THE NORTHERN VIRGINIA MINERAL CLUB INC

The Mineral Newsletter

Meeting: March 28 Time: 7:30 p.m.

Long Branch Nature Center, 625 S. Carlin Springs Rd., Arlington, VA 22204

Smithsonian National Mineral Collection. Photo: Chip Clark.

Sylvanite

from Romania

Silver–gold telluride

$(Ag,Au)_2Te_4$

Volume 57, No. 3
March 2016

Explore our Website!

March Meeting:

Spring Club Auction

In this issue …

Mineral of the Month
Sylvanite

by Sue Marcus

When you think of Transylvania, do you think of Dracula—or the more rare and valuable sylvanite? Yeah, me too.

I hadn't heard of sylvanite until Super Editor Hutch came up with the stunning photo on the cover. So I looked it up.

Sylvanite is a rare telluride mineral with the chemical formula $(Au,Ag)_2Te_4$. Wow—according to Mindat, it usually has a gold-to-silver ratio of 1:1! So if it is part of an ore body being mined, it is money in the bank to the mining company—no wonder there aren't many sylvanite mineral specimens!

All tellurides are relatively rare, and visible crystals are even rarer. Our micromounter colleagues have a better chance of having a nice sylvanite specimen in their micro collections than I do in my macro collection.

Tellurium was once called sylvanium and was detected in ore from the Transylvania region of Romania. Although sylvanium fell out of favor as a name for the element, the mineral sylvanite retained its name.

Sylvanite is very soft, with a hardness of 1.5–2, so it is delicate as well as rare. It is also brittle and opaque, with a metallic luster. It forms monoclinic crystals with a specific gravity of 7.9–8.3, *if* you could get pure material to weigh and wanted to break your specimen.

Photographs of sylvanite show it to be silvery to nickel-gold in color. Websites list its official color as gray, white to yellow, or silver-white. I did not see any photos showing specimens that I would consider white or yellow.

Sylvanite occurs in gold deposits in Cripple Creek, CO, as well as several other Colorado, California, Alaska, and other gold-associated localities in the United States. Specimens are also noted from gold deposits on Fiji. Sylvanite is found in many other places around the world, though never in abundance.

Although sylvanite contains gold and silver, it is mined only as a byproduct because it does not occur in sufficient quantities to be an ore on its own.

Happy St. Patrick's Day!

Northern Virginia Mineral Club members,

Please join your club officers for dinner at the Olive Garden on March 28 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.

Club Member Rocks and Minerals Auction Coming Up!
March 28 Program

Our March club meeting will feature our spring Club Member Auction! Proceeds from the auction go into the Fred C. Schaefermeyer Scholarship Fund, which supports students in the field of geology.

The meeting will start promptly at 7:30 p.m. (*note:* this is 15 minutes earlier than usual). We will quickly move through the business part of the meeting so we can get to the fun!

Sellers, come early to help set up the room and your items. Bid slips are contained in this newsletter below. Photocopy the page if you need more.

Don't hesitate to bring a guest or invite nonmembers! Although only current 2015 club members are allowed to sell, the meeting and auction are open to all. And please consider volunteering. The auctioneers, accountants, and runners are all volunteers—so help us out here, folks!

Rams horn selenite from Chihuahua, Mexico, sold to a lucky buyer in the fall 2014 NVMC auction.

Bring small bills, bid early and often, and help us move on to the next item. We need to be out of our meeting room by about 10 p.m.

**** Note Current Club Auction Rules ****

- Any member may offer up to 20 specimens or up to 4 flats for auction.
- Each flat is one auctionable item.
- The club gets 15 percent of the purchase price; the remainder goes to the seller.
- Anyone may donate items to the auction to fully benefit the club (no money goes back to the donor).
- The minimum bid is $1 on any item. Bids above $20 increase by $5.
- We start with a silent auction, so look carefully and start bidding. Items with multiple bids during the silent auction will be brought sooner to the vocal auction.

Winning bidders must pay for the item promptly, with cash or check.

The Prez Sez

by Bob Cooke

*T*hose of you who didn't make it to last month's meeting missed a superb presentation by club member Steve Hill.

Steve lived in Australia for several years and was actively involved in "fossicking," the fine art of walking about Australia and collecting rocks for recreation.

In addition to photographs, Steve brought many samples from his collection of rocks, minerals, and fossils. Thank you for sharing with us, Steve!

Our March meeting won't have a guest speaker—but we will have our staff of auctioneers presenting geological wonders from around the world for you to purchase.

Bring your excess equipment and materials—whether lapidary, mineral, or fossil—to the auction and use the proceeds to acquire treasures that other members are auctioning off. Because this is such a popular event, we will start the meeting earlier than normal—at 7:30 p.m.

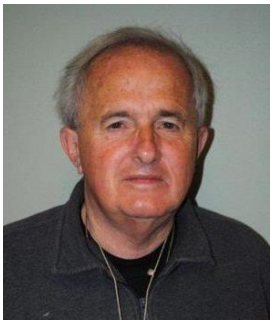
Our treasurer, Rick Reiber, is formulating a budget to guide our club's fiscal endeavors over the coming year. Once a draft is available, it will be printed in *The Mineral Newsletter* for your review and we'll vote on it during the following monthly meeting.

In the meantime, don't forget to keep Rick busy: Send in your dues for 2016!

Bob

February Meeting Minutes
February 22, 2016

by David MacLean



*P*resident Bob Cooke called the meeting to order at 7:45 p.m. at the Long Branch Nature Center in Arlington, VA.

Members approved the minutes of the December 16, 2015, meeting as published in *The Mineral Newsletter*. (The January club meeting was canceled due to inclement weather.)

The president recognized guest Eric Sword.

