April Newsletter

4/2020 Volume 2020, Number 4

In This Issue

Meeting at Miller Center
301 Grove Street
Lynchburg, VA 24501
3rd Wed 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. This is for the duration of this virus out break also.

Workshops are cancelled until we are back to normal.

President's Meanderings:

By James Tomlin

I hope everyone is well during these troubling times. Field trips and meetings have been brought to a standstill and I will miss seeing everyone's faces and warm greetings. We will be trying to keep everyone updated as to when meetings, workshops and field trips will resume. Club auction and scholarship drawing will be postponed as well until we all can meet up again. We are following the schedule of the Lynchburg Parks and Rec dept, so please check back as to when we may reconvene.

I have been utilizing some of this self-quarantined time to create a few lapidary works. An aquamarine stone I have been faceting finally got completed even if it is a beautiful disaster. Some cabochons have been sized and fitted for club inventory and sales. The workshop is getting updated during this time with a bit more equipment, replacements and tidying. Plans are still in effect for festivals and shows for the fall so preparations are still going on.

I visited a couple of places around practicing social distancing to remote locations for collection and prospecting. I can't wait to show some of my finds and see what some of you think about them. It would be great to see some of yours as well. I feel that even though we are disconnected from social gatherings doesn't mean we can't take this time and recharge ourselves. If you are feeling the weight of distancing yourself and need or just want some social interaction we do have some virtual avenues available to us. Our club has a closed Facebook group for members only, its a great way to share stories and stay in touch with each other. Information will also be posted there first on what the club is doing and scheduled events as we only have one monthly newsletter.

If you are interested just click the link or visit: https://www.facebook.com/groups/432839874271992/?ref=share.

Another way to connect is a virtual meeting hosted by the

2020 Officers

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Eric Routon

Youth Out Reach
Jennifer Staton

VMP using the app ZOOM, info can be found on the VMP page: https://www.facebook.com/groups/virginiaminerals/?ref=share

I look forward to seeing you all in person again and I cant wait till we get back to collecting together! Stay safe and until next time.

