mineral, comes from cobalt. The only similarly colored mineral I am aware of is k  mmererite, the chrome-bearing variety of clinocllore. K  mmererite's morphology (crystal shape), luster, and localities make it easy to distinguish from erythrite. Sources report colors of erythrite ranging to pink, but these must be rare. I've only seen the lovely purplish hue.

Erythrite was named for its reddish color in 1832 by Fran  ois Beaudant from the Greek   ρυθρος (*erythros*), the word for red. It is also called "red cobalt." Erythrite is part of the vivianite group, forming a solid solution series with annabergite, with nickel substituting for cobalt: erythrite is $\text{Co}_3(\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}$ while annabergite is $\text{Ni}_3(\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}$.

Cobalt and nickel are different colorants, with cobalt associated with purple and nickel with green. In researching this article, I read that when the cobalt and nickel are about equivalent, the mineral is gray or off white—something I've yet to see.

I also learned more chemistry and mineralogy while investigating erythrite. Kottigite is similar to erythrite (isostructural in chemical terms), with zinc substituting for cobalt; unlike with annabergite, however, there is no series—there seem to be only end members. When magnesium or iron substitutes for cobalt, the minerals are hornesite or parasymplectite, respectively. Again, there are no intermediate compounds; moreover, the ionic level of the chemistry is different, unlike with kottigite.

Erythrite occurs as a secondary mineral, forming from the oxidation of other minerals in sedimentary and metamorphic rocks. Erythrite is usually associated

Summer break ahead!



Northern Virginia Mineral Club members,

Please join our June speaker, Scott Duresky, for dinner at the Olive Garden on June 24 at 6 p.m.

Olive Garden, Baileys Cross Roads (across from Skyline Towers), 3548 South Jefferson St. (intersecting Leesburg Pike), Falls Church, VA
Phone: 703-671-7507

Reservations are under Ti Meredith, Vice-President, NVMC. Please RSVP to me at ti.meredith@aol.com.



Erythrite from Bou Azzer, Morocco. Photo: Bob Cooke.

with quartz, calcite, limonite, and the ores of more collectible minerals such as cobaltite, skutterudite, scorodite, pharmacosiderite, adamite, and malachite. Other rare associated minerals are symplectite, morenosite, retgersite, and roselite-beta.

Although it can be a cobalt ore, erythrite is primarily a collector's mineral. And what attractive specimens they can be! Almost always, the erythrite crystals are in small groups of up to a few millimeters or centimeters on matrix. Well-formed crystals look like tiny asymmetrical swords. Numerous sources mention that erythrite crystals can be striated, although I see them as stacks of extremely thin (micaceous), parallel, laminar crystals. Crystals can also be fibrous or radiating

acicular needles. None of these form large specimens. Coatings and earthy masses of erythrite are called “cobalt bloom.”

The type specimens (originally described material) of erythrite came from the Daniel Mine (St. Daniel Mine) in the Erzgebirge (Ore Mountains) of Saxony, Germany. The type locality and its area, the Schneeberg District, produced small, classic sprays of crystals, including acicular sprays, although specimens are no longer found and are obtained only from old collections.

Because erythrite is formed from other cobalt minerals, it is found in cobalt deposits and mines, such as those at Cobalt, Ontario, Canada (associated with the silver there); and Mt. Cobalt, Queensland, Australia. Attractive acicular sprays also come from the Sara Alicia Mine, Sonora, Mexico.

Morocco is currently the main source of erythrite through the cobalt mines of the Bou Azzer District (alternately translated as “Bou Azer,” “Bouazzer,” and even “Bou Azar”). The best and largest crystals come from Bou Azzer. The crystals are not acicular, but they are macroscopic—although there is something for everyone; micros are also available.



*Erythrite on matrix, from Bou Azzer, Morocco.
Source: Wikipedia; photo: Didier Descouens.*



Erythrite from Bou Azzer, Morocco. (Specimen is 2.7 by 2.2 by 2.0 cm in size.) Source: Wikipedia; photo: Robert Lavinsky.

Erythrite can also be found in some nickel, copper, and other deposits where cobalt was not a major constituent, for instance in the tin mines of Cornwall, England, and the Dome Rock Copper Mine in South Australia. Chile, France, and the Czech Republic have also produced specimen material.

Erythrite occurs in the United States, though not in notable crystals. The classic U.S. localities, noted for other minerals, are French Creek in Chester County, PA, and the Blackbird District in Idaho. Both have produced crusts in the cobalt bloom form of erythrite.

Cobalt is used in the electrodes of rechargeable batteries and alloys, including the “superalloys” used for gas turbine engines. Cobalt is also used in vehicle airbags, as a petroleum catalyst, and in various other types of manufacturing. Morocco is the main producer of primary cobalt, although cobalt is also mined by small (artisanal) miners in Congo. Most of the world’s cobalt is produced as a byproduct of nickel mining. China is the world’s largest cobalt refiner and consumer of cobalt and the major supplier of refined cobalt used in the United States.