Old Business

The president reported that past president Wayne Sukow, who served most recently as club president just last year, is examining the NVMC bylaws for revision.

Scenes from the February NVMC meeting. Far right (in the blue shirt) is club member Steve Hill, who spoke about his adventures while fossicking in Australia. Photos: Sheryl Sims.

Steve Hill: Marine fossils, minerals, and gemstones, Northern Territory and Queensland, Australia

Kathy Hrechka: Recently taken microphotographs of snow crystals

Announcements

The Long Branch Nature Center asked everyone to leave by car slowly to avoid interrupting—and rendering thinly horizontal—the parade of frogs and salamanders that are crossing the access road to the pond for the summer.

New Business

The president reported that the club board of directors will publish the 2016 NVMC budget in *The Mineral Newsletter*. Members will then vote on the budget.

Door Prizes

Steve Hill, the speaker, donated the door prize fossils. Door prize winners included Walker Crews, David MacLean, Sandy Paik, and Celia Zeibel.

Display Table

Gerry Cox: Fossil sea urchin, Lake Texhoma, OK

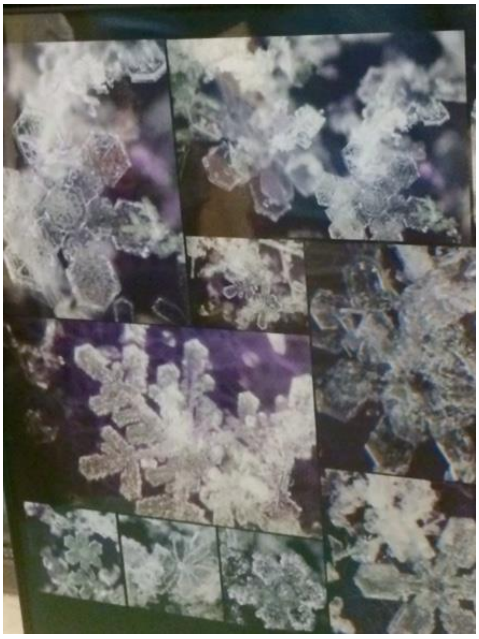
Walker Crews: Various marine fossils, Gore, AL

A fossil-hunting trip was announced on the beach at low tide at Stratford Hall (next to Westmoreland State Park on the Potomac River in Virginia) for Saturday, March 12. Fossils there include sharks' teeth and bones. The fee for participants is $50.

The Make Fair will be held on March 13 at South Lakes Middle and High School. The NVMC will present an exhibit called "Rocks Hold the World Together."

NVMC dues of $15 per person are due as soon as possible.

An EFMLS-sponsored weeklong session of classes related to our hobby will be held on May 9–15 at



Items on display included various fossils, as well as photos by Kathy Hrechka of snow crystals. Photos: Sheryl Sims.

Wildacres on the eastern edge of the Blue Ridge Mountains near Marion, NC. Registration has been open since January 2016, so register now! Classes fill up fast!

The Delaware Mineralogical Society show will be on March 5–6 in Wilmington, DE.

The annual Atlantic Micromounters' Conference will be held on the evening of Friday, April 22, and all day Saturday, April 23, at the Springhill Marriot in Alexandria, VA. Speaker Tony Nikischer, owner of Excalibur Minerals of Charlottesville, VA, will deliver three presentations: "How New Minerals Are Discovered and Named"; "Minerals of the Kola Peninsula, Russian Federation"; and "Rocks from Space."

Adjournment

By motion duly made and seconded, the members adjourned the business meeting and invited Steve Hill to begin his program. The next NVMC meeting will be on Monday, April 25.

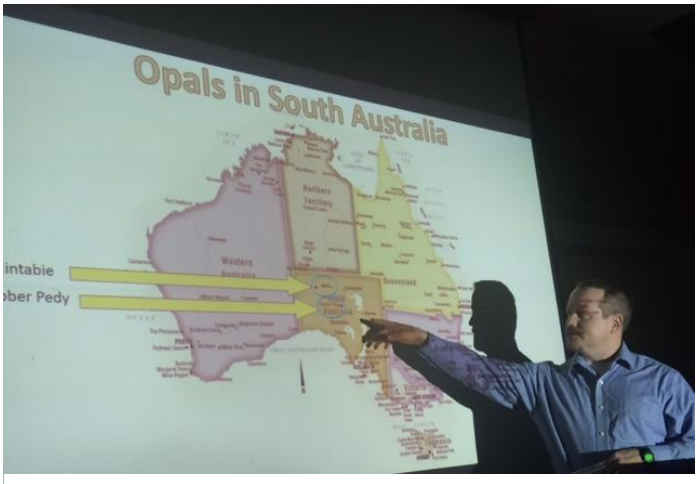
Program Summary

Fossicking in Central Australia: Fossils, Meteorites, and Gemstones

Steve Hill

by David MacLean

Steve Hill was stationed for 4 years in Alice Springs in Australia's Outback. The town is located in the central part of the country, in the southern part of Australia's Northern Territory.



Steve Hill indicating opal mining sites. Photo: Sheryl Sims.

Australia is as big as the United States, with about 25 million people. Most of the population is in New South Wales, Victoria, and Queensland on the east coast.

Steve's wife told him he needed a hobby, so he took up fossicking with the Central Australian Mineral Club. Central Australia has a hot desert climate. Fossicking season is in winter, from April to October.

On club trips, Steve found fossils of trilobites as well as trilobite tracks in sandstone south of Alice Springs. He also found Ordovician cephalopods and brachiopods about 470 to 480 million years old.

In addition, Steve found stromatolites, growths of cyanobacteria, at Maloney Creek, NT. Rare today, the stromatolites lived in shallow, very saline seas during the Cryogenian Period about 650 to 750 million years ago.

