



# September Newsletter

9/2022

Volume 2022, Number 9

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[Meeting at the 715 Moose Lodge Hall 2307 Lakeside Dr. Lynchburg, VA 24501 3<sup>rd</sup> Tuesday of the month 7:00 pm until 9:00 pm.](#)

[Wintery weather meetings schedule is if the Lynchburg schools are down for weather then the meeting is cancelled](#)

[Workshop is the 2<sup>nd</sup> Saturday of the month.](#)

[2020 Officers](#)

## President's Meanderings:

By James Tomlin

Hello Everyone,

I am very excited for our Willis Mountain field trip coming up this month on the 24th. The material found on the mountain always fascinates me, of course the Kyanite blades are always a crowd pleaser. I hope to find some of the other materials that have alluded me for a while now. I have wanted to be able to find rutilated quartz now for a while and the unicorn of the mountain, trolleite. I can't wait to see the reaction of some of the first timers and the excitement on their faces. We will all have a great time as we always have but we all also need to watch out for one another and make sure we are all safe. Please help to make sure we are all following safety regulations and being safety conscious at all times.

We have the Shenandoah show coming up this month on the 16-18th. We are attending this year and we are taking the pickers wheel with us. If you would like to attend and help out please let one of us know. I am sure it will be a lot of fun and a great way to get to know some folks as well.

We have the Roanoke show closing in fast and we will need to get prepared with making some items to restock our inventory. We only have a few months left until the show in November, so we can really use some people out at the workshops. I am so very proud of all of our volunteers and everything they do. You all are the backbone of the club we all love so much.

Your Fellow Rockhound,  
James Tomlin  
President GMSL

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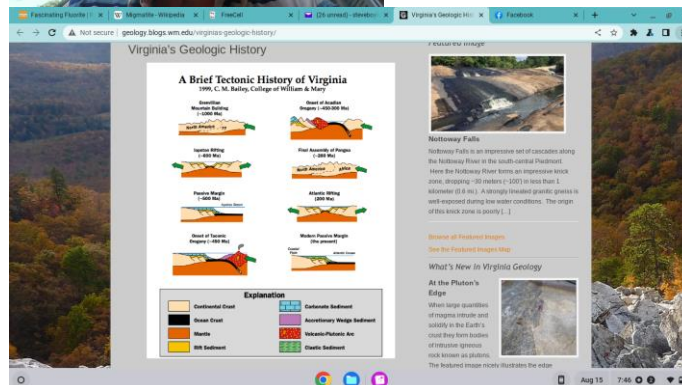
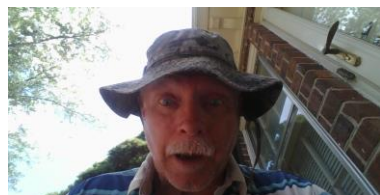
**Youth Out Reach**

## First Vice President

Virginia is the best commonwealth to find rocks and minerals and Lynchburg is the bestest because we have synclines and anticlines and martic lines. Everybody says so.

It is time to start planning for 2023. Twelve months gives us twelve meetings. Typically we run five group programs. The group programs are Christmas party, auction, collectors' night, mineral identification and lapidary arts. Twelve minus five give seven. So we have seven programs which would be individual presentations. If you have a suggestion or interest for a program, let us know and we can put it on the long list. If you know someone who can make a presentation, let us know and we can add to the short list. Then we start booking.

Cheers, Steve Boylan



## Programs for 2022

### September Meeting

Friends of Virginia Mineral presentation and Safety talk

**Speaker Bio: Thomas Hale**

Thomas is a recent masters graduate of George Washington University in the Elliott School of International Affairs with a degree in Security Policy Studies, specializing in energy security and critical mineral supply chains. Mr. Hale is also a student at the University of Delaware and University of Queensland in the Minerals, Materials, and Society M.A. certificate program. He is the current president of the new Friends of Mineralogy Virginia Chapter, director of the Virginia Mineral Project, co-host of "A Rock & A Hard Place Podcast" with Mineral Choices, and an Energy Security Fellow at Securing America's Future Energy (SAFE) in Washington D.C.

### October Meeting

### November Meeting

Club Auction

### December Meeting

Christmas party

## Field Trips

### Club Field Trips

Willis Mountain September 24<sup>th</sup> from 9:00 am to 1:00 pm. Lunch Afterwards  
Bring your own lunch. Sign up will be required (at the August & September Meetings). There will be a safety portion at the September meeting.

