February Newsletter

2/2020 Volume 2020, Number 2

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

Workshop is the 2nd Saturday of the month.

President's Meanderings:

By James Tomlin

Hello everyone,

As I sit here inside while the rain and cold keeps me here, I begin to think of all the wonderful opportunities the spring will provide for our club. Getting out and enjoying a field trip is always nice and rewarding, as well getting out to a festival with your fellow members and community. These events are important to us all and are vital for the continuation of our club. We will be needing help to ensure that all of these opportunities come to fruition. Any and all help is welcomed as we will need items inventoried, created for inventory, or just help moving some items. We will need help setting up shows, breaking down shows, and running them. Field trips could use some group leaders to help guide new comers and help with safety. Bottom line is we could use your help in any capacity you are able or willing to give to make this a spectacular year for the GMSL. Please get in contact with any of the board members if you are interested in helping or have any ideas or questions.

Your fellow Rockhound,
James Tomlin

2020 Officers

PRESIDENT
James Tomlin
(434)258-2886
tomlin.jamesm@yahoo.com

First Vice President
Brian White
(434)661-8929
bricin11@yahoo.com

Second Vice President
Brandon Coles

Secretary – Holly Tomlin
Fireeyez1981@yahoo.com

Treasurer – Joan Moore
jmoore64@msn.com

Membership – Debbie Wade
debbie5227@yahoo.com

Editor – Steve Gordon
(434) 942-1836
stevegordon@comcast.net

Members At Large -
Michael Staton &
Eric Routon

Youth Out Reach
Jennifer Staton

Newsletter Editor pick

In the coming months I will start with the makeup of the earth. I am using Mindat.org as my source. The beginning of this article is the same as it describes what we are talking about.

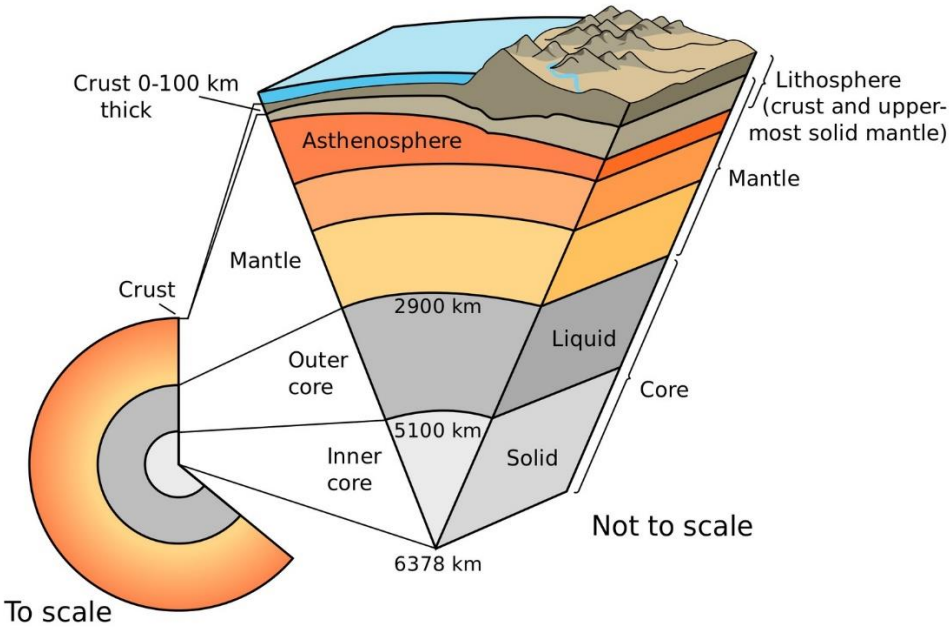
The Most Common Minerals on the Earth

Last Updated: 13th Dec 2017
By Jolyon Ralph

There are currently nearly 5000 minerals known to science, but only a few dozen are common enough to be found widespread throughout the Earth's crust. This article will explain a little bit about some of the most common minerals on the Earth and where the come from.