The club also hunted for tektites in the debris field of the Henbury meteorite, which fell about 4 million to 6 million years ago.

Together with the club, Steve explored the Harts Range to the southeast of Alice Springs for sunstone, which has rainbow colors and iridescence. He also sought iolite, a variety of cordierite, a cyclosilicate containing magnesium, aluminum, and iron.

In Mud Tank gravels, the club found zircon, magnetite, green apatite, and red and brown hematite.

In Queensland, Steve dug under boulders or moved them aside to find sapphires and ruby vail sapphires in stream gravel.

The club drove hundreds of kilometers into South Australia seeking opals in sandstone at Mintabie and Coober Pedy. The opal mines are underground; miners drill holes and blast the rock to expose the opals.

It was impressive how far the club drove on collecting trips.

Deadline for Submissions

April 1

So we can send out the newsletter on time, please make your submission by the 1st of the month! Submissions received later might go into a later newsletter.

Earth's Rarest Minerals Catalogued

Thanks to Sue Marcus for the reference!

None of 2,500 species is known from more than 5 locations, and for a few of them (including the cobalt-arthurite shown here) the total global supply could fit in a thimble.

Researchers say it is important to hunt down these oddities because they contain fundamental information about the construction of our planet.

Some will also undoubtedly have properties that are useful in technological applications. …

For the full story, click here.

Editor's Corner
Editorial Style

by Hutch Brown

Other newsletters have an "Editor's Corner," so I thought—why not? My goal is to explain our newsletter's editorial style as well as its design and layout.

First, my credentials—or lack of them. I am no expert in design and layout, and I have no background in geology or mineralogy. This newsletter is my first real foray into all these areas, and I am grateful for the opportunity.

But I have been in the business of writing science-based speeches and papers and editing technical publications for more than 20 years. Accordingly, I have some knowledge of design and layout, although my focus has always been on writing and editing.

So let's start with the basic editorial style for our newsletter.

As a language, English is more complicated than some. Our language is rooted in a medieval Germanic dialect (Anglo-Saxon). Germanic tribes invaded Britain from homelands on the peninsula of mainland Denmark (Jutes) and Schleswig–Holstein in Germany (Angles and Saxons). After the Norman Conquest, English acquired Franco-Norman graftings and a smattering of Latin and Greek from the Church.

The result has been chaos, certainly in the United States, with spelling and usage that vary widely, including colloquialisms such as "ain't." My midwestern middle-class parents taught me that there was correct and incorrect usage ("ain't" was anathema).

But when I studied German literature and linguistics in getting my degrees, I learned otherwise. I learned that there is no right and wrong. There is only the language that people use, which varies.

For our purposes as a club, consistent usage is important because our newsletter conveys information. Inconsistencies tend to distract. A good editor will insist on a consistent language that is transparent, letting the meaning shine through.

To be consistent, the editor needs to choose a particular style. There are many styles; for example, all newspapers follow the Associated Press style, and all federal government publications follow the Government Printing Office (GPO) style.

The choice is arbitrary. For our newsletter, I have chosen a modified form of the GPO style, simply because I know it best.

I also like the GPO style, because it reflects the way our language is changing. Languages are dynamic—including our own—and American English is moving toward less initial-capping (such as Baltimore gneiss rather than Baltimore Gneiss) and more closed spellings (such as postfracture rather than post fracture or post-fracture).

So if you see usage that is inconsistent in our newsletter, please let me know! Everyone can help improve our newsletter, and you can do your part by telling me whenever you find inconsistencies.

But if you think some spelling or usage looks funny in our newsletter, please bear with me. It might not be your preference, but there is probably a reason for it, rooted in the style we use—not that you are wrong!

And don't hesitate to ask! I am happy to look things up in the GPO Style Manual (there is such a thing—the private sector has its own equivalents). I am always happy to explain.

And I could always be wrong. So catch me on something—I challenge you!

My Initial View

by Matt Charsky, President

Editor's note: *The article is adapted from* A.F.M.S. News *(December 2015), p. 2. Matt Charsky, a member of our club, is this year's AFMS president. Here, Matt presents his perspective on the role of our national organization.*

On my way up the presidential ladder, I learned a lot about how the AFMS functions. As I performed my duties in each position, I saw three primary areas of importance: membership, contact, and participation.

Membership

AFMS and the regional federations rely heavily on the funds generated from membership dues. Recent years, except for 2015, have shown a slight decrease in the portion of membership dues that comes to AFMS, but the decrease is not significant.

In 2015, most regional federations increased membership: Is this a 1-year blip? I hope not, and so I would like to reward the regional federation that increases membership the most from year to year. Let's call it a "friendly competition" that gives one federation bragging rights for 1 year. All that has to be done is to compare membership numbers for 2 consecutive years (2014 and 2015), and the federation with the greatest growth is the winner. I volunteer to do it for the first year and share the results in early 2016.

Contact

AFMS is set up to encourage contact among all regional federations. The AFMS officers and committee chairs may initially take the lead, but the regional representatives need to be players also. So let's have some contact throughout 2016 among all committees but especially among those that have a combined AFMS/regional federation focus.

Each AFMS officer has tasks and duties that might be accomplished a little easier with some contact. As president, I will start the ball rolling by contacting the AFMS regional vice-presidents, AFMS committee chairs, and presidents of each of the federations throughout 2016. I would like the AFMS regional vice-presidents who have responsibilities for several AFMS committee chairs to contact their chairs and find out how their respective committees are functioning during 2016, well or not. You do not have to wait until the 2016 AFMS Convention in July to contact your committee chairs.