Your fellow Rockhound,
James Tomlin

GMSL CLUB EQUIPMENT AUCTION

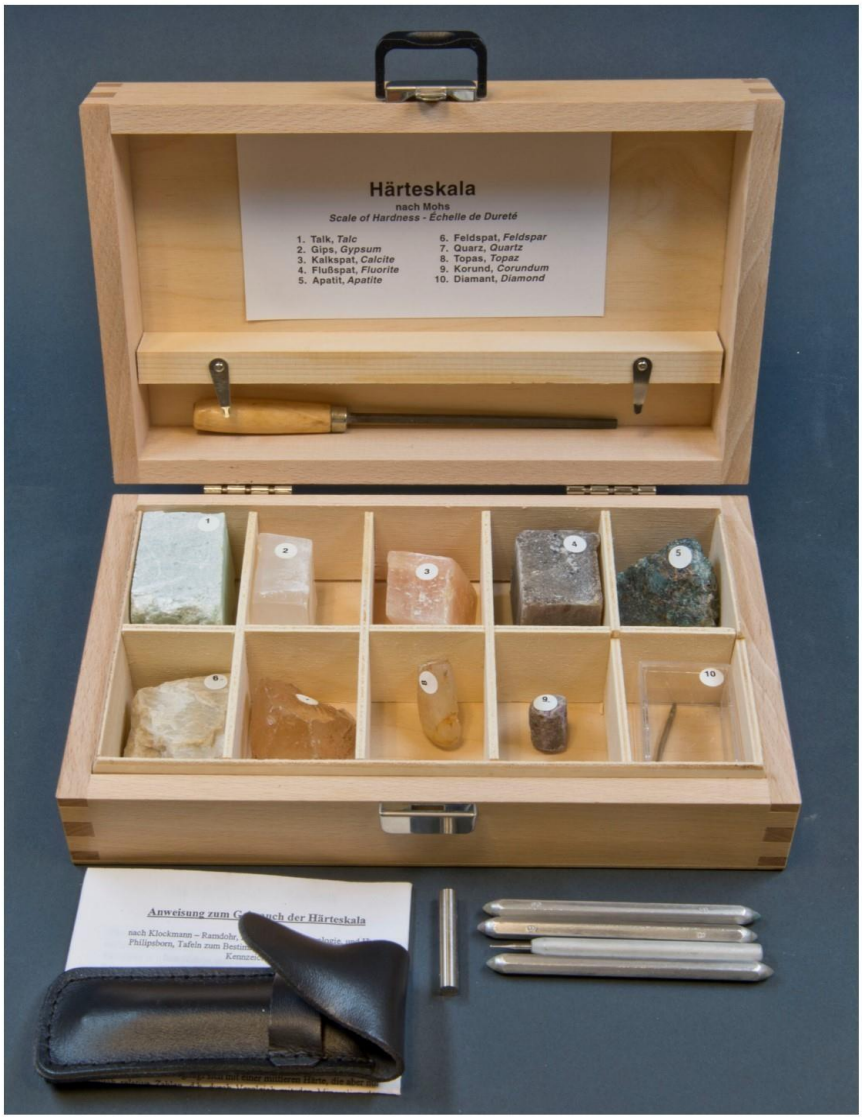
The GMSL will be holding a silent auction online for unused club equipment. Some examples of equipment to be auctioned off, but not limited to are cabbing machines, faceting machines, and rock tumblers. To view these items starting April 1st go to https://www.lynchburgrockclub.org/ and view the items listed in the gallery. Send an email with the item number and your bid to GMSL.auction@yahoo.com. The bidding will close on April 15th. Those that have won the bid on each of the items will be notified by April 17th. Items must be paid for and picked up by April 26th or they will go to the next bidder. Please make checks out to GMSL and cash is always welcomed. All sales are final and all items are sold as is. Pick up location will be in Lynchburg VA and the address will be in the winning bid email. If you have any questions or concerns please contact lynchburgrockclub@yahoo.com.

Remember there is no meeting this month!!

Newsletter Editor pick

Determining the hardness of a Mineral

By Donald B. Peck (source Mindat.org)



Mohs Hardness set

Mineral hardness is defined as the relative ability of a mineral to resist scratching or abrasion. The first attempt to quantify the hardness of a mineral for which there is any record was made in 1812 by Friedrich Mohs, a German geologist and mineralogist. He chose 10 relatively common minerals that ranged in hardness from the softest known mineral, talc, to the hardest, diamond. Metallurgists use a penetration hardness (Vickers, Knoop, etc.) that is obtained
by pressing a diamond point into a flat surface under a known load and measuring the area of indentation. Professional papers in

Mineralogy often report Vickers hardness applied to minerals, in which case it is considered to be the hardness of crystal deformation. The Mohs Scale, however, is used by amateur and professional mineralogists,geologists, and collectors. The Mohs Scale and its application to testing mineral properties is the subject of this article.
Mohs invented an ordinal scale, one through ten, with each numeral defined by the hardness of a specified mineral species. Although they are good approximations, the absolute differences in hardness between ordinal values are not equal. When compared to the Knoop Scale, each successive Index Mineral is 1.2 to 2.7 times harder than the previous one. The single major exception is between the hardness of corundum and diamond. Diamond is almost five times as hard as corundum.

he Mohs Scale of Mineral Hardness

Hardness	Index Mineral	Abs Diff
1	Talc	---
2	Gypsum	2.7
3	Calcite	2.3
4	Fluorite	1.4
5	Apatite	2.5
6	Feldspar	1.4
7	Quartz	1.4
8	Topaz	2.1
9	Corundum	1.2
10	Diamond	4.9

No Intermediate Values

The Mohs Scale is an ordinal scale. Therefore, there are no intermediate values. That said, you will often see values like 3½, or 5½. Such designations do not mean that the hardness is halfway between 3 and 4 or 5 and 6. Instead, the collector or mineralogist is saying that the hardness is greater than 3 but less than 4; or similarly, greater than 5 but less than 6. You should not attempt to state any finer measurement, as it is meaningless. It is a fine point, but a hardness between 8 and 9 should be written as 8½ and not as 8.5. The decimal fraction implies a continuous range rather than the discrete ordinal values.