Erythrite specimens are delicate because they are soft—the crystals don’t break but do get crushed, so this is a mineral to enjoy carefully. Another reason to be careful is due to the cobalt and/or nickel and arsenic in this mineral. *No matter what minerals or rocks you are handling, wash your hands thoroughly afterwards.*

Erythrite is less common and more expensive than some of the other minerals we've reviewed in this column, but it lends a bright spot of color to any collection. Put it next to a diopase specimen for eye-popping color contrast! ↗

Technical Details

Chemical formula	$\text{Co}_3(\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}$
Crystal form.....	Monoclinic
Hardness	1.5–2.5
Density.....	3.06 g/cm ³ (measured); 3.12–3.13 g/cm ³ (calculated)
Color	Purple/violet-red, crimson, red, pink (according to references)
Streak	Pale red to pink
Cleavage	One perfect
Fracture	Sectile—that is, it may be cut but resists fracturing, bending, and then splintering
Luster.....	Waxy, vitreous, opalescent

Sources

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Scott Duresky Pegmatite Minerals From Rutherford Mine #2 in Virginia June 24 Program

Our June program will feature pegmatite minerals from a particular locality near Amelia Courthouse in

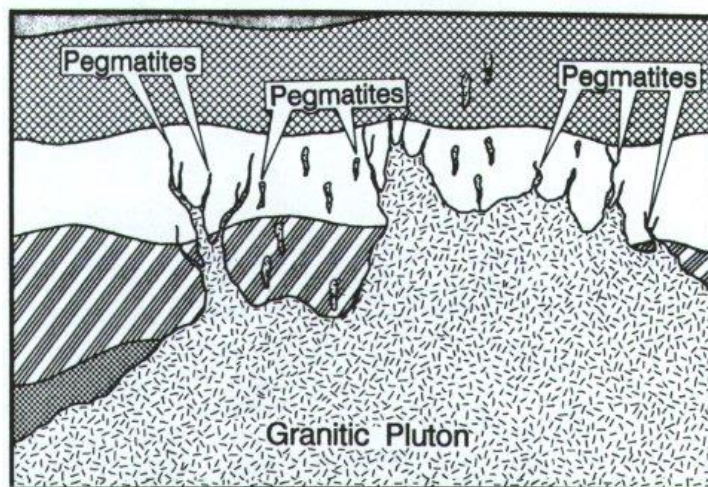
Virginia—Rutherford Mine #2, permanently closed in 1998. Scott Duresky will talk about his extensive and unusual collection of minerals from this particular locality and how he acquired his collection. Scott will show slides of the minerals in his collection, including photomicrographs.

Scott is a retired sales representative who serves as the Vice President and Observing Director of the Charlottesville Astronomical Society. From 1968 to 1978, he collected extensively in the field on his own and with Phillip Morris research chemist Frank Crayton in Rutherford Mine #2.

For personal reasons, Scott sold his entire collection in 1986. In 2006, he renewed his interest in minerals from the Rutherford Mine locality. Through unusual circumstances, he managed to acquire a much larger quantity and variety of material than before. He initiated in-depth research into the minerals found in the pegmatite.

In 2015, Pete McCrery of the Richmond Gem and Mineral Society generously gave Scott his entire collection of rare Rutherford Mine species. Scott began working with Michael Pabst of the Micromineralogists of the National Capital Area to develop photomicrographs of his collection.

As part of his research, Scott worked with Tony Nikischer of Excalibur Minerals to further test the minerals of the Rutherford pegmatite, especially members of the microlite group. Their research was later joined by Dr. Michael Wise of the Smithsonian Institution. ↗



Pegmatites, associated with a magma plume, cooled faster than the main granitic pluton, forming larger crystals.



President's Collected Thoughts

by Sue Marcus, President

Summer may be hot, although many of us like to get outdoors and see what we can find—minerals, fossils, and inter-

esting rocks that can lead us deeper into learning about geology. Your club will work on some summer fun for your participation and enjoyment.

Vice President Ti Meredith has offered to have a club picnic at Lake Jackson, by her lovely home. We could swim, fish, or go boating and possibly have a rock giveaway, maybe a swap. During our May club meeting, we discussed this opportunity. At our June meeting, we'll vote on allotting a maximum of \$200 in club funds for basics (soft drinks, hot dogs, hamburgers/veggie burgers). Participants would bring a dish to share. If we get the okay from club members, I'd like a few volunteers to help with setup and cleanup.

Still thinking summer, traveling, and collecting, I encourage everyone to look for opportunities while away from home. When I travel, I look for mineral shops—or places that might have minerals for sale. If you are an avid self-collector, make connections before you go.

The Mindat message boards can provide advice. You have to join to post a question, but it is free and informative. You can ask about either dealers or collecting sites (and obtaining permission to collect).

I also use TripAdvisor. It is more frequently used for tips on sightseeing, restaurants, and places to stay, but I've asked about minerals and wildlife too. Again, there is no charge to join.

Fossil and lapidary folks, let me know how you make connections when traveling and we'll share the information in a future newsletter.

Keep your eyes open. Roger and I have “found” some neat specimens for sale in tourist shops too, like the dusty shelf of small though classic English mimetites in an antique and gift shop in the English Lake District or the interesting galena at a mostly-alpaca-weavings shop in Peru last night. Locality information can be difficult to obtain in these places because the shopkeepers don't know minerals (or fossils and so on).

Do the best you can—ask for any information they might have—and then try online sources, again like Mindat. I search Mindat (+ country), then look for the list of minerals, then click on the camera icon to see photos of that mineral from that country. My reasoning is, I can't be the only person with this type of specimen. And, besides, the photos are interesting. I usually learn by scrolling through them.

Carpe mineralis—seize the mineral! Or *carpe quam fossilium*—seize the fossils! *Carpe saxa*—seize the rocks! Writing this was a (Latin) learning experience; perhaps reading it was for you too.

Wishing you safe travels and a fun summer! I look forward to seeing you at the June meeting and at a summer event. ↗

Meeting Minutes May 20, 2019

by David MacLean, Secretary

President Sue Marcus called the meeting to order at 7:45 p.m. at the Long Branch Nature Center in Arlington, VA.