Participation

AFMS has numerous programs and competitions for the benefit of regional federations. For example, we have informational programs like the American Lands Access Association [*editor's note:* a lobbying group with which AFMS has a relationship], Conservation and Legislation, the Judges' Training Seminar, the Special Congress Representing Involved Bulletin Editors, and Safety.

We also have rewarding programs like Club Rockhounds of the Year, the Junior Activity Badge Program, the Program Competition, and Inter-Regional Field Trips. In addition, we have competitive programs like the Bulletin Editors' Advisory Committee's annual newsletter contest, the Web Site Contest, and All American Club. Hopefully, none of these programs is a surprise to any of you.

My point is that AFMS spends resources on these programs (that is, people, time, and money), so let's continue to support all of them. These programs are part of who we are, so please participate.

If you can do one activity this year, please try to contribute to our Endowment Fund. With our next convention scheduled for July, the timeframe for donations will be limited. We have a new Endowment Fund Chair for 2016, Cheryl Neary, and she is a real gem.

Finally, there is nothing like having face-to-face contacts between AFMS and the regional federations, so try to attend AFMS and regional conventions and regional board meetings if you can. If you cannot be there in person, e-mail your ideas and suggestions to your officers. We need to hear from the membership.

So as I travel to each regional convention in 2016, show me what you do to further the hobby and maybe it will be part of one of my monthly messages. Be thankful for your hobby and for the people in the hobby who make it fun and educational.

'Til next issue.

Matt

Safety—Car Talk

by Ellery Borow, EFMLS Safety Chair

Editor's note: *The article is adapted from* EFMLS News *(January 2016), p. 3.*

This article is not about the Public Broadcasting Corporation radio program on car repair. It is also not about listening to talk radio or carrying on a conversation with a passenger while you drive along the highway. This article is instead about cars that talk.

It used to be that driving while distracted was all about talking on the cell phone while behind the wheel—and, indeed, that is still big news and a cause for concern. But wait—what about when cars start talking to us? Do you remember when a car would say "your door is ajar" when a car door was not fully closed? That was distracting enough, but cars are even more distracting now. Modern cars can read our e-mails to us, offer driving directions and a backup camera, monitor how close we are to other cars, offer radar-assisted driving and braking, and so on.

These are all wonderful safety-oriented features. They also qualify as distractions, because they take vital portions of our precious attention away from the many tasks of driving, like obeying traffic signs, watching for hidden pedestrian crossings, looking for the child chasing an errant ball across the road, checking for weaving traffic, and so on.

Driving requires our undivided attention! Distracting features can sometimes be turned off or at least monitored when in a safe location, such as the new texting rest stops popping up here and there. Distractions that cannot be turned off can be monitored by a passenger, if you have one with you.

Ours is a traveling hobby. We travel on field trips and to and from meetings or shows as well as special club programs, workshops, and the like. With all those miles to travel and all those distracted drivers, we need as few extra distractions as possible to be safe.

Please mind the distraction potential of all those handy talking-car devices. Although they can enhance the safety of our travels, they should be used with care.

Be safe, and drive safely.

Humor

My Retarded Grandparents

Anonymous Third-Grader

Editor's note: *The piece is adapted from* Livermore Lithogram *(newsletter of the Livermore Valley Lithophiles, Livermore, CA), February 2011, p. 7. Purportedly received anonymously by e-mail, it is ostensibly from a child writing in school about a vacation. Despite its dubious origins, you might enjoy it!*

We always used to spend the holidays with Grandma and Grandpa. They used to live in a big brick house, but Grandpa got retarded and they moved to Arizona.

Now they live in a tin box and have rocks painted green to look like grass. They ride around on their bicycles and wear name tags, because they don't know who they are anymore.

They go to a building called a wrecked center, but they must have got it fixed because it is all okay now. They do exercises there, but they don't do them very well. There is a swimming pool too, but they all jump up and down in it with hats on.

At their gate, there is a doll house with a little old man sitting in it. He watches all day so nobody can escape. Sometimes they sneak out and go cruising in their golf carts.

Nobody there cooks, they just eat out. And they eat the same thing every night—early birds. Some of the people can't get out past the man in the doll house. The ones who do get out bring food back to the wrecked center for pot luck.

GeoWord of the Day

(from the American Geoscience Institute)

sand snow

Cohesionless dry snow that has fallen at such cold temperatures (usually below –25 °C) that intergranular adhesion is inhibited and surface friction is high. Its surface has the consistency of dry sand. Cf: powder snow.

(from the *Glossary of Geology*, 5th edition, revised)

The Rocks Beneath Our Feet

NOVA Geology Field Trips: Photo Gallery

by Mike Kaas

Northern Virginia Community College (NOVA) offers a series of 1-day, 1-credit courses on weekends. Geology (GOL) 135, Field Studies in Geology, has a number of offerings, each covering the geology of a particular area. You can check it out here.

I am a professional geologist and mining engineer (now retired), but the geology of this area was new to me, so I took 10 different GOL 135 courses from a number of instructors. The courses were professionally presented and visited excellent field locations. To give you an idea, I am presenting a photo gallery from my NOVA GOL 135 field trips.

The photographic sequence is from west to east, forming a geologic cross-section from the West Virginia border through Maryland and northern Virginia and ending at the Chesapeake Bay.

An overturned bed in the Brallier Formation west of Romney, WV, contains gray shale and brachiopod fossils (above the hammer), deposits laid down in ancient seas during the Devonian Period (from about 408 million to 360 million years ago) and later uplifted during the Alleghanian Orogeny.

Valley and Ridge

Sideling Hill roadcut through the Purslane Formation on I–84 west of Hancock, MD. Here you can see cross-bedded sandstones and quartz pebble conglomerates with interbedded siltstones, shales, and coaly shales. The deposits were laid down in swamps and rivers during the Mississippian Period (from about 360 million to 320 million years ago) and then uplifted during the Alleghanian Orogeny (beginning about 320 million years ago). All photos: Mike Kaas.