Tools that you will need

A hardness set of index minerals can be purchased, but most are so common that you can build your own set. Ideally, each piece should be approximately 2 x 2 x 3 cm in size. Cleavage faces are ideal to scratch, corners are good to produce scratches so cleavage blocks are excellent when possible. When they are not, choose a crystal. Only the first nine index minerals are necessary for you know that a diamond will scratch all other minerals. A small box divided into nine ompartments provides useful storage.
A set of pencil-like holders with sharp tips, each with one of the Mohs minerals, can be purchased. They are excellent for test scratching an unknown but, as will be discussed later, it is necessary also to discover whether the unknown mineral can scratch the index mineral. That is not possible with some sets of points. **MineralLabs** set of hardness points and test surfaces permit the complete protocol. The points' mounts are steel pencil-type holders and a carborundum sharpening stone is supplied for re-sharpening of the points as required. None of the points are mineral. Gypsum is replaced by a plastic of the same hardness. Calcite by copper. 4 - 9 are all steel alloys of the correct hardness to equal the minerals they replace. The points are useful, particularly with small specimens.
For close approximations a pocket knife (H=5 to 5½), a length of copper wire (H=3), a shard of quartz (H=7), a small piece of copper sheet metal (H=3), a square if window glass (H=6½), and a

bright steel fender washer (H=5) will do. Another that you always have with you is your fingernail (H=2 to 2½). Use of them prior to using the points or hardness set saves wear and tear on the latter. The disadvantage is that in refining your estimate, turning to a hardness set requires making a second scratch.

Making and Observing a Scratch

When choosing a place to make a scratch on your recently acquired, valuable specimen, choose a fairly smooth but inconspicuous surface, preferably on the back or bottom of the piece. You do not want to mar a great crystal face with an ugly scar. If you have no idea as to what the hardness might be, start in the middle . . . try 5. This is where a pocket knife, a small length of copper wire, etc., is handy. They allow you to find the approximate value without eroding your better tools.

In making the scratch, draw the point for only about 3 mm. And use a magnifier. A 3 mm scratch is just as easy to see as a 3 cm scratch. At first, use light pressure but if that produces no effect, increase to a firm pressure. After the "scratch" is made, wipe it with your finger or a cotton swab to make certain that the mark is in fact a scratch that incises the surface, and is not merely a chalky mark on it. If possible, draw your fingernail across the scratch to discover whether it is an incised scratch or merely a residual mark.

When using styli (points), hold the styli at approximately a 45o to 60o angle to the mineral surface and draw it towards yourself.

If a point on apatite (H=5) does not scratch your specimen, try feldspar (H=6). If the feldspar does not scratch your sample, try quartz (H=7). If the quartz produces a scratch, then It is important to try to scratch the quartz with an inconspicuous point on your specimen.

While the hardness of most minerals is very nearly the same in all directions, small differences do exist. Thus, if your specimen permits, without defacing it, try scratches in different directions (lengthwise of the crystal and crosswise). The mineral best known for differential hardness is kyanite. Its hardness parallel to the length of the crystal is 5½ while perpendicular to the length the hardness is 7. With diamonds, the octahedral surface is the hardest and without differences in directional hardness a diamond could not be cut.

Interpreting the Results

Let us say that your unknown mineral specimen was not scratched by feldspar (H=6), was scratched by quartz (H=7), and did itself scratch quartz. Then the unknown must have a hardness equal to that of quartz; or H=7.

If your unknown specimen was not scratched by feldspar (H=6), was scratched by quartz (H=7), and did not itself scratch quartz. Then its hardness must be less than quartz but greater than feldspar ($6 < H < 7$). This value is expressed often as 6½, meaning "between" 6 and 7.

If the index scratches the unknown, does the unknown scratch the index? It is important to test the scratching both ways. This is the only way you can determine whether the hardness of the unknown is equal to, or less than, the index mineral that has the greater hardness.