Vice President Ti Meredith introduced our speaker, Paul Kreingold, who began the meeting by delivering his program, “The Lost History of the Potomac Marble.” (See my program summary in the trailing article.)

A short break followed the presentation, during which club members looked at samples of Potomac marble (a Triassic conglomerate), Aquia sandstone, and the red sandstone and bluestone associated with Potomac marble in the Culpeper Basin, along with books and quarrying tools brought by our speaker.

Business Meeting

The president recognized past presidents Bob Cooke and Rick Reiber, along with guest David Fryauff. The minutes of the April 2019 club meeting were approved as published in *The Mineral Newsletter*.

The treasurer reported that the treasury balance had not changed since March, with the scholarship fund alone holding more the \$3,000. The club had about \$26,000 in its account.



The treasurer proposed a plan for investing some of the funds, as discussed at previous meetings. The club board had previously examined investment opportunities, including bank CDs and Treasury Bills. Members approved the board recommendation to invest \$10,000 in a 12-month T-Bill.

The president asked for someone to manage the NVMC Facebook site because the previous manager was no longer available. Germaine Broussard volunteered—thanks, Germaine!

Club members have been fortunate enough to be invited to join field trips in Virginia, Maryland, and Pennsylvania organized by other clubs in the area. The president asked members to suggest places for NVMC field trips, such as fossil hunting trips in which children can participate. Unfortunately, many quarries once open to collectors are now closed.

The annual club show will be on November 23–24, with 81 dealer tables planned. We will need help with setup, operation, and takedown. We also need someone to volunteer to take charge of the kids' rooms. Show information and dates were submitted to *Rock and Gem Magazine* and two online calendars; people suggested submitting notices to other online outlets as well. Show notice cards were passed out for members to distribute in late summer and fall.

Announcements

Cindy Kearns will speak on the pegmatites of Maryland at the MSDC meeting at the Smithsonian Institution National Museum of Natural History on June 5.

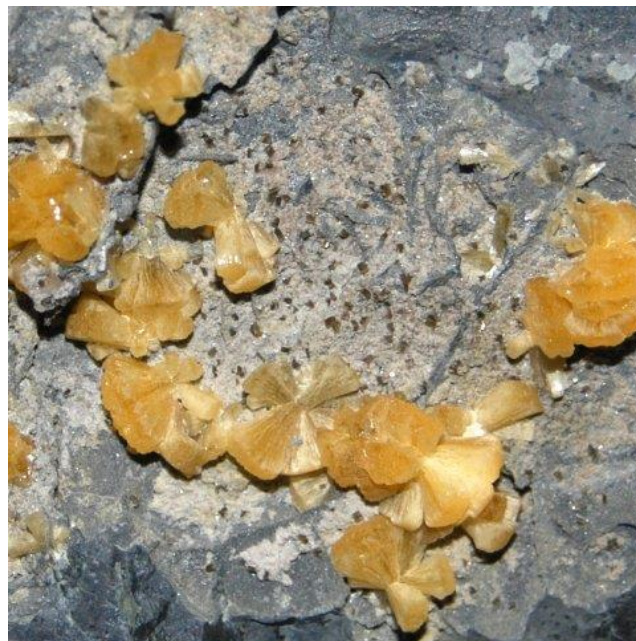
Kathy Hrechka, editor of the MNCA newsletter *The Mineral Mite*, received a first-place award for small bulletins in the AFMS bulletin editors' contest.

Dave Fryauff announced a multiclub field trip to Manassas Quarry on Saturday, June 1, from 7:30 a.m. to 11:45 p.m. A signed release form and full safety gear are required. Children 10 years and older who are under parental supervision are permitted.

The door prize winners of minerals and related items included Hutch Brown, Dave Fryauff, Roger Haskins, Dave Hennessey, Gary Rakes, Celia Zeibel, Lyra Zeibel, and Jason Zeibel.

Display Tables

Germaine Broussard displayed a large tablet of fossilized ammonite/orthoceras acquired at a yard sale in Warren, PA, originally from Morocco. The price paid



Stellerite on traprock (diabase), found on a past trip to the Manassas Quarry. Source: NVMC website.

was \$30 for a piece with a value estimated by club members at \$150 at a minimum.

Jeff Guerber displayed chrysocolla and epidote from Peavine Mountain near Reno, NV, and two large quartz-rich rocks, possibly gold/silver ore, from Virginia City, NV (site of the Comstock Lode).

David Hennessey brought pieces of traprock (diabase with chalcopryite) collected at the Vulcan Quarry in Manassas, VA, to show members some of what they might expect to find on the June 1 field trip. ➤

Program Summary

The Lost History of the Potomac Marble

Paul Kreingold

by David MacLean, Secretary

In 1803, President Thomas Jefferson hired the architect Benjamin Latrobe to complete stalled building projects in Washington, DC, including the U.S. Capitol Building and White House. Latrobe envisioned a classical design for the Capitol and White House, to outshine buildings in European capitals.

The structures were finished by 1811. The Capitol consisted of two white sandstone structures for the House



and Senate, connected by a temporary wooden structure. The building material, also used for other projects, was Aquia Creek sandstone, transported on barges from Aquia Creek in Virginia. The sandstone was “freestone,” meaning that it could be cut, carved, and finished in any direction, making it highly versatile for building. However, its disadvantages included rapid weathering and discoloration. Later, it was often sheathed in marble to protect it from weathering.

