

Gem & mineral journal

*The Official Monthly Publication of the
Gem and Mineral Society of Lynchburg, VA, Inc.*

OCTOBER 2011 VOLUME 20 ISSUE 10

Presidents Message

Hello To All,

The GMSL purchased new soft ware for our Editor to use in publishing the Clubs monthly newsletter. It was money well spent, the September newsletter was great. Natalie Darling works hard to provide us with a top-notch newsletter each and every month and we should recognize her with our appreciation for a job well done. Thanks again Natalie for a job well done. We also had a good Meeting Program as well as a good field trip in September. Thanks to Jack Curtin for getting Dr. Lenhart to present his program on earthquakes, and thanks to Dave Callahan for organizing a field trip to Kyanite Mining. I saw a couple of mineral finds that haven't been identified yet.

Speaking of mineral finds, the GMSL will have their yearly auction at the October 19th Society meeting. You won't have to take a long trip with high gas prices or stay in a high priced motel to get high quality mineral specimens, just come to our



Auction. We have to offer this year a whole collection of minerals ,crystals, petrified wood as well as a variety of slabs. Some of the specimens include Amethyst Crystals, clear and smokey quartz crystals, Citrine, Rose Quartz, Rutilated Quartz, Rhodalite Garnet in matrix, Lazulite from Graves Mt, multicolored Tourmaline Crystals, just to name a few. I hope you will bring your friends and family and join us for a great night of fun, the auction is open to the public.

It must be Fall as we have a new nominating committee, Don McIntyre, Thom Noble and Siglinde Allbeck. I hope you will seek them out and nominate yourself or someone else for a position on the Executive Committee to serve in 2012. The offices include President, First & Second Vice-President, Secretary, Treasurer, Editor and two for office of members at large. If you think you have what it takes, continued on page 15

From The First VP:

Come one and come all to our grand auction sale which comprises our next meeting on October 19th. Each year there are more and more items for sale including beautiful rock and mineral specimens. Bring cash or your checkbooks to take advantage of the opportunities to add to your private collections or to buy items for gifts.

Our lapidary series continues with a very comprehensive article on the fine art of faceting. This and the previous articles have been written by Donald Clark CSM of the International Gem Society.

Article begins on page 9

2011 ELECTED OFFICERS**John Haskins - PRESIDENT**

(434) 525-8430

JMHaskinsI@netzero.net**First Vice President****Jack Curtin**

(434) 384 -6249

jacwcurtin@gmail.com**David Callahan****Second Vice President**

(540) 297-1853

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glass57@netzero.net**Natalie Darling – Editor**

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gmsleditor@comcast.net**Frank Midkiff- Treasurer**

(434) 660-1565

midkiff@aol.com**Members At Large-**Bernardino Rivera &
Tony Shields**COMMITTEE****CHAIR PERSONS:****Field Trips**– David Callahan**Hospitality**- Monthly Volunteers**News Articles**– Natalie Darling**Silent Auction**– Warren Darling**Swap for Rocks**–Warren Darling**Website**– Casper Voogt**Workshops**– Dave Callahan**FRA Adult Liaison**- Daryl Grant**Membership**- Ralph Torning

September Meeting Minutes

Meeting: Wednesday, Sept. 21, 2011**Attendance:** 33 members and 3 guests.**Hospitality:** Our hosts for this evening were Cindy and Tony Shields, and for the October meeting it will be Bernadette Ellis. Thanks again to all who contribute.**On Time Drawing:** Winners were Anne Torning, Don McIntyre, Thom Noble, Bill Livingston, and Dee Tinsley.**Old Business:** None**First Vice President:** Jack Curtin announced that tonight's program would feature Dr. Steve Lenhart, Geology professor at Radford University. Dr. Lenhart is also the founder of Radford's Museum of Earth Sciences. His presentation tonight will be EARTHQUAKES. He will accept donations of VA specimens for his museum in lieu of honorariums. He also informed us that he has 5 additional programs, and hopes to be invited back in the future.**Second Vice President:** Dave Callahan announced the following activities and field trips: 9/24: Willis Mtn. Field Trip; 10/1 & 10/8: Workshops at Dave

Callahan's; 10/14 & 16: Apple Harvest Festival at Amherst County High School. We will have our booth and encourage all members to come out and volunteer. Any help you can offer will be appreciated.

Additional field trips are scheduled and members were encouraged to check out the sign up sheets on the stage for details.

T-Shirt orders will continue through the October meeting.

Treasurers Report: Treasury balance at this time is \$6431.67, minus \$638.33 in unpaid expenses.**New Business:** Our annual club auction will be held at the October meeting. Our nominating committee consists of Thom Noble, Don McIntyre and Siglinde Allbeck. If you are interested in an officer position or have suggestions for nominations please see one of the committee members. Nominations continue through the November meeting, and voting in December.Minutes Submitted by
Brenda Glass, Secretary

The purpose of the Gem & Mineral Society of Lynchburg, VA, INC. is to promote education in The Earth Sciences including: Mineralogy, Geology, Gemology, Paleontology, and Crystallography

The Gem and Mineral Society of Lynchburg VA, Inc.
Meets on the third Wednesday of each month,
From 7:00pm– 9:00pm
In the auditorium of the Parks and Recreation Building
301 Grove St. Lynchburg, VA 24501
Public is invited, Please join us!