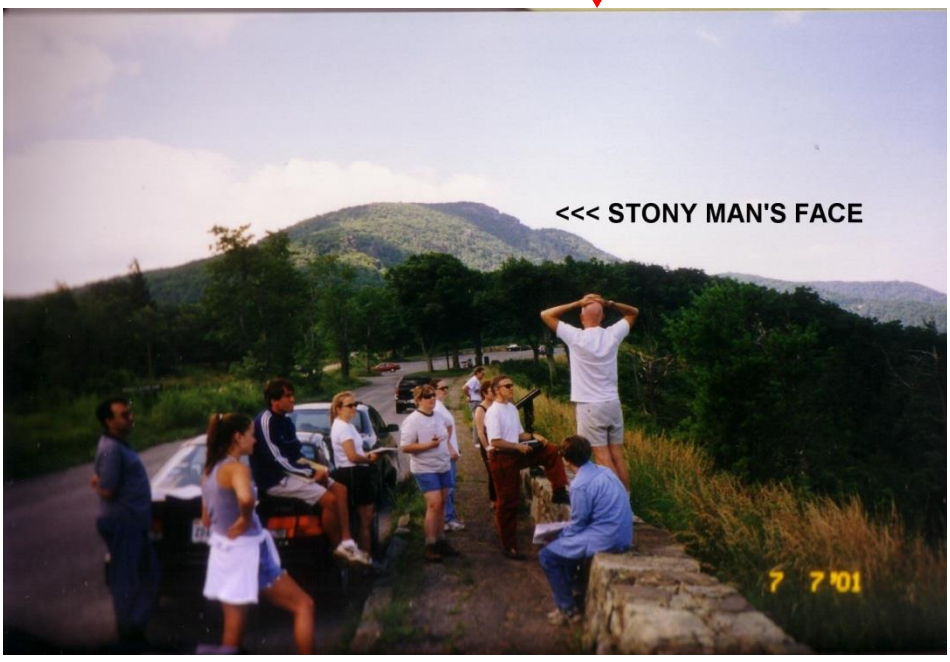
Iron-rich Catskill red beds (sandstone) in Newlins Hill near Winchester, VA. The red beds—formed from sands laid down during the late Devonian—contain fossils of some of the earliest trees.

Valley and Ridge (cont.)

Massanutten sandstone along Passage Creek at the entrance to Fort Valley, near Strasburg, VA. The rock formed from sands laid down during the Silurian Period (about 438 million to 408 million years ago) from the eroding remnants of the ancient Taconian Mountains.

Columnar basalt (now greenstone) below Little Stony Man Cliffs, Shenandoah National Park, VA.

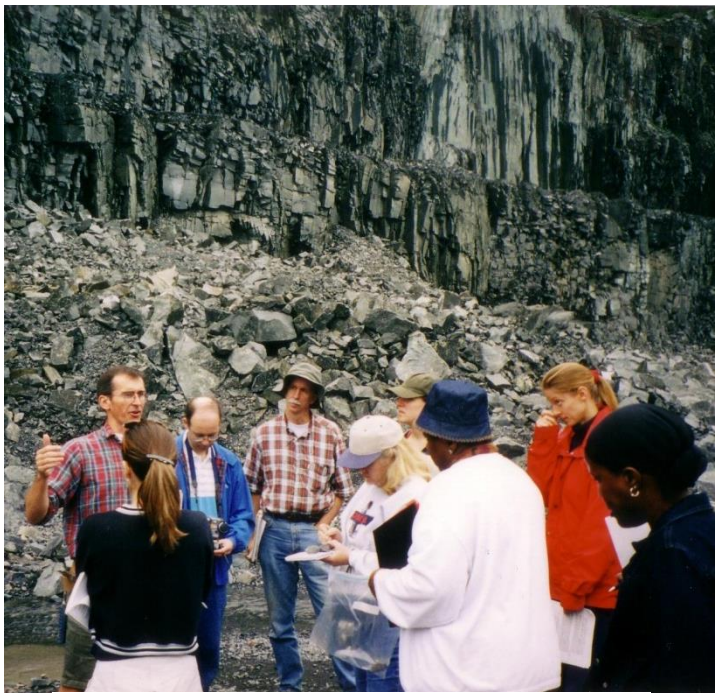
Blue Ridge



Basalt flows, tilted and metamorphosed into greenstone during the Alleghanian Orogeny, form the features on Stony Man Mountain's "face" in Shenandoah National Park, VA.

Triassic Basins

Dinosaur track (12 inches long) in sandstone at Oak Hill, VA, laid down in the great basin formed by rifting as the Pangaea super-continent broke up during the Triassic Period (beginning about 245 million years ago). This particular Triassic basin is known as the Culpeper Basin.



NOVA Professor Ken Rasmussen and students at the Luck Stone diabase quarry near Bull Run, VA. The diabase intrusion followed the rifting that formed the Culpeper Basin.

Leesburg conglomerate on the west side of the Culpeper Basin, near Leesburg, VA. The conglomerate formed from sediments eroded from the steep escarpment that loomed over the basin during the Triassic Period (from about 245 million to 208 million years ago). The rock was used in columns in the Rotunda of the Capitol Building in Washington, DC.

The Balls Bluff siltstone near Dulles Greenway, VA, was metamorphosed into charcoal-gray hornfels by the heat of the diabase intrusion below.

The red Balls Bluff siltstone is not metamorphosed in an outcrop along Horse Pen Creek, near Dulles Airport in Virginia.

Triassic Basins (cont.)