Program for the coming months

To be Determined

Note from the Editor

Hi All,
I am still out of town and there is nothing going on because of the VIRUS so I sit in my room on my day off and work on the newsletter and other things. The weather is very nice here in south Florida but you are told to stay inside unless you are getting the essentials. By the way if you think it is crazy in and around Lynchburg you ought to see the Floridians. Being a mix of all the cold states and just being down here with the locals is just nuts. So that said I have not done any rock hounding and I hope all of you are being safe and we will get through all of this.

Remember to send me your "Why I became a Rockhound" short story.
My email is stevegordon@comcast.net

Why I (we) became a Rock-hound

By Dee Tingsley

In 1947 my Father, Mother, Aunt and I drove to Indiana to visit family and friends of my Father. While we were there we went to Lake Michigan which is very close to the home of one of my Father's friends. My Dad picked up a pint Jar of sand and put a grey rock off the beach and a black heart shaped rock in the jar. He brought it home and when I was old enough to understand, he presented it to me. I have it today, some 72 years later. It proudly resides in my bedroom. The beginning of becoming a rock hound had begun. As I was old enough we would go to both the Morefield and Rutherford mines in Amelia County and mine. Mom would go too, but she was not the rockhound type like Dad and me! We mined many places, but my very big find occurred on the way to Indiana when I was a teenager. We stopped at a roadside table to eat lunch as we traveled in Dad's homemade camper and pickup. When I stepped out of the truck there were 3 special rocks on the ground. Very unusual, though I had no clue what they were. I picked them up and put them in the glove box. Didn't think they were important, but pretty.

We arrived at the home of my Dad's Classmate Gene Helper. He took us to his basement to show us his hobby. He had a wonderful lapidary shop. He had made a beautiful lampshade with the Agates he had collected. He showed us many cabochons he had cut. It was enough bling to blind a teenager. THEN IT HAPPENED!!!!! He picked up one black stone with white spots in it. He said this is Snowflake Obsidian. I promptly stated I have one of those in the truck. Dad said, now honey you know you don't. I insisted I did and asked if they would please come and look! They did and I went to the Glove Box. I pulled out all three rocks. Gene looked at my Dad and said, "Archie you owe your daughter an apology" she does have a snowflake obsidian. She also has a green jasper and another I cannot recall. Dad said, where did you get them? I explained I picked them up at the road side table. It was like someone thought they had junk and threw them out. Gene cut my Mom a pendant and mounted it for her from the Green Jasper and made me a ring. I still have that snowflake obsidian and I cannot tell you where it is. It' a secret.

It was over! I was hooked. Years later my Sister and I went to Franklin NC to mine. Why? My husband had brought me a beautiful red tiger eye he bought me there and told us we should go

there to mine. We spent two weeks there and mined in the Yukon Mine in the Cowee Valley. We got up to 100 buckets a day! Back then you could ge a stone cut for the price of the mounting. It was heaven on earth!

Years later I found out David Woolley had mined there too! I even have a photo of my Sister and I mining there. It was in a magazine.

I remarried and moved to Amherst County over 18 yrs. ago. Met Jean Midkiff and joined the Lynchburg Gem and Mineral Society. I have traveled far and wide to mine. Natalie, Siglinde and I were in Jackson Mississippi at a conference and decided to head west to Arkansas. We mined the Crater of Diamonds and Jim Coleman's Chrystal Mine in Jesseville Arkansas.

Today I enjoy my own business inside the Lynchburg Community Market 1219 Main Street Lynchburg VA. It is Dee's Designs and I have the honor to sell on five groups on facebook. I have met many wonderful people including Natalie Darling who was my instructor for wire wrapping. David Young who taught me to set stones in rings, and David Woolley who pounded into my head all the geology he could! Love them all. But had it not been for Jean Midkiff and Jim Daly I would not have been privy to this club.

And that's how I became and still a rockhound!