Inside the Earth

When we talk about the minerals found on the Earth we are talking about those that are found in the Earth's crust, the only part of the Earth really open for us to explore. The crust is a thin layer (up to 100km thick) under which lies the mantle and the upper (liquid) and lower (solid) core.



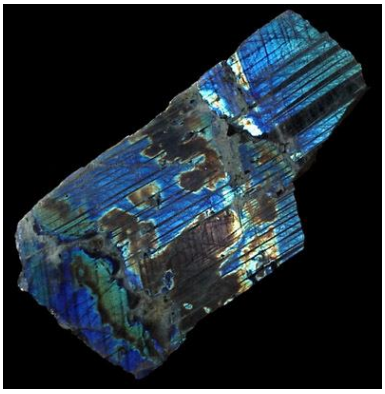
The Minerals

Let's look at some of the most abundant minerals on Earth. Note that the photographs we show are often of exceptionally good crystals and not the form that average specimens of the minerals would appear to be - most rock-forming minerals are simply interlocking grains of a few mm maximum size, these photos show the potential of what these minerals can look like in the rare cases where conditions allow them to grow bigger and more perfect crystals.

The most common mineral in the crust is feldspar according to most references, with up to 52% of the crust being made up of feldspar. But feldspar is actually a group name for several related minerals - so we'll look a little at a couple of examples:

Plagioclase

$Na(AlSi_3O_8)$ - $Ca(Al_2Si_2O_8)$



Plagioclase is a term for the sodium and calcium-rich feldspar minerals. Anorthite is a calcium-rich feldspar. The sodium-rich feldspar is albite. Many feldspars are of a composition between the two containing both sodium and calcium. These all together make up 39% of the Earth's crust.

K Feldspar

Orthoclase and microcline are the two most common minerals classified as K-feldspar. These contain potassium. 12% of the Earth's crust is made up of these K-feldspars.

Quartz

SiO_2

Quartz is an extremely common mineral (12% of the Earth's crust) because it is simply silicon and oxygen - the two most common elements in the crust. Quartz is hard and more resistant to chemical weathering than many other minerals, so it is a major constituent of sedimentary rocks derived from the erosion of older rock.

Pyroxene

The pyroxene group are a related group of minerals sharing the same structure - parallel chains of silica tetrahedra. Common pyroxene group minerals are augite, enstatite, hedenbergite, ferrosilite and diopside. Between them the pyroxene group make up 11% of the Earth's crust.

Mica

The mica group of sheet silicates make up another 5% of the crust. There are many different minerals within the mica group, common mica minerals are phlogopite, muscovite and biotite (although the latter is a group name for several dark mica minerals). The silica tetrahedra form parallel sheets, and mica minerals are all hydrous (contain water).

Amphibole

$AX_2Z_5((Si,Al,Ti)_8O_{22})(OH,F,Cl,O)_2$

The amphibole group also make up 5% of the crust, these, like the pyroxenes, are chain silicates (inosilicates), but unlike the pyroxene group these contain a double chain of silica tetrahedra. The amphibole group (known as a 'super group' on mindat because of its complexity) contains a large number of slightly different but structurally similar minerals.

Program for the coming months

February – Thom Noble
March - Dave Young – Fossils and Virginia collecting

Note from the Editor

Hi All,
Well we are in the middle of winter and this is the time to work with all of the rocks that you collected during the spring, summer and fall. I visited Dave Callahan over a weekend and he is working on all of the cabbing units. He has a great place to work and if a few show up then it turns into a great time for all. You talk and learn from each other even when you do not think you can teach, when you mess up they see it and learn what not to do. Get out there!!

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

Meet your new Officers for 2020:

James Tomlin
President

Brian White
1st Vice President

Brandon Coles
2nd Vice President

Joan Moore
Treasurer

Holly Tomlin
Secretary

Debbie Wade
Membership

Michael Staton
Member at Large

Eric Routon
Member at Large

Eric was not at the meeting so I did not get a photo of him. So Marvin the Martian was my favorite character from Looney Tunes so I used him as a stand-in.