Pothole in the metagraywacke at Great Falls, MD.

Piedmont

At Great Falls, the Potomac River drops about 39 feet through the Piedmont metagraywacke before flowing into Mather Gorge between Virginia and Maryland. Metagraywacke, mica schist, marble, and other Piedmont rocks originated in terranes (small continents and island arcs) that slammed into proto-North America as the proto-Atlantic Ocean slowly closed in the middle Paleozoic Era. The Piedmont rocks were metamorphosed and placed in their current locations when the ocean completely closed during the Alleghanian Orogeny.

Lamprophyre dikes in the metagraywacke cliffs of Mather Gorge at Great Falls, MD.

Piedmont (cont.)

Left and above: *Cockeysville marble quarry in Texas, near Baltimore, MD. Marble for the Washington Monument came from the Beaver Dam Quarry just to the north.*

The Setters Formation features a garnet-bearing mica schist exposed in an outcrop near the Hunt Valley Mall in Baltimore County, MD. The dark specks are tiny garnets.

Coastal Plain

Hiking along the Choptank Formation, the topmost formation at Scientists Cliffs, MD. The Choptank sediments were laid down in ancient seas during the middle Miocene Epoch (from about 13 million to 11 million years ago).

Closeup of fossil scallop shells from zone 19 of the Choptank Formation, Scientists Cliffs, MD.

Bed of clam shells in zone 14 of the Calvert Formation, Scientists Cliffs, MD. The Calvert marine sediments were laid down during the early Miocene Epoch (from about 14 million to 21 million years ago).

Closeup of clam shell fossils in zone 14 of the Calvert Formation, Scientists Cliffs, MD.

Wildacres in Autumn

Editor's note: *The information is taken from* EFMLS News *(February 2016), pp. 6–8.*

Wildacres is a fantastic retreat located on Pompeys Knob just off the Blue Ridge Parkway about an hour north of Asheville, NC. Signing up for the September 5–9 session will give you the opportunity to take classes, hear excellent talks, and explore the area.

You can find a registration form in the EFMLS newsletter, as well as the list of classes for the spring session (May 9–15). Or go to the Wildacres Website for more information,

Don't delay; some classes fill quickly!

Coming to Wildacres in September 2016 …

Faceting (*Steve Weinberger)*: Learn to cut and polish a 57-facet round brilliant gemstone, to identify well-cut stones, and to select rough material. Bring an optivisor and/or jeweler's loupe and an apron. No prior experience needed. 4-day class.

Fused glass—Basic (*Becky Edmundson*): Learn to cut and layer pieces of glass and fire them in a kiln, completing at least two pieces of jewelry. Bring safety glasses and, if you can, a glass cutter and breaking pliers. 2-day class, 2nd semester.

Fused glass—Advanced (*Becky Edmundson*): Learn to use a wet saw to cut shapes, a grinder to smooth the glass, and a jeweler's bit to cut a channel in the piece before fire-polishing it in a kiln, completing at least two pieces. Bring safety glasses and, if you can, a glass cutter and breaking pliers. No prior experience needed. 2-day class, 1st semester.

Jewelry design (*Brenda Smith*): Learn the technical skills required for your preferred jewelry fabrication method (wrapping, chain, beading, smithing, cold connections, stone cutting, enameling, etc.). Use your skills to create your own unique, one-of-a-kind designs. Through homework assignments, you will get the most from the class. 4-day class.

Opals—Beginning (*Cheryl Kasper*): Learn to cut opal and work with color play. All materials provided, including pieces of common opal and a precious opal. No prior experience needed. 2-day class, 1st semester.

Opals—Advanced (*Cheryl Kasper*): Learn how to work precious opal from Lightning Ridge, Australia. All materials provided. Cabochon-cutting experience required; opal experience helpful but not required. 2-day class, 2nd semester.

Polymer clay (*Barbara McGuire*): Learn the basics, including finishing, as well as the elements and principles of design. Polymer is a playground of color; create your unique portfolio of beads, jewelry components, focal cabochons, and surface design. Good for wearing, wrapping, setting, and jewelry design. No prior experience needed. 4-day class.

Roadside geology and photography (*Virginia Meador*): Study the geologic history of the Blue Ridge, with photo ops and tips. Bring sturdy shoes and a poncho. Textbook: *A Geological Adventure Along the Blue Ridge Parkway* (by Carter, Merschat, and Wilson; $16.95); ordering it in advance and familiarizing yourself with it will help. 2-day class, 1st semester.

Uncomplicated mineral photography (*Virginia Meador*): Bring a digital point-and-shoot camera that takes closeups (macro); an iPhone 5 or preferably 6 or a newer Android-platform cell phone with an edit feature will do. Bring a notebook and your favorite pieces of jewelry or minerals to photograph. 2-day class, 2nd semester.

Silversmithing—Basic (*Richard Meszler*): Learn to work silver sheet and wire to fabricate jewelry, including annealing and bending/shaping/texturing metals, soldering, piercing, and polishing. No experience needed. 2-day class, 1st semester.

Silversmithing—Intermediate (*Richard Meszler*): Learn to make a bezel and bail and set a cabochon to make a pendant. Prerequisite: basic silversmithing experience, including soldering. 2-day class, 2nd semester.

Wirewrapped Jewelry—Basic (*Pamm Bryant*): Learn how to work with wire making basic shapes and convert the shapes into earrings. Use your own designs to make two pairs of bead earrings. Learn the basic technique of wire-wrapping a cabochon and use your own creative finishing designs. No experience needed. 2 -day class, 1st semester.

Wirewrapped Jewelry—Intermediate (*Pamm Bryant*): Students will make a bowtie bracelet, a delicate piece of jewelry featuring silver beads, and a ring emphasizing wirewrap loops. Prerequisite: basic wirewrapping. 2-day class, 2nd semester.