#### South Eastern Federation Field Trips (Dixie Mineral)

An Official Field Trip of the Knoxville Gem and Mineral Society (Knoxville, TN)(HOST)

**Saturday, September 24, 2022**

**Meet at 8:30 AM Central Time**

**Depart at 9:00 AM Central Time**

**Walker County, AL**

**Fossil Tracks and Pennsylvanian Fossils**

**Limit 50 People**

**Registration Required**

An Official Field Trip of the Cobb County Gem and Mineral Society (Marietta, GA) (HOST)

**Sunday, October 23, 2022**

**10:00 AM to 2:30 PM Eastern Time**

**Chattooga County, GA**

**Summerville Crazy Lace Agate**

**RSVP if you plan to attend**

**NOTE:** DMC field trips will continue to be planned and scheduled, but may be cancelled or rescheduled pending COVID-19 status. If there are any changes to a trip, all contacts listed for DMC member clubs will be notified via email as soon as possible. The DMC trip schedule page on the SFMS website (<https://www.southeastfed.org/sfms-field-trips/dmc-field-trip-program/dmc-field-trip-schedule>) will also be updated with the current status of trips. **Lori Carter, DMC Coordinator**

**Interested see Flyer sent out – If you did not get the flyer let me know.**

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## Note from the Editor

Hello All,

We do have a field trip in September to Willis Mountain and I am looking forward to it as I missed the last one. Looking forward to seeing all of you at the meeting and the field trip. I will have a piece of Trolleite (a specimen from Willis Mountain) so you can see what it looks like.

I would love some pictures from any of you and about anything to put in the newsletter. I am giving out of my own pictures so please send me some of yours. Or give me something else to put in the place. That would give me some other inspiration and maybe bring joy to others also.

That is all for now,  
Steve

## **Note from the Membership Chair-person**

Debbie Wade

Hello all,

First, a reminder that our Gem and Mineral Society of Lynchburg is now on a January 1 through December 31 membership year. Membership fees are now all due annually before January 31st. Very few members have renewed thus far.

Our rates have changed:

Single adult membership is still \$15 annually.

Two adult memberships and/or up to 6 dependents is \$25 annually.

Membership badges are new also. I shall be issuing the new ones to everybody, hopefully catching a few of you at our monthly meeting to save some time and stamps. When you receive the new one, you can trash the old ones.

We currently have 148 members. (adding up the new members)

If you have any further questions, do not hesitate to contact me.

**HELLO AND WELCOME NEW MEMBERS! As a reminder, for anyone who paid online using Square, I cannot mail your badges to you until you contact me with your address, the first and last names of adult(s) voting member(s) and the first and last names of minor non-voting members please.**

Sincerely,

Debbie Wade  
Membership Chair

### **Your GMSL membership entitles you to:**

- \* receive our monthly newsletters
- \* attend our monthly meetings
- \* participate in members-only GMSL fieldtrips to quarries, mines, & events related to gems & minerals
- \* purchase club t-shirts or hoodies
- \* discounts with several "rock" stores and vendors for current members with badges
- \* attend our club member's only workshop each month
- \* a chance to win a \$500 annual scholarship

## Gem & Mineral Society of Lynchburg Meeting Minutes

August 16, 2022 @ 7:00

**Attendance:** 29 Members 5 Guests

**Meeting Called to Order By:** James Tomlin

**On Time Drawing Winners:** Dave Callahan, Sydney Tomlin, Anne Maurice, Loretta Ann Bolen, Holly Tomlin, Tyler Dunn, Steve Boylan, Carl Pilat, David Brogan, Amy McGee, Cindy White, John Haskins, Kyrina Johnson, Trey Dunn, Roger Linkenhoker, Jennifer Dunn, Siglinde Allbeck, and Brian White.

**50/50 Winner:** John McGee won \$5

**Old Business:** We had a successful show last month!!! We sold every table we had available! Thank you to everyone who helped set up, run the show and break everything down afterward. We couldn't have done it without volunteers!! I hope we continue to grow in years to come.

**New Business:** Sign up for the Willis Mountain trip. We will have our safety briefing at our September meeting.

We are getting ready to go full force in getting ready for the Salem show in November! We make all the items at our monthly workshops to sell at the show and it is a fun time for all! Please come to our workshops to help make this show a success.

Silent auction time will end at 8:30pm during meetings

**Treasurers Report:** There is currently \$10,539.00 in the account.

We spent \$178.00 for new tires for the club trailer.

Our July show made a total of \$2,778.00

**Show breakdown:**

The Raffle brought in \$235

The 50/50 brought in \$57

The Sluice brought in \$815

The Pickers wheel brought in \$366.25

Table sales brought in \$1,125.00

And we got \$80 in memberships at the show.