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 Mobile Rock and Gem Society (Mobile, AL) (HOST)

Sunday, March 29, 2020
9AM - 2PM Eastern Time
Patty Construction Quarry
7525 Hwy 27
Summerville, Ga
Unlimited number
No Fees

TRIP: The March 2020 SFMS DMC Field Trip is sponsored by the Mobile Rock & Gem Society to collect Summerville Agate at the quarry in Summerville Georgia. This site has been a long time favorite of many collectors. The agate forms within Mississippian age chert as delicate concentric bands. Colors are predominantly gray and red. Sometimes you can find stalactic formations, or pieces covered in druzy quartz. **Note:** We may have a cabbing demonstration using material collected on-site.

COLLECTING: Material is generally found by simply surface collecting, although there are plenty of large pieces and boulders for those so inclined to break them apart. A couple of guys from Georgia found a huge (about 3 feet diameter) boulder with good pattern and figure throughout and briefly contemplated how they might get it loaded into a truck, but eventually gave up on the idea.

BRING: Eye protection is a must for anyone wishing to break apart material with a rock hammer, or sledge, or are nearby someone else doing so! Things, such as a hammer, chisels, scratching tools, pry bars, buckets, small ground shovels and rakes, paper to wrap specimens, sunscreen, bug spray, food and drinks, sturdy shoes, and gloves. Much of the material is covered with a chalky white chert, and a pail of water is sometimes handy for dipping and identifying the better material. A small cart or hand truck may be useful for hauling larger pieces of take home material.

DRESS APPROPRIATELY FOR THE WEATHER OF THE DAY. This will be in March, so the temp could range from 70's to the teens. Also, be prepared for rain if forecasted.

SPECIAL CONDITIONS: THIS IS AN ACTIVE QUARRY. NO ONE WILL BE ALLOWED ANYWHERE NEAR ANY OF THE MACHINERY ON THE PREMISES. ANY VIOLATION OF THIS RULE MAY JEOPARDIZE FUTURE FIELD TRIPS TO THIS SITE.

REGISTRATION: Register upon arrival at the MRGS tent for insurance purposes and for additional information.

CHILDREN: This is a good site for children.

PETS: Any pets MUST be on a leash at all times.

FACILITIES: In town about 2 miles away. Bottled water will be available at the MRGS tent

DIRECTIONS AND WHERE TO MEET:

Directions: From Summerville, Ga. follow US 27 South for 2.20 miles. The site will be on the right between the county owned waste dumpsters and the US Forestry office. Coming north from the Rome area, the site will be on the left side of US 27, and approximately 3.0 miles beyond the intersection of Gore Subligna Rd.

From downtown Summerville (Commerce St.) take U.S. 27S. There will be a left curve, then a right curve. Just past the right curve is the mine (7525 Hwy 27). Look for the Mobile Rock and Gem Society signs.

7525 Highway 27
Summerville, Georgia 30747

CONTACT: Larry Landry, Field Trip Chairman, (251) 591-5682

CHECK OUT http://www.mobilerockandgem.com/field-trips/ FOR PHOTOS OF OUR PREVIOUS DIG AT THIS LOCATION.

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

April - Charlotte Gem & Mineral Club (Charlotte, NC)

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)

Why I (we) became a Rock-hound

By James Tomlin

I've always collected rocks starting at a young age, but was a novice. When living in Alaska, I collected rocks while walking along the beaches, but was just picking them up as a curiosity, not as a hobby. I panned for gold in Alaska also, but did not continue once moving back to Virginia. Occasionally I would find Alaskan jade.

It wasn't until my daughter Sydney started showing an interest in rocks and minerals that I got more involved. She got a rock tumbler on her 9th birthday. I saw how much she was intrigued with the process and it peaked my curiosity further. Holly and I wanted to support her interests as a family.