Agate Classifications (Part 2)

by Ron Gibbs

Editor's note: *The piece is adapted from the last two segments of a series on agates in* Goldrush Ledger *(newsletter of the Gem and Mineral Club, Charlotte, NC), January 2008, pp. 4–5; and March 2008, pp. 4–5.*

In the last issue, I described how agates form. I also started delineating the various kinds of agate—fortification agate, seam agate, moss agate, and so on.

Next on our list is the ***sagenitic agate***, sometimes just called sagenite. Sagenite encases straight needles that often radiate in hemispheres or fanlike structures.

Like plume agates, sagenites are often found at the agate/bedrock boundary. Although completely spherical, single structures can be found apparently floating in chalcedony matrix. Spherical sagenites are sometimes referred to as pom-poms—hence the name ***pom-pom agate***.

It is difficult to understand how nearly perfectly placed needles can form after the chalcedony matrix has hardened or even just gelled. Perhaps the needles first formed in the cavity and only later were incorporated into the growing agate. Similarly, growing quartz incorporates rutile crystals during quartz crystallization.

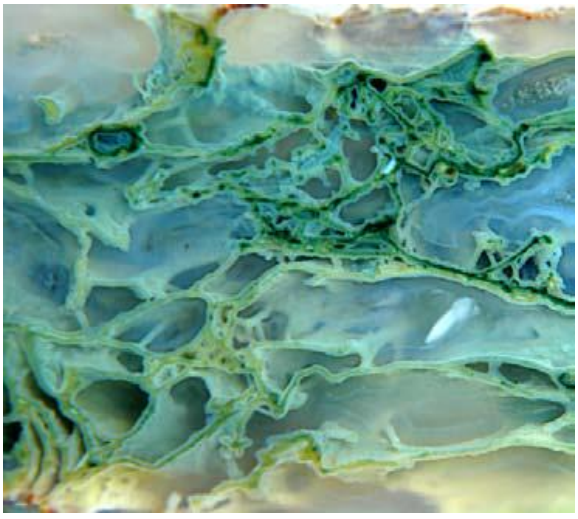
Most radiating crystals that form sagenitic agate can be traced back to their nucleation point on the wall of the agate. The needles probably grew in the cavity without any barrier, forming in a natural manner.

Sagenite (Mexico).

For reasons I don't fully understand, most sagenites reach market without much locale information. Most plume agates and dendritic agates are named for their location or given creative names based on known locations. At best, most sagenites seem to have only a country designation.

Tube agate forms when flow channels are captured in the structure of the growing silica. They often appear as nearly perfect circles or as elongated tubelike structures that seem to flow through the interior of the agate. Secondary mineralization forms around the tubes and captures what might have been an invisible feature of the agate.

When sliced, tube agates appear as colored circles or closed structures with colored edges. The edging material is often an iron precipitate, often yellow to yellow-orange. The white edging is a form of hydrated silica (opal).



Horse Canyon tube agate (California).

Keegan Ranch tube agate (Oregon).

Nipomo marcasite.

Tube agates sometimes form with concentric circles, giving them a lacy appearance. The distinction between some tubular agates and moss agate is not well defined.

So what kinds of agate are left? Well, everything else! And there are lots and lots of "elses" out there.

Many agates might have ***mixed parentage***, meaning more than one type of agate in a single rock. For example, patches of moss often run through the edges of fortification agate, and small fortifications might appear in sagenitic agate.

But let's forget the mixed ones for now and look at a few agates that don't quite fit into any of the previously discussed categories.

Agates often form around another material. For example, the ***Nipomo marcasite*** is an agate that formed around crystalline masses of the iron sulfide known as marcasite. The name comes from the locality (Nipomo, CA).

Marcasite has the same chemistry as pyrite but a different structure. It tends to be less stable once exposed to air, and finely structured crystals often oxidize on exposure to air. In Nipomo marcasite, the agate shields the marcasite and preserves it.

Other metallic minerals, such as hematite and goethite (along with similar oxides and hydroxy-oxides), can be trapped in a vein of agate, forming the basis for what we call ***fire agate***.

Chalcedony (the basic building block of agate) can form in boytryoidal lumps (grapelike structures), followed by an iron oxide coating, more chalcedony, then more iron oxide, and so forth. If the iron oxide forms in a specular structure, it can show a rainbow color play across its surface.

Fire agates.

These concentric hemispheres of color are responsible for the "fire" in fire agate.

There are agates with circular inclusions, one of them called ***polka-dot agate***. Another, called Luna agate, also shows circular structures. One material called ***ocean jasper*** actually can be either jasper or agate or something in between.

So-called ***confetti agate*** appears to have a stream of confetti trapped within it. ***Plasma agate***, from a fault-rich zone in California, appears to have colored streamers and lines flowing throughout. ***Carter Mountain agate*** from Wyoming appears to be made up of a honeycomb of cellular structures.

The list goes on and on. New agates are usually discovered every year; some are easily categorized and others not. They provide a fascinating variety of material for colorful lapidary work.

Polka-dot agate.