In 1814, during the War of 1812, the British captured Washington, DC, and burned the Capitol Building, the White House, and the Navy Yard. When the Capitol was rebuilt, the architect (Benjamin Latrobe) chose Potomac marble for the pillars in the House and Senate chambers.

Potomac marble is brecciated limestone conglomerate from the Culpeper Basin in the western Piedmont. With a reddish matrix, it is 90 percent limestone and relatively soft, with a Mohs hardness of 4. The conglomerate was quarried in and around Leesburg, VA, and on the Maryland side of the Potomac River about 2 miles north of White’s Ferry. Paul showed photos of the quarries near White’s Ferry and Leesburg. The stone was carried by barge downstream, using canals



Potomac marble (left) in a column of the Statuary Hall in the U.S. Capitol Building (top). Source: [Geocaching, Potomac Marble](#) (2019).

to get around Great Falls and Little Falls. However, there is no known documentation that the Potomac marble from Loudoun County was used in the Capitol Building and White House.

Samuel Clapham was contracted in 1815 to make and deliver the 27-foot columns for what is now the Statuary Hall in the Capitol. He found that Potomac marble was hard to work and tended to fracture, and he made the columns in sections for stacking onsite. The cost, originally estimated at \$1,500, rose to \$5,000 during the life of the contract. ↗

Humor

The Geologist’s Rockhammer Throw

Editor’s note: The piece is adapted from [Mindat Adventures: Humorous Mineral Stories](#). Thanks to Sue Marcus for the reference!



Many years ago, a geology professor I knew took a Geology 101 class to a large roadcut to look for graptolites. As he and the students were walking, a large rat began running near the cut. Without thinking, the professor threw his Estwing rockhammer at the rat, with the point striking him in the back of the head. Of course, the rat was instantly killed.

The professor told the class, “When you get to be a real geologist, you can do that too.”

He told me they actually believed him! ➤



The Rocks Beneath Our Feet **Island Arcs: Why on Earth an Arc?**

by Hutch Brown

Island arcs play an important role in the story of geology in the mid-Atlantic region. All three orogenies (mountain-building events) in our area in the last half billion years (the Taconic, Acadian, and Alleghanian) were preceded by island arcs and the associated deep-sea trenches. Grafted by tectonic processes onto proto-North America, all formed parts of the Piedmont and Coastal Plain bedrock we have today.

Island arcs take shape when a tectonic plate collides with another plate. For example, an oceanic plate will dive under the more buoyant continental plate in its path in a process called subduction. As it dives, the subducting plate forms a deep-sea trench. The tremendous friction and the rising temperatures as the plate dives into the Earth’s upper mantle (the lithosphere and asthenosphere) reach a point where the plate melts, sending plumes of magma to the Earth’s surface. The magma erupts as lava on the ocean floor, forming a line of volcanic islands that can be more than a hundred miles ahead of the deep-sea trench.

A classic case is the Aleutian island arc in the North Pacific (fig. 1). As the Pacific Plate moves northward, it subducts under the lighter North American Plate, forming the Aleutian Trench at its leading edge and a line of volcanic islands where the diving plate reaches a point deep enough in the Earth’s upper mantle to melt and send up plumes of magma. The line, about 200 miles north of the trench, takes the classic shape of an island arc.

The reason for the shape, I learned from reading John McPhee’s excellent books on geology, has to do with the Earth’s curvature—and the fact that the subducting plate dives into the Earth’s mantle at an angle of about 45 degrees. As McPhee (1998: 121) explains:

Take a knife and cut into an orange at forty-five degrees. To cut straight down would be to produce a straight incision in the orange. If the