**Program:** Steve Boylan gave a presentation on Mineral Identification with baking soda and vinegar.

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## Kids' Corner

For the kid in all of us.

### How to Grow Glittering Crystal Geodes in Eggshells



Crystals are fascinating for adults and children alike. While it takes thousands of years for crystal-filled geodes to form in nature, you can grow your own crystals in a day with supplies found at the grocery store. This sparkling eggshell geode is a delightful science experiment that your kids will love.

#### What You'll Need

- 3/4 cup plus 2 tablespoons of alum powder (located in the spice section or canning supplies section of your grocery store)
- egg
- 2 cups hot water
- school glue

#### Crack Egg Lengthwise

First, you'll need to crack the egg. You can crack them in half crosswise like normal if you like. However, to make them look like real geodes, they need to be cracked in half lengthwise. The easiest way to do this is to blow out the egg first, then use a pair of scissors to cut the shell lengthwise.

#### Glue Alum Powder to Eggshell

After you cut the shell, wash it and wipe it dry with a paper towel. Next, dump about two tablespoons of alum powder into a bowl. Drip some glue into the shell halves and spread it all over the surface of the inside of the egg with the paintbrush. Generously sprinkle the alum powder on the wet glue. (If you want the crystals to grow on the edges of the shells or slightly on the outside, you'll need to glue alum powder in those areas as well.) Turn the shell halves over and gently tap out any excess alum. Place them on a paper towel to dry overnight. Don't skip this step — the alum powder needs to be completely dry to provide a surface for the crystals to adhere.

#### Dissolve More Alum Powder in Water

The next day, bring two cups of water almost to a boil and pour it into a large measuring cup. Add the 3/4 cup of alum powder and stir until it's mostly dissolved. You may have a bit of sediment at the bottom of the cup. Divide the mixture into two small glasses or half-pint canning jars.

#### Add Food Coloring

Next, add 20 to 30 drops of food coloring to each jar and mix. Let the mixtures cool for 30 minutes.

#### Soak Eggshells in Alum Solution

Finally, place one shell half into each jar alum-side up. Gently push the shells to the bottom of the solution with the spoon. Allow them to sit there, undisturbed, for 12 to 15 hours.

#### Remove Shells from Solution

After 12 to 15 hours, your alum crystals will have grown! Carefully remove the shells and place them on a paper towel to dry and finish the geode-creation process. If you want bigger crystals, let the shells sit in the solution longer.

Now for the science behind the alum geode-growing process: The geode is formed through a process called sedimentation. Adding the alum powder to the hot water created a supersaturated solution. This simply means that there are suspended particles of alum powder in it, and as the solution cools, these particles of alum begin falling to the bottom. As the alum particles settle on the bottom, they begin crystallizing. Other substances like Epsom salt, sugar and borax also crystallize, but I've found that alum powder makes the best crystals.

# We Found a Few Marbles...Did Anyone Lose One?

Dave Woolley 8/29/2022

## Stephen Boylan

Look what I found on the internet.

“Geological and Mineral Resources of the Lynchburg Quadrangle” by William Randel Brown Bulletin 74: free download [https://www.energy.virginia.gov/commercedocs/BUL\\_74.pdf](https://www.energy.virginia.gov/commercedocs/BUL_74.pdf)

## **Vinessa Alones**

Wow! Just skimming through I discovered marble outcrops here. I never knew marble was in this area. If marble is metamorphic limestone and limestone is formed in a sea, what was this sea? I think I have a lot to learn. Thanks for finding this!

Dave Woolley

Marble is chemically identical to limestone. Marble is limestone that has been altered or metamorphosed by heat and pressure, which recrystallizes the primary mineral, calcite. Just as in limestone karst, the Lynchburg marbles experienced karst development. There are back filled sinkholes and caves under Lawyers Road and Mount Athos Road, near the two quarries, and many other marble locations which can be found on Brown's excellent map. Both roads collapsed into sinkholes, sometimes predicted, during my tenure as a Virginia Department of Transportation Geologist.

Brown's interpretation of a major syncline, the “James River Syncline” is wrong. His interpretation was based on limited number of exposures of unique metamorphosed sediments which he reasoned incorrectly. We now know the structure is regional in extent and that it is an anticline. Synclines are "U" shaped; anticlines are "A" shaped folds. The greenstone at Mount Athos Quarry and the Luck Stone Quarry in Charlottesville is the same Catocin Greenstone Formation found along the Blue Ridge Mountain such as at Wintergreen and Afton Mountain; it runs to Catocin, Maryland here it was early studied, hence the formation's name. “Greenstone” is a rock name for metamorphosed “basaltic” materials: most greenstone minerals are green in color. Erosion has removed the Catocin Greenstone at Lynchburg city that used to be many thousands of feet above, near where the top of the anticline used to be. The overlying quartzite found near Mt Athos is the same quartzite that is exposed, almost overturned, on the west side of the Blue Ridge Mountain, visible as a white resistant ‘sawtooth’ ridge maker, and at Balcony Falls, where the James River cuts through. Our beautiful Blue Ridge Mountain is just a nub of its former glory.