We started coming to some rock club meetings and found out about the field trip to Willis Mtn, which we signed up for and attended. Seeing the excitement in Sydney's eyes with her new hobby sparked an additional excitement in me. I started searching and found a piece of kyanite on my own and that connection had me hooked, even further than my previous interest.

Faceter's Corner

Re "Scratches from the Master Lap"

Many years ago, Natalie Darling, the then new newsletter editor of the Lynchburg Gem and Mineral Society, asked members to pen an article or two for the club newsletter. I responded with an idea: to help new faceters, I would document my learning curve as I was starting almost from scratch (pun intended), teaching myself how to facet gems. Read my articles now found by a Google search, and you do not have to make the same dumb, stupid mistakes I made. I titled the series, "Scratches from the Master Lap", a play on words as I was not (and still am not) a Master Lapidary. That title is applied to faceters who have passed the "Beginners", then "Intermediate", and finally "Masters" levels of the United States Faceter Guild faceting competition, held yearly, with a score of 80 or more, not necessarily *winning* the competition for the year like fellow Lynchburg faceter, Steve Blanchard did several years ago. Similar prestigious competitions are held with the Australian Facetors Guild. The title, Master Lapidary, is an earned title.

My first article clarified that I was not a Master Lapidary. The Master Lap I referred to is a machined flat aluminum support lap that is often used to hold polish-charged sheet Mylar polishing disks. The scratches I discovered using that combination of Master Lap and Mylar polishing disks were caused by sediments traveling through the municipal water supply that I dripped onto the polishing disk. Quartz sand is used to filter the water, and rust from the pipes – sediments - travel through the system as well. In the article I advised new faceters to purchase bottled filtered water rather than use municipal or home well-water sources for the lubricating and washing drip used during the polishing operation.
(At least, do not crack the facet valve wide open which would encourage sediment transport.)

As it has turned out, I am revisiting "Scratches from the Master Lap", this time the scratches are *caused* by my old Master Lap. My Master Lap has some minor surface corrosion on its machined surface along with an occasional slight nick or blemish. In use, these imperfections slightly raise the Mylar polishing disk locally exposing the bonded-on polishing compound to being worn-off. I have spent countless hours on the last batch of gems I cut trying to achieve perfect polishing of the

facets. You can hear changes or clicking sounds when polishing over these imperfections. In places my Mylar polishing disk now has clear spots, carefully avoided, where the raised imperfections caused by my Master Lap's defects have worn loose pieces of polishing compound many of which rolled under facets causing new scratches.

Moral of this story: If you have imperfections on you Master Lap, have a machinist put the aluminum lap on a lath and machine a new perfectly-smooth surface. Or, purchase an Acrylic polishing lap to support your Mylar polishing disk. Many other polishing lap choices are available like the BATT Lap, Ceramic Laps, and etc. Mylars are the least expensive and are very useful if used on a truly smooth support lap.

January Meeting Minutes

Gem & Mineral Society of Lynchburg Meeting Minutes
January 15, 2020 @ 7:00PM

Attendance: 31 Members 1 Guest

Meeting called to order by Dave Woolley

On Time Drawing Winners: Brandon Coles, Cindy White, Rodger Linkenhoker, John Haskins, Nancy Haskins, David Brogan, Michael Staton, Brian White, Kyrina Johnson, Nancy Linkenhoker, Linda Noble, Debbie Wade, Sydney Tomlin, Natalie Darling, Susan Brogan, Holly Tomlin, Mary McIntire, Bob McIntire, Warren Darling, Steve Gordon, Maddi Williams, Clint Ferguson, Dave Callahan, and Siglinde Allbeck

David Brogan won $3.50 in the 50/50 drawing

Hospitality: James & Holly Tomlin hosted tonight's meeting. Will also host February.

Old Business:

New Business: Given by James Tomlin: We now have a Facebook Group for all club members to share finds, ask questions, and have live chats with other members between meetings. Search "The Gem and Mineral Society of Lynchburg" on Facebook to submit a join request.