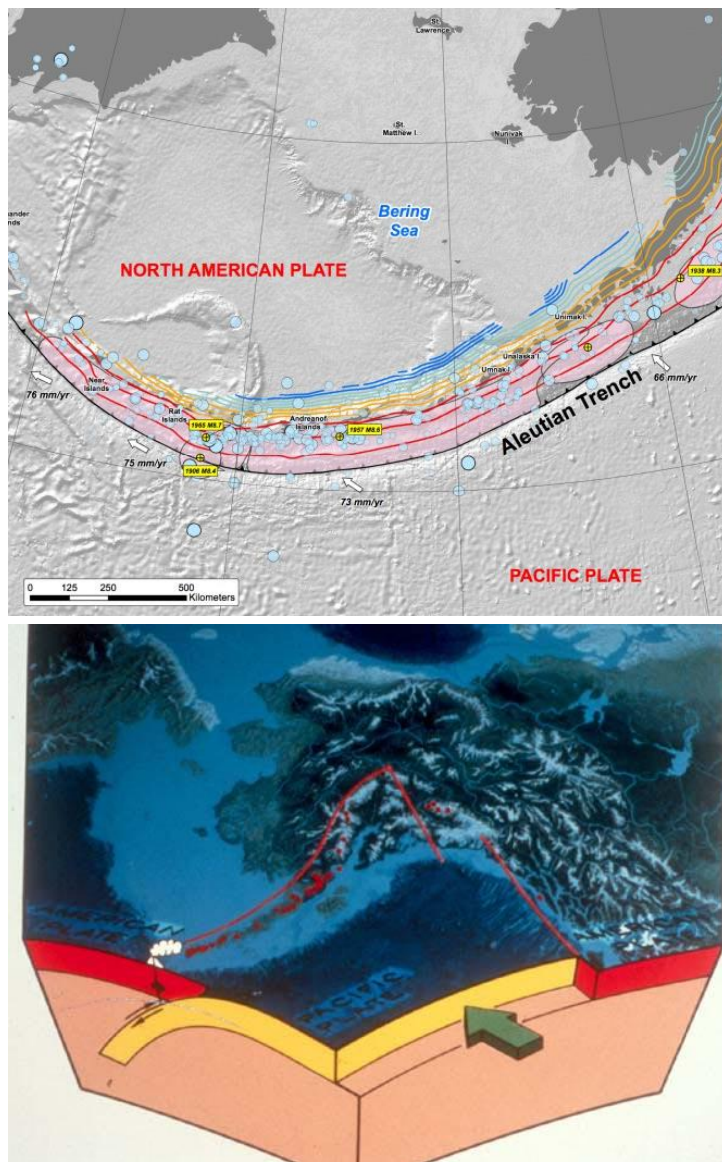


Figure 1—The Aleutian volcanic island chain in the classic shape of an arc (top), associated with a parallel deep-sea trench to the south. (The blue circles are earthquakes, the lines are earthquake depths, and the pink areas are aftershock zones.) The arc results from the process of subduction as the Pacific Plate (bottom, yellow) dives under the lighter North American Plate (red). Sources: USGS (top); PBS (bottom).

blade is tilted forty-five degrees, the incision becomes an arc on the surface of the orange.

An elegant solution—and problem solved! ➤

Source

McPhee, J. 1998. *Annals of the former world*. New York: Farrar, Strous and Giroux. 696 p.

Estate Auction

Oella, MD

The Chesapeake Gem & Mineral Society
Friday, June 14, 7:30 pm (viewing at 7:00 pm)
Westchester Community Center
2414 Westchester Avenue

From the Living Estate of John Kolasa

Auction items include miscellaneous rough, such as agates, jaspers, sodalite, jades, chrysocolla, obsidian, petrified woods, and geodes.

Location (map): <http://www.chesapeakegemandmineral.org/upcoming-events.html>

Bench Tip

Protecting Finished Surfaces

Brad Smith

Any accidental scratch I make on a piece means about 15 minutes of extra sanding and polishing. So after finishing major surfaces, I typically cover them with some masking tape to avoid any scratches when doing final work like cleanups and setting of stones. The blue masking tape used by painters works particularly well because it doesn't leave a sticky residue.

See Brad's jewelry books at
amazon.com/author/bradfordsmith



Aphorism of the Month

Like all writing, writing about geology is masochistic, mind-fracturing, self-enslaving labor—a description that intensifies when the medium is rock. What then could explain such behavior?

John McPhee, *Annals of the Former World* (1998)

Club Member Profile

Thanks to Kathy Hrechka for the feature!

Above and Beyond

Geology, Gems and Minerals

'Miner Mike' Kaas

Mike is a retired mining engineer with an impressive resume and has shared his experiences as a volunteer at the Natural History Museum since 2008. As a youngster, he spent many hours in the Gem and Mineral Hall while he visited his Uncle who managed the old Ebbitt Hotel. Those visits would nurture his interest in earth science for years to come. You can often find him hosting the Minerals Matter cart on Saturdays, where he wows museum visitors with the utilitarian applications of everyday minerals.

Save the dates! Field Trip Opportunities



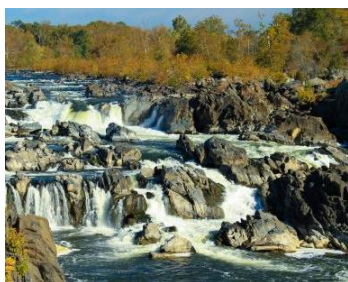
Vulcan Quarry in Manassas

The Vulcan Quarry in Manassas has invited members from multiple clubs to a self-collecting trip on the morning of June 1. Assemble in the quarry parking lot at 7:30 a.m. for a safety briefing; the trip ends at about noon. Required safety gear: hardhat, goggles, steel-toed shoes, long

pants; bring signed indemnification form. Contact Dave Fryauff at fryauffdj@gmail.com to register and get the form.

Northern Virginia Community College

NOVA's Annandale campus offers 1-day weekend courses—essentially, field trips—related to our hobby. You can get more information at the [Field Studies in Geology—GOL 135 Website](#).



Geology of Great Falls Park, VA

June 1, 9 a.m.–6 p.m. Study the modern and ancient forces that created Great Falls National Park, including some easy to moderate hiking. Meet in front of NOVA's main Bisdorf entrance at 9:00 a.m.

Miocene Geology of Calvert Cliffs, MD

June 1, 8 a.m.–6 p.m. Learn how the Miocene seas spread across Chesapeake Bay region 10–20 million years ago. We will visit the Calvert Marine Museum collections and study ancient sediments, stratigraphy, and paleoenvironments preserved in world-famous Calvert Cliffs, MD, collecting fossils along the way.



Triassic-Jurassic Rift Valley of Northern VA

June 22, 9 a.m.–7 p.m. Explore the geologic history of the famous Mesozoic rift basin, specifically across the Manassas, Leesburg, and Haymarket areas. Field stops will include quarry and roadside outcroppings of all

rock types, dinosaur tracks, rift basin stratigraphy, and tectonic structures.

Building Stones of the National Mall—Two Dates!

June 29, 9 a.m.–6:30 p.m.

August 3, 9 a.m.–6:30 p.m.

We will visit over 20 sites on the Washington Mall, examining the geologic history and architecture, including the rocks used to construct the federal buildings and monuments. ↗



Centennial Symposium

The Next 100 Years of Mineral Sciences June 20–21

The Mineralogical Society of America (MSA) will hold a celebratory Centennial Symposium on June 20–21 at the Carnegie Institution for Science Building, located at 1530 P Street NW, Washington, DC.