## Vinessa Alones

I have always thought limestone was made in shallow marine environments and composed mostly of the calcareous shells of small animals. As far as I understand, this part of Virginia was never inundated by oceans. So, did the limestone deposits which were transformed into the local marble come from fresh water environments? Or were there much older limestone deposits formed by incursions of very ancient oceans before the Appalachians formed? I know that the Shenandoah Valley and many areas west were covered by inland seas where sedimentary layers formed.

Dave Woolley

Lynchburg marbles are much, much older than the Shenandoah Valley limestones and the now rumbled sedimentary layers of the Appalachian Mountains further west. [Guess where half of the sediments of the early Blue Ridge Mountain were westward headed!] The source materials for the Lynchburg Marbles were probably marine, near-shore deposit of calcareous materials. Likely the sediments were uniform tropical calcareous clay like the gray mud now found around the Florida Keys. Periodic or seasonal weather events brought continental sediments to make layers of silica clays, silts, and maybe a little bit of quartz beach sand of the future Arch Marble. This weathered and decomposed continental "granitic" debris provided the elements that became re-crystallized during metamorphism: the mica and the bit of quartz now found in the sparkly layers of the Arch Marble excavated at the original Mount Athos Quarry and the current Lawyers Road Quarry. Continents are called "granitic" being composed mostly of the silicate minerals, quartz, mica, and feldspar - the minerals of granite. Plates are called "basaltic" composed mostly of the heavier silicate minerals of basalt. The continents "float" on basaltic plates. Limestones form at the edges of continents from tropical precipitating calcareous mud, or deposits of marine shells, corals, and the like. The Arch Marble Formation was named after the railway arch, slave built, that used to cross Mt Athos Road and part of the valley where the old quarry was located, which is the now the flooded pit along Mount Athos Road. The Arch Marble is considered an "impure marble" due to the periodic washed in continental sediments. David Young has one of my 'museum quality' of samples of Arch Marble in his store, Stones and Bones. Great weathered samples have the resistant micaceous layers standing proud from the recessed weathered carbonate layers. You can find samples of the Arch Marble everywhere in the Lynchburg area in road gravel, concrete, and in some creeks like the one behind Natalie and Warren's house. Arch Marble looks like a gray mica schist but a simple calcite acid test will convince you that a sample is marble. The Arch Marble released tiny amounts of manganese as it weathered which traveled down fractures that were enlarging by karst development making caves filling with manganese nodules (manganese ore) and wad, a black powdery manganese and clay mixture. These filled fractures further re-enriched as the earth's surface continued weathering away releasing more manganese into the descending-developing fractures. Remember, the early Blue Ridge Mountain was miles higher than today, created by plate tectonics or movement, just as the Himalayas and Mount Everest are ascending today as the plates of Africa and Europe collide. The collision of the European and North American plates created the westward thrusting and nearly overturning movement that made the regional anticline. The pressure of the weight of that mass and temperature of that event metamorphosed the marbles and the "granitic" quartzite, schists, and gneisses near Lynchburg from marine deposited calcareous and continental sediments, plus the ocean plate sourced magmas, lavas, and sediments of the "basaltic" Catoctin Greenstone. Air-born "basaltic" volcanic ash drifted into the accumulating continental sediments of the ocean providing the elements to form the amphibole minerals of Lynchburg's hornblende gneisses. Subsequent pegmatites, diabase dikes, and hydrothermal quartz veins spice up the mix.

The largest Lynchburg manganese mine, now collapsed and guarded with an iron gate, is located near the office on the hillside above the creek at Mt Athos Quarry. Lynchburg was known for its many small manganese mines. There used to be a manganese ore stockpiling company near the railway overpass at Campbell Ave, close to the Expressway. On the James River, Reusens Dam provided electricity for the manganese plant, now the BRC property where railcars are refurbished. A major stockpile of strategic ore was protected nearby during WWII, that stockpile was moved to Riverville on the James where rockhounds for years collected manganese and other minerals from piles still marked with signs designating the countries of origin. That stockpile has been again moved, probably to be refined. Traces of that stored ore can still be found just downstream of the



State Route 600 at Riverville, on the west side of the James. A road cut along Rt501 near Dragon Lane exposed a large vertical band of jet-black wad, now covered with grass.