Field Trips

Dixie Mineral Council Field Trips

The Southeast Federation of Mineralogical Societies, Inc

The Friendly Federation - Founded in 1976 to serve
DMC Program of the SFMS Field Trip Committee

An Official Field Trip of the Mississippi Gem and Mineral Society (Florence, MS) (HOST)

Saturday, May 30, 2020
Meet 7:45 a.m. Central Daylight Time
Hammett Gravel Pit
Redwood, Mississippi
LIMITED to 80 Attendees
Registration Required

NOTE: DMC field trips will continue to be planned and scheduled, but may be cancelled or rescheduled pending COVID-19 status. If there 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 (http://www.amfed.org/sfms/_dmc/dixie-proposed-ft.htm) will also be updated with the current status of trips. **Lori Carter, DMC Coordinator**

TRIP: This site is an active gravel pit producing sand and gravel for industries and has igneous, metamorphic and sedimentary rocks. Citronella gravel is mined from a layer 40 feet below Ice Age loess soil.

COLLECTING: Expect to find agates, coral and other fossils, geodes, chunks of petrified wood, and Sioux quartzite as we hunt around and on piles of gravel.

BRING: Bring a bucket, bag, or backpack for collecting as you climb on the gravel piles. A spray water bottle is helpful to clean off the red sand and dirt. Wear close-toed shoes to protect feet. If you need ankle support, wear hiking boots. Bring gloves, hat, sunglasses, bug spray, sunscreen, and a chair. If you have allergies or require medication, please bring your medication. Expect heat and humidity. Wear lightweight, loose fitting clothing and a light-colored, wide-brimmed hat if possible. Bring snacks and plenty of water, sports drinks, and/or non-alcoholic beverages. Pack a lunch if you expect to stay until the 2 p.m. departure time.

SITE REQUIREMENTS: Participates must stay off equipment, out of ponds, and away from loess

walls.

SPECIAL CONDITIONS: This is a remote area and there will be little or no cell phone reception. We will not park close to the hunt piles. Unless you are very selective, you will make multiple trips to your auto to deposit your finds to avoid potential injury. Footing on the gravel piles can be tricky. People who have stability issues should stay at the bottom of the gravel piles. It will still be good hunting. Walking and digging on steep slopes can lead to slides; be aware that gravel slides are possible. Stay away from the edge of rock piles against the ponds.
EXPECT HIGH TEMPERATURES AND HUMIDITY. High humidity can make it more uncomfortable and increase the chance of heat exhaustion and heat stroke. It will be important to drink plenty of fluids. Don't wait until you feel thirsty to drink. Take water breaks every 20 minutes. There will be no shade in the gravel pit except man-made shade.

REGISTRATION: Limited to 80 participants. Email registration preferred; see contact information below. If the attendee limit is reached, a waiting list will be established. Should plans change after registration confirmation is received, please cancel so another person can attend.

CHILDREN: Children are allowed if a club member. Adult supervision is required at all times. Children may not throw rocks or run at the site, especially on the gravel piles. Care should be taken when around the ponds. No climbing on equipment is allowed.

PETS: No pets allowed.

FACILITIES: No stores or facilities are close to the collecting site. A portable toilet will be on the site. At the meeting place, there will be drinks, snacks, some prepared breakfast/lunch food items, and restrooms.

ADDITIONAL INFORMATION: The meeting place is between Vicksburg and Jackson, Mississippi. Vicksburg is a historical area with casinos, hotels, and restaurants (I-20 Exits 1 to 5). If you would prefer to stay in the Jackson area, there are a variety of hotels and restaurants available at I-20 Exit 48 (Pearl) or I-20 Exit 36 (Clinton). Clinton will be the closest to meeting place.

DIRECTIONS AND WHERE TO MEET: Meeting location and directions will be provided after registration to those on the attendee list.

Clubs scheduled to host DMC Field Trips in the next coming months 2020

May - Mississippi Gem and Mineral Society (Jackson, MS)
June - Gaston County Gem, Mineral & Faceting Club (Gastonia, NC)
July - Henderson County Gem & Mineral Society (Hendersonville, NC)
August - Huntsville Gem and Mineral Society (Huntsville, AL)

ANNUAL CLUB SCHOLARSHIP

To enter the drawing you must attend the meeting held on March 18th to get your ticket. The drawing will take place at the meeting.
Eligibility will be as follows:

The "Society" will hold an annual scholarship drawing for up to, but not to exceed, five hundred ($500.00) dollars for one voting member to attend an Executive Board approved class.