Fourteen theme colloquia will offer a vision for exciting new directions in mineralogy, geochemistry, and petrology as MSA begins its second century. Each theme colloquium will include two 20-minute presentations by invited speakers, followed by 15 minutes of moderated audience discussion. Lunches will be included with your registration fee, and attendees are invited for a private evening reception in the Janet Anneberg Hooker Hall of Geology, Gems, and Minerals in the National Museum of Natural History, Smithsonian Institution. We thank the Gemological Institute of America for sponsoring this evening reception.

Please join us for this once-in-a-century event! For more information and registration, go to:

http://www.minsocam.org/MSA/Centennial/MSA_Centennial_events.html#symposium. ↗



Our Hobby's History: It Started With a Passion and a Sharing of Ideas

by Jennifer Haley, AFMS Historian

Editor's note: The article is adapted from AFMS Newsletter (April/May 2019), p. 12.

I've been hitting the books again, investigating the earliest AFMS Historian files to see what gems of information I could write about for you.

The year 1928 is one to remember:

- The first radio and telephone connection between the Netherlands and the United States was established.
- American aviator Amelia Earhart became the first woman to fly across the Atlantic Ocean.
- Sliced bread was sold for the first time.
- Scottish bacteriologist Alexander Fleming discovered penicillin while studying influenza.

In 1928, an Earth sciences teacher also noticed the need to have the Earth sciences taught at schools below the college level. Unfortunately, I do not have the gentleman's name, but we do know that he started a club for his students and community. The club was such a big hit that he hoped something similar could go national.

Peter Zodac, founder and first editor of *Rocks & Minerals* magazine, was a big supporter of the idea, and he began writing monthly articles for his magazine about forming Earth sciences clubs. The articles contained ideas for programs and activities and, of course, information about minerals.

Learning about and collecting minerals were becoming extremely popular and were the main focus of our hobby in the beginning. Individuals and families were fascinated by what they could learn and enchanted by the adventures they were having.

Mineral societies slowly began to spring up around the country. The first two were in California in 1931 and 1932 and the third in Oregon in 1933.

The Oregon club, called the Oregon Agate and Mineral Society, grew by



The Oregon Agate and Mineral Society, founded in 1933 in Portland, OR, is one of the oldest mineral clubs in the United States. By comparison, the NVMC dates to the 1960s (the exact year is uncertain).

leaps and bounds its first year, becoming what was believed to be the largest club of its kind in the world at the time. The club founded a monthly bulletin called *The Oregon Mineralogist*. By its second year, a person featured in a recent AFMS Historian article, Dr. Dake, became the editor and renamed the bulletin *The Mineralogist Magazine*.

The early excitement aroused by the hobby gave rise to two more publications, *Earth Science Digest* and *Mineral News and Notes*. Advertisements for lapidary equipment were featured by the magazines. Clubs across the country corresponded with one another, visiting each other's club meetings and venturing out together to collecting sites for minerals.

With so many clubs forming, the idea of forming a federation came up. The first visionaries of our hobby wanted to keep the spirit and the knowledge of the science and the hobby alive, and they believed that their combined efforts would be greater than the sum of what individual clubs could do on their own.

Over a period of years, the federations gradually formed, beginning with the California federation in 1936, the Northwest federation in 1938, the Midwest federation in 1940, and the Rocky Mountain federation in 1941.

During World War II, efforts to advance the federations were suspended, but the American Federation of Mineralogical Societies was born in 1947. The Eastern federation followed in 1950, and the Southwest federation was founded in 1976.

When club members wonder why we have the federations and the AFMS, you now have a great story to tell. ♪





Safety Matters My Space

by Ellery Borow, EFMLS Safety Chair

Editor's note: The article is adapted from EFMLS Newsletter (January 2013), p. 3.



Upon an exhaustive search of a dictionary, I found no definition of “my space.” That might be no surprise, but I’m going to use the term anyway.

“My space” is a term I use to refer to the space immediately surrounding me. Some of the things I do in my space affect only me, but some affect your space, and that is the reason for this article.

I might be wearing safety glasses, steel-toed shoes, and a dust mask while I chip at a rock to extract a nice crystal, but the dust I create and the chips I send flying are entering your space. Even though you are wearing all the proper safety gear, you might not appreciate having your space filled with flying debris.

The point is: be aware of how your activities affect others. It is difficult to eliminate the noise from stone grinding, the oil mist from slab sawing, or the flying chips from sledge hammering a stubborn outcrop. But if someone enters that hazardous space, be prepared to mitigate the safety issues.

You could warn the person, cease activity until they leave, or make sure they are wearing the proper safety gear. Whatever you do, you should respect the safety of others because they might not be aware of the safety issues when entering your space.

A big issue nowadays is second-hand smoke from cigarettes. Often, second-hand smoke is addressed in local laws and ordinances. Most folks are aware of cigarette smoke, which has a distinct scent and color.

The problem with some of our rockhound activities is that most folks might not be aware of the dangers of oil mist, for example. Indeed, some hazards might not be readily discernible (such as flying debris, haze too thick to see through, or loud noise). Some risks are not obvious, such as a clear liquid that looks like water but is really a mineral cleaning acid.