The Mount Athos Marble Formation marble, also found near and named after Mount Athos, is a much 'purer' often white marble that had small specular hematite lenses which were mined for iron: very pure iron ore – it made great cannons and cannon balls. See the abandoned iron furnace on Oxford Furnace Hill on Rte. 460 east of Lynchburg. The outcrops of this marble are much smaller than the Arch Marble.

Oxford Furnace Hill and Mt Athos, are backboned by the very resistant quartzite formation that also is seen from the Shenandoah Valley looking east at the Blue Ridge Mountain near Glasgow and Lexington, Virginia, mentioned above. This backbone of quartzite exposed on several hill tops near Mt Athos, turned the nearby James River as a west quartzite slope, northeast flowing stream pirated the river's water. The James used to flow towards Appomattox.

A "formation" is a mappable unit of rock at or near the earth's surface that has a common history or origin, and often a single rock type such as a marble, a quartzite, or a granite formation, or related rock materials, such as a coal, shale, sandstone, and conglomerate formation. "Quartzite" is a metamorphosed or fused quartz sandstone, in this case that used to be an ocean-shore beach sand; the final persistent particles of weathered continental "granitic" rock. The smaller continental "granitic" particles of decomposing mica and feldspar - silts and clays - are released into the ocean by rivers to become muddy marine sediments as the quartz sand migrates along a coast by costal currents. The western limb exposures of this Virginia quartzite often have fossil Skolithos as vertical sand back-filled tubes formed by perhaps a marine worm. We do not have the actual fossil remains of the animal or plant. Skolithos fossils are a time dating or "trace fossil" found worldwide in preserved continental beach sand deposits of the same age. The Skolithos critter or plant lived a relatively short period of time and then became extinct providing sharp time lines used for dating the Skolithos bearing sandstones and quartzites. David Young has my 'museum quality' sample displayed at his store. A "fossil" is a trace of life found in a rock or sediment that is 10,000years or older. Materials less than 10,000 old are simply termed "recent". Fossils in igneous and metamorphic rocks are rare. Find your sample of Skolithos in the quartzite cobbles at Lynchburg in the James River terrace deposits downstream from the Balcony Falls exposures, or in any of the creeks on the west slope of the Blue Ridge Mountain. From near the locations of Blue Ridge manganese mines, the tubes are stained purple or black.

There were nearly 100 mines around Lynchburg, mostly for manganese, some iron, and a few for barite also associated with marble. Most were very small operations but iron production during the Civil War era, and manganese production to harden armor during the World Wars, put Lynchburg on more than Brown's map.

## [Other Links that you may want to check out:](#)

### [International Gem Society](#)

<https://www.gemsociety.org/reference-library/>

### [Mineral Cleaning for Amateurs](#)

John's website is full of information that all mineral collectors will find useful and interesting.

<http://www.johnbetts-fineminerals.com/>

### [Morefield Mine Tour:](#)

<https://www.youtube.com/watch?v=u5aQp57HMso>

### [Impromptu lecture on crystallography:](#)

The crystallography talk can be found in the You Tube videos at [https://youtu.be/sTxMrh9\\_QI](https://youtu.be/sTxMrh9_QI), or copy and paste in your browser: [Crystallography by Dave Woolley](#).

### [A Guide to Ethical and Conflict-Free Jewelry](#)

<https://ethicaljewellery.org/introduction>.

### [Insurance Institute of Jewelry Appraisal](#)

[https://instituteofappraisal.com/Investigation\\_of\\_Artificial\\_Color\\_Infusion\\_of\\_Gemstones.pdf](https://instituteofappraisal.com/Investigation_of_Artificial_Color_Infusion_of_Gemstones.pdf)

[https://instituteofappraisal.com/Exposing\\_the\\_GIA\\_Juggernaut.pdf](https://instituteofappraisal.com/Exposing_the_GIA_Juggernaut.pdf)

### [Rock collecting guide for geology beginners](#)

<https://www.basementguides.com/rock-collecting-and-geology-basics/>

### [Facebook Link for the club](#)

<https://www.facebook.com/groups/432839874271992/?ref=share>

### [Link to Mindat web page for Willis Mountain](#)

[Willis Mountain Mine, Sprouses Corner, Farmville Mining District, Buckingham Co., Virginia, USA \(mindat.org\)](#)

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If you need to renew your club membership you can let me or Debbie Wade know and we can email you the form. You can make checks out to GMSL.

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