Approved classes:

- William Holland School of Lapidary
- Wild Acres
- Any class pre-approved by the Executive Board

The award will be used toward class tuition. Additional expenses to be determined at the discretion of the Executive Board, not to exceed $500.00 total. Only one award will be issued per year. The scholarship will only be issued as a reimbursement; no monies will be given up front.

To be eligible for the scholarship, the applicant must be:
- An active member of the GMSL for at least one year
- Must do a fifteen minute presentation on what they learned at one of the club's regular meetings prior to December 31st of that year
- You cannot have won in the previous year

To collect the scholarship monies the applicant must:
- Attend an approved qualifying class
- Provide proof of a paid receipt
- Complete their obligation of a presentation

GMSL CLUB EQUIPMENT AUCTION

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Article for this month Faceting by Dave Woolley

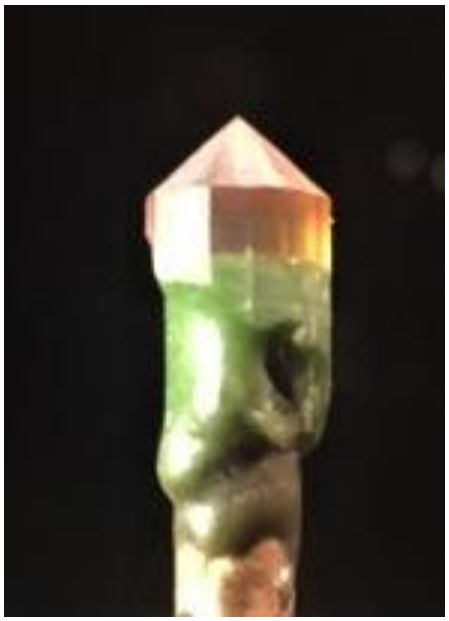
Re "Scratches from the Master Lap"

I have been perplexed with small problems that seem to have no explanation. Often there is a slight-to-annoying misalignment between the pavilion and the crown of my faceted gems. Also, there is often difficulty in achieving meet points on the final couple of facets. These problems occur with no regularity suggesting that they are not repeatedly caused by a wobbly bearing.

Recently, I noticed that sometimes while I am cutting a girdle, I cut *into* some of the dop wax. Being soft, I never thought that cutting into dop wax could be a problem, other than perhaps loading up wax on the surface of a lap. I did not consider that more hand pressure or other cures might be necessary to compensate: increase hydroplaning-lift might be occurring in addition to the larger surface area being cut. In taking a close look, I see slightly more depth cut in the girdle facets that have little or no dop wax nearby. The facets that have a lot of cut wax beneath seem not to be cut quite as deeply. Left uncorrected this will result in an uneven girdle: subsequently, that can affect the symmetry and the meet points of both the pavilion and crown facets.

One cure is to be more careful during the doping process: turn the warm dop with the gem upright to encourage the wax to flow away from the gem reducing the buildup of wax that will be near the girdle. For those cuts that have a round girdle the problem is noticed less: it is easy to continue rotating a gem for a while, thus possibly leveling out the unwanted effects. Another cure for this cascading group of problems for round and faceted girdles is to gently scrape a little wax off the offending areas after coarse-grinding and before starting with the fine-grinding lap, thus no extra wax will be near the fine-lap. [I usually fine-grind a girdle at ½ a degree less than the coarse ground 90 degrees which coincidently cuts no wax. However, variable hydroplaning might still occur near the extra wax. I polish near 89 ¼ degrees, which further thins the amount of girdle needing to be polished.]

The dop wax problem can be address at any point between doping and fine grinding a girdle, *if you recognize the situation.* Just be aware that if you have lopsided wax supporting your gem, your gem may finish slightly lopsided, losing a few final meet points in the process.



Other Links that you may want to check out:

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/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

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.
Our Mailing address is:

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