So please respect the folks who enter your space. Know the hazards of our hobby and make sure you address them, both for your own protection and for the protection of those around you. We all deserve a safe hobby, one we can keep on enjoying. ↗

Newsletter Contest: Partial Results

by Hutch Brown, Editor



Each year, the regional and national club federations hold a contest for newsletters from the previous year. The competition is a way for clubs and club members to profile themselves in the regional and national federations. Clubs can also share outstanding articles, and editors can learn best practices for newsletters.

Nature of the Competition

The judging is done by volunteers, usually newsletter editors. They use a detailed set of criteria approved by AFMS to assess both individual articles and newsletters as a whole. The criteria leave room for interpretation and individual judgment, and because the judges are volunteers rather than professional writer/editors and graphic designers, the contest results do not necessarily reflect professional publishing standards.

In other words, no one who submits an article (or a newsletter) for the contest should feel discouraged by the results or inordinately proud of them. That would miss the point.

The point of the contest is to build relationships, unify the federations, share interesting articles (see the example below by Dennis Gertenbach), and improve the overall quality of newsletters. In that spirit, our club has long submitted both sample newsletters and individual articles for judging in the contest.

NVMC Submissions

For this year’s contest, the NVMC did not submit sample newsletters because we received the regional first-place award year before last. First-place newsletters are disqualified from competing for 2 years.

However, we did enter articles in four categories:

- **Technical/educational articles** incorporate “historical or geological information.” They are short research pieces.
- **Nontechnical articles** are “informational rather than technical” in nature. How do you tell the difference? Got me!
- **Written features** “add spice.” For example, they might be a personal story or a book review.
- **Original adult poetry** is self-explanatory. For the first time that I can remember, we made a submission.

The regional federations are the first to judge the submissions. They send the top three winners in each category to the AFMS for the national contest. (The category of “Written Features” is an exception—the AFMS does not include the category in its national competition). You can find the national results in the AFMS [April/May newsletter](#).

EFMLS Results?

Some of our club’s submissions must have placed first, second, or third at the regional level because they were forwarded to AFMS for judging at the national level. Unfortunately, the regional results won’t be announced until the EFMLS convention in early June. When the results are announced, I will report them in our newsletter in the fall.

AFMS Results

The AFMS April/May newsletter reported national-level results for our club’s submissions as follows:

Ninth Place, technical/educational: Mike Kaas, “Profile of the Kennecott Mine in Alaska” ([January](#))

Tenth Place, adult poetry: Linda Benedict, “Gemming at Leisure” ([October](#))

Congratulations, Mike and Linda, and congratulations to all our other authors! Thanks to you, we can all continue to feel proud—not because of the awards, but because you make our newsletter so good! ➤



History and Geology in Your Neighborhood—Purington Pavers

by Dennis Gertenbach

Editor’s note: The article is adapted from Flatiron Facets (newsletter of the Flatirons Mineral Club, Boulder, CO), pp. 9–11. It won second place for technical/educational articles in the AFMS contest for newsletters in 2019.

While strolling through my neighborhood, I frequently passed by a house with interesting bricks lining the sidewalk. A closer examination showed that each brick was stamped, “Purington Paver.” The bricks were obviously old, but I knew nothing about Purington Pavers. It was time to do some research to learn the history of these bricks.



The Purington Brick Company in East Galesburg, IL, was the source of Purington Pavers, which were famed for more than 100 years as a premium-quality paving material. The company was once the largest producer of brick pavers in the world, where up to 800 workers transformed the local blue shale and yellow soil into more than 150,000 bricks per day.

The site of what would later become the Purington Paver Brick Company was first used in 1849 by Henry Grosscup, a German stonemason. He purchased 90 acres of land from Knox College to start a brick-making operation. His first order was for bricks to construct Whiting Hall and Old Main on the college campus, and he was able to pay for the land with proceeds from this first brick order.

Brothers D.V. and W.S. Purington purchased the land in about 1890. Other brick-making companies had established themselves in the area, manufacturing “soft” bricks used in building construction. The Puringtons set themselves apart by manufacturing heavy, solid bricks that were in growing demand for paving streets. They began with 14 kilns and later added another 22 kilns, producing the company’s signature paving bricks (4 inches by 4 inches by 8 inches) until 1949.

The Chicago, Burlington, and Quincy Railroad provided access to the market by building a switch track extension to the Purington brickyards. The railroad ensured business success by transporting the finished bricks. Demand for the paving bricks rapidly grew with the rising popularity of the automobile. The installation of brick paving in urban areas eliminated muddy streets in fall, winter, and spring and dusty streets in summer. Cities, towns, and homes became cleaner and healthier as a result.



Purington products were used to pave more than 60 miles of streets in Galesburg, the brickyards' home town. Purington pavers were also used in other cities and towns across Illinois and surrounding states. The bricks paved streets around the world, from the bazaar in Bombay, India, to streets in Paris, France. At the turn of the last century, the U.S. government used Purington Pavers for the streets of Panama City, Panama, during construction of the Panama Canal.

The largest order ever filled came at the start of World War II, when E.I. du Pont de Nemours and Company needed 22 million building bricks for a munitions plant in southern Indiana. Purington worked at full production capacity for 146 days to complete the order, filling seven or eight freight cars each day. The daily shipment traveled through the night and arrived next morning at the building site, still warm from the kiln.

In those days, making bricks was a labor-intensive process. Nearby pits owned by the company provided shale for the bricks. The shale was crushed and blended with other ingredients, and then the right amount of water was added to mold raw bricks. The bricks were then loaded onto movable platforms and placed into the kilns by hand.