If you are not on Facebook, we have added a way for all club members to communicate any questions or concerns they may have through a club email. The email address is: Lynchburgrockclub@yahoo.com

We will be updating club brochures soon.

Brian White Suggested for members to wear their badges to meetings while new board members are learning everyone's names. Also suggested to wear their badges on field trips for safety purposes and to help ensure that all trip attendees are members for insurance purposes.

Announcements: Club T-shirts are now available to order. They come in a variety of colors and styles such as T-shirt, Long sleeve, and pull over hoodies. They can be ordered at any club meeting through Holly Tomlin.

Treasurer's Report: we have $11,867.63 in a new account at Wells Fargo. No checks have been written since this account was set up.

Program: Thomas Hale presented about The Virginia Mineral Project: Preserving History One Mineral at a Time.

Special Thanks:

Thanks to Warren Darling for bringing items for the Silent Auction which earned $60

Thanks to Maddi Williams for help with greeting, collecting sign-in sheet and selling the 50/50 raffle tickets.

GMSL CLUB EQUIPMENT AUCTION

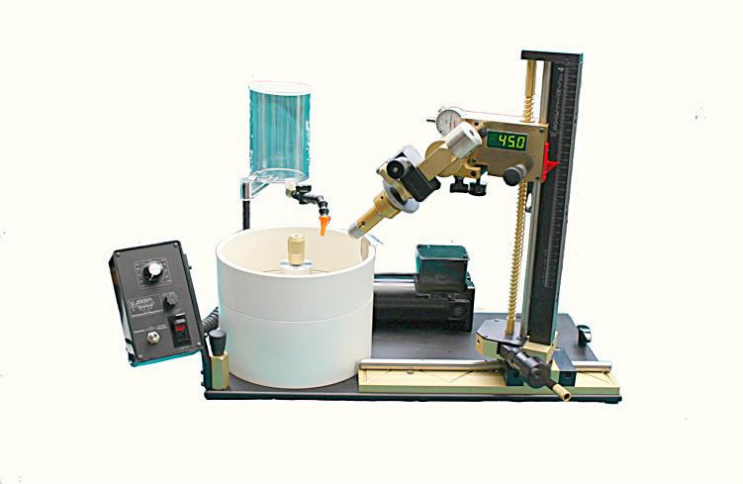
The GMSL will be holding a silent auction online for unused club equipment. Some examples of equipment to be auctioned off, but not limited to are cabbing machines, faceting machines, and rock tumblers. To view these items starting April 1st go to https://www.lynchburgrockclub.org/ and view the items 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.

Article for this month part # 15 Faceting by Dave Woolley

The final breakthroughs: Electronic Potentiometers, and Radial Encoders. Faceters probably have the auto industry to thank for "Ultimate Faceting Machines". Radial Encoders are also used to control modern Tank turrets.

As applied to faceting machines, Potentiometers and Radial Encoders provide sufficient accuracy for the Coarse Grinding of Gem Design recipes, plus they can show Rate of Cutting and a provide a method of *relocating* the Fine Grinding angles for Polishing with our having to hunt.
Angles are displayed to three decimal places. With the built-in errors of these devices, the third decimal place is rounded off – but close enough.

55. A “Gem-Robot” computer-controlled Automatic Faceting Machine with computer screen above showing each facet as it is being cut. $20,000? This machine is best used for glass and synthetic gem materials that are uniform and flawless: no challenges or much thought required to *orient* the rough gem material before Doping. It is used to cut 100 monotonous identical gems at a time. The best Polishing is still done by hand on expensive gems to detect scratches in time to remove them. Potentiometers, Radial Encoders and Computers have made commercial automatic faceting machines possible.



56. “Xristal-tec ‘99’” by Poly-Metric. One of a number of modern faceting machines incorporating Angle Encoder technologies. This one has a number of subtle refinements that make faceting fast and pleasurable.

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:

The Gem and Mineral Society of Lynchburg, VA, INC.
PO Box 11975
Lynchburg, VA 24506-1975

lynchburgrockclub@yahoo.com