AUCTION BID SLIP

ITEM # _____
DESCRIPTION_____
FROM _____
Starting Bid amount:____ _____
Bidders: You need to bid on this item if you want it to be auctioned! Place bid below.
NAME BID

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AUCTION BID SLIP

ITEM # _____
DESCRIPTION_____
FROM _____

Starting Bid amount:___$2_____
Bidders: You need to bid on this item if you want it to be auctioned! Place bid below.
NAME BID

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AUCTION BID SLIP

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DESCRIPTION _____
FROM _____
Starting Bid amount:_____
Bidders: You need to bid on this item if you want it to be auctioned! Place bid below.
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AUCTION BID SLIP

ITEM # _____
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Bidders: You need to bid on this item if you want it to be auctioned! Place bid below.
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Upcoming Events
(of interest in the mid-Atlantic region)

March

5–6: Newark, DE—53rd Annual Earth Science Gem and Mineral Show; Delaware Mineralogical Society, Inc.; Delaware Technical and Community College, 400 Stanton-Christiana Road (I-95 Exit 4B); Sat 10–6, Sun 11–5; adults $6, seniors $5, kids 12–16 $4, 11 and under free; info: www.delminsociety.org or contact gene@fossilnut.com or call Wayne Urion at 302-998-0686.

11–13: Augusta, GA—28th annual Aiken-Augusta Gem, Mineral & Fossil Show; sponsors: Aiken Gem, Mineral and Fossil Society, Augusta Gem and Mineral Society; Fri/Sat 10–7, Sun 11–5; Julian Smith Casino, 2200 Broad Street, August, GA; adults $3/$5 weekend pass, children under 12 free with an adult; info: Chris Glass, 706-284-9239, www aikengmfs.org.

19–20: Sayre, PA—47th Annual Che-Hanna Rock & Mineral Club show; Athens Twp. Volunteer Fire Hall, 211 Herrick Ave; Sat 9–5, Sun 10–4; info: Bob McGuire at 570-928-9238 or uvbob@epix.net.

19–20: Chambersburg, PA—38th Annual Gem, Mineral & Jewelry Show; Franklin County Rock and Mineral Club; Hamilton Heights Elementary School, 1589 Johnson Road; Sat 10–5, Sun 10–4; admission $5, kids under 12 free with adult; info: Matt Elden at fcrmc1978@gmail.com or 717-331-0526.

19–20: Gaithersburg, MD—52nd Annual Gem, Mineral and Fossil Show; Gem, Lapidary, and Mineral Society of Montgomery County; Montgomery County Fairgrounds, 16 Chestnut Street; Sat 10–6, Sun 11–5; age 12 and up $6, children 11 and under/Scouts in uniform free; info: http://www.glmsmc.com/show.shtml.

April

1–3: Hickory, NC—46th Annual Show; Catawba Valley Gem & Mineral Club; Hickory Metro Convention Center; 1960 13th Ave Dr, Interstate 40-exit 125; Fri/Sat 9–6, Sun 10–5; adults/seniors $5, students/children free; info: Baxter Leonard, 2510 Rolling Ridge Dr, Hickory, NC 28602, 828-320-4028, gailandbaxter@aol.com.

1–3: Raleigh, NC—Annual show; Tar Heel Gem & Mineral Club; Kerr Scott Bldg, NC Fairgrounds, Blue Ridge Road; Fri 3–8, Sat 10–6, Sun 10–5; free admission; info: Cyndy Hummel, 919-779-6220, mchummel@mindspring.com; tarheelclub.org.

2–3: Midland Park, NJ—27th Annual North Jersey Gem, Mineral and Fossil Show (formerly The Clifton Show); Sat 10–6, Sun 10–4; new location: Midland Park High School, 250 Prospect Street; info: www.nojms.webs.com.

2–3: Johnson City, NY—47th Annual Gem, Jewelry, Mineral & Fossil Show; NY Southern Tier Geology Club; Johnson City Senior Center, 30 Brocton St.

16: Severna Park, MD—Annual Jewelry Gem and Mineral Show; Patuxent Lapidary Guild, Inc., Earleigh Heights VFC, Rte. 2, Severna Park, MD; Sat 10–5; over 10 years old $2.00, under 10 free.

22–23—Alexandria, VA: 43rd Atlantic Micromounters' Conference; The Micromineralogists of the National Capital Area, Inc.; SpringHill Suites by Marriott, 6065 Richmond Hwy; Fri 6–9 p.m., Sat 8:30 a.m.–9 p.m.; featured speaker: Tony Nikischer, Excalibur Minerals of Charlottesville, VA; topics: "How New Minerals Are Discovered and Named," "Minerals of the Kola Peninsula," "Rocks from Space"; preregistration fee $30 (before April 15), $35 at the door; mineral dealers, silent auction, mineral giveaways, geology friendship; info: www.dcmicrominerals.org

May

9–15: Little Switzerland, NC—Wildacres; $400 plus materials fee; registration open; information at http://efmls-wildacres.org/

14–15: Mays Landing, NJ—Cape-Atlantic Rock Hounds Annual Spring Gem, Jewelry, Rock, Mineral and Fossil Show; 2641 Cologne Ave; Sat/Sun 9–5; free parking & admission; info: Billie Brockhum, 609-879-1179.

June

4: Macungie, PA—2016 Spring Mineralfest, 66th Semi-Annual Show; Pennsylvania Earth Sciences Association; Macungie Memorial Park; info: Don Pitkin, pitkind@earthlink.net or www.mineral.com.

THE NORTHERN VIRGINIA MINERAL CLUB INC

Crystals are the flowers of the Mineral Kingdom

Mineral of the Month: Silvanite

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The Northern Virginia Mineral Club

You can send your newsletter articles to:

news.nvmc@gmail.com

Visitors are always welcome at our club meetings!

RENEW YOUR MEMBERSHIP!

SEND YOUR DUES TO:
Rick Reiber, Treasurer, NVMC
PO Box 9851, Alexandria, VA 22304

OR

Bring your dues to the next meeting.

Purpose: To promote and 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, http://www.amfed.org/efmls) and the American Federation of Mineralogical Societies (AFMS—at http://www.amfed.org).

Dues: Due by January 1 of each year; $15 individual, $20 family, $6 junior (under 16, sponsored by an adult member).

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.*