According to Knox County Historical Sites, "Old timers recall the physical labor involved as a green brick pitcher tossed the clay bricks, sometimes two and three in each hand, to the catcher above, who stacked them in the kiln. The catcher often used old leather shoe soles, cut individually for each hand, to help curb the blisters." Teenage boys known as "sand monkeys" threw sand onto the bricks so they wouldn't stick together in the kiln. The bricks were heated in coal-fired kilns to the point where the surface began to vitrify



(form glass), making the bricks extremely hard and durable. The kiln was then cooled and the finished bricks removed.

By 1948, paving bricks were no longer in demand due to the growing popularity of asphalt for streets. So the company switched to producing facing bricks for exterior walls. Equipment updates and firing with natural gas were some of the improvements made to the plant to raise production, lower costs, and reduce air pollution.

By 1974, however, the operation became unprofitable and the plant was closed. The old brickyards, located just north of Interstate 74, remain. Overgrown with weeds and brush, the crumbling buildings and kilns can still be seen from the road. Today, birds and wildlife have taken over the old brickyards.

A company called Gavin Historical Bricks reclaims Purington Pavers from streets throughout the Midwest. The reclaimed pavers are now popular for construction and home pavement projects, such as the one in my neighborhood. They come in a variety of colors, including orange, red, purple, and black.

So keep your eyes open as you walk through your neighborhood. You never know what geological treasures you might find! ➤

Sources

- Antique Brick Warehouse. 2019. [We buy street paving bricks](#). Omaha, NE.
- Gavin Historical Bricks. 2019. [Reclaimed antique brick and stoneyou're your home](#). Iowa City, IA.
- Knox County Historical Sites. No date. [Purington Brickyards](#).

June 2019—Upcoming Events in Our Area/Region (see details below)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 Field trips; EFMLS Con- vention: Monroe, NY
2 EFMLS Con- vention: Monroe, NY	3	4	5 MSDC mtg, Washington, DC	6	7	8
9	10 GLSMC mtg, Rock- ville, MD	11	12	13	14	15
16 Father's Day	17	18	19	20 Symposium, DC	21 Summer begins Symposium, DC	22 NOVA field trip
23	24 NVMC mtg, Arlington, VA	25	26 MNCA mtg, Arlington, VA	27	28	29 NOVA field trip

Event Details

1: Manassas, VA—Self-collecting field trip; Vulcan Quarry; 7:30–12; info, reg: Dave Fryauff, fryauffdj@gmail.com.

1: Great Falls, VA—Geology field trip; 9–6; NOVA; info, reg: [GOL 135 Website](http://www.gol135.com).

1: Calvert Cliffs, MD—Geology field trip; 8–6; NOVA; info, reg: [GOL 135 Website](http://www.gol135.com).

1–2: Monroe, NY—Annual Mineral, Jewelry, Gem, and Fossil Show/EFMLS Annual Convention; Orange County Mineral Society; Museum Village 1010 Route 17M; Sat/Sun 10–4; adults \$5, seniors \$3, Scouts in uniform/kids under 12 free; info: <https://www.facebook.com/OCMSofNY>.

5: Washington, DC—Monthly meeting; Mineralogical Society of the District of Columbia; 7:45–10; Smithsonian Natural History Museum, Constitution Avenue lobby.

10: Rockville, MD—Monthly meeting; Gem, Lapidary, and Mineral Society of Montgomery County; 7:30–10; Rockville Senior Ctr, 1150 Carnation Dr.

20–21: Washington, DC—Centennial Symposim; Mineralogical Society of America; Carnegie Institution for Science Bldg, 1530 P S NW; info/reg: http://www.minsocam.org/MSA/Centennial/MSA_Centennial_events.html#symposium.

22: Rift Valley, Northern VA—Geology field trip; 9–7; NOVA; info, reg: [GOL 135 Website](http://www.gol135.com).

24: Arlington, VA—Monthly meeting; Northern Virginia Mineral Club; 7:45–10; Long Branch Nature Center, 625 S Carlin Springs Rd.

26: Arlington, VA—Monthly meeting; Micromineralogists of the National Capital Area; 7:45–10; Long Branch Nature Ctr, 625 S Carlin Springs Rd.

29: National Mall building stones—Geology field trip; 9–6:30; NOVA; info, reg: [GOL 135 Website](http://www.gol135.com).

Hutch Brown, Editor
4814 N. 3rd Street
Arlington, VA 22203



**Mineral of
the Month:
Erythrite**

PLEASE VISIT OUR WEBSITE AT:

<http://www.novamineralclub>

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The Northern Virginia Mineral Club

Please send your newsletter articles to:

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RENEW YOUR MEMBERSHIP!

SEND YOUR DUES TO:

Roger Haskins, Treasurer, NVMC
4411 Marsala Glen Way, Fairfax, VA 22033-3136

OR

Bring your dues to the next meeting.

Dues: Due by January 1 of each year;
\$20 individual, \$25 family, \$6 junior (under 16, sponsored by an adult member).

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Purpose: To encourage interest in and learning about geology, mineralogy, lapidary arts, and related sciences. The club is a member of the Eastern Federation of Mineralogical and Lapidary Societies (EFMLS—at <http://www.amfed.org/efmls>) and the American Federation of Mineralogical Societies (AFMS—at <http://www.amfed.org>).

You may reprint NVMC materials in this newsletter.

Meetings: At 7:45 p.m. on the fourth Monday of each month (except May and December)* at **Long Branch Nature Center**, 625 Carlin Springs Road, Arlington, VA 22204. (No meeting in July or August.)

**Changes are announced in the newsletter; we follow the snow schedule of Arlington County schools.*

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