Programs



Earthquakes

Dr. Stephen Lenhart

Radford University Museum of the Earth Sciences

Submitted by Dee Tinsley

What is an earthquake? An earthquake is energy released from rocks rupturing under stress. This causes friction between moving rock materials at or below the Earth's Surface.

How many earthquakes does the earth have in a year? Around one million!

What is the Richter scale? It is the method used to measure the magnitude of an earthquake. The chart below will give you an idea of how it works:

Magnitude	Result	Number of occurrences
2.0	not felt	600,000
2.0 to 2.9	potentially perceptible	300,000
3.0 to 3.9	Felt by some	49,000
4.0 to 4.9	Felt by Most	6,200
5.0 to 5.9	Damaging Shocks	

As the magnitude increases, the area of impact also increases. A Magnitude 8.0 is a catastrophic disaster. IE: The quake in California in 1987.

Where are the most earthquakes? In the ring of fire. The Pacific region has 80% per year The Mediterranean Region 15%, Mountain regions - 5% (volcanoes and earthquakes in the ocean ridges and continental area.) California has the most but did you know that in 1883 Charleston SC was completely wiped out by an earthquake? There is another hot spot in Montana (southwestern corner)

NO place on earth is safe from earthquakes.

In Virginia the two biggest clusters lie in Mineral VA & Giles County. Dr. Lenhart also told us what would happen if a disaster occurred in Radford. The biggest threat to Radford is the amount of trucks hauling toxic waste up and down the interstate, but the second biggest threat is an earthquake powerful enough to cause damage. The Dam is leaking and is not structurally sound. An earthquake of a high magnitude could cause the dam to fail and it would flood a portion of the city that sits in a low-lying area.

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Field Trip Report

*Report submitted by Dave Callahan;
Photo's submitted by Jill Skinner*

September 24, 2011
Kyanite Mining- Willis Mountain

The weather finally cleared the day of the trip and we had no rain at all. The threatening forecast and rain prior to this weekend's event caused many collectors from distant areas to stay home. As it turned out, the weather was cool and dry making perfect collecting weather.

We had, to my best count, at least 76 attending but I may have failed to recognize a few. We had representatives from the Lynchburg and Roanoke Clubs, the Shenandoah Valley Club, The Northern Virginia Club, The Southern Maryland Club, The Montgomery County Maryland Club and possibly the Richmond Club. If everyone had attended that had signed up, we would have had about 125.

We were all assembled by 8:30 AM for a sign-in, safety briefing and an introduction by the mine representative, Mike Morris. We all convoyed to the mountaintop to start our collecting adventures.

Due to the wet and hazardous conditions at the East Ridge site, it was decided to collect only on Willis Mountain. There was plenty of room and we had the whole mountain to explore. I believe that everyone had a great time and I know that many fine minerals were collected along with many large yard rocks.

Many thanks and appreciation goes out to the Kyanite Mining Corporation and Mike Morris for allowing us the privilege of holding this annual event. Everyone was safe and obeyed all the safety rules. We look forward to holding another event in September 2012.

Additional field trip photos on page 13





Contact Information for Field Trips:

David Callahan,
Field Trip Chairman
Home phone 540-297-1853-----
Cell phone-----540-874-520-----
E-mail dbcall1@aol.com

DIXIE MINERAL COUNCIL FIELD TRIPS
The Southeast Federation of Mineralogical Societies, Inc.

An Official Field Trip of the MEMPHIS ARCHAEOLOGICAL & GEOLOGICAL SOCIETY (HOST)
An Official Field Trip of the GMSL and RVMGS
(THIS IS A GO-ON-YOUR-OWN FIELD TRIP)

9:00 AM TO 3:00PM CST
Saturday, October 15, 2011
Memphis Stone and Gravel Company, Coldwater, Mississippi
www.msgravel.com

Where: Memphis Stone and Gravel Company (Perry Plant)

Directions: We will meet at the Coldwater, MS exit at Interstate 55 and Hwy 306 (Exit 271). We will group together at the BP Convenient Store on the south side of the road. Be there no later than 8:45 to check in, we will depart at 9:00 a.m. **sharp!**

Collecting: Chert gravels with fossils (Mississippian, Devonian, and Silurian), petrified wood, agate, conglomerate, quartz and other rocks and minerals associated with regional alluvial terrace deposits of Pleistocene / Pliocene age.

We will be collecting the gravel from stockpiles.

Lunch. Memphis Stone and Gravel and MAGS will provide a free lunch/cookout of hot dogs and hamburgers. Recommend attendees bring chairs and tables

Rock swap- Attendees are encouraged to bring material for a rock swap. MAGS will have available a number of specimens from the club's collection including several thumbnails from Magnet Cove, Arkansas such as Brookite

Restrictions: Pets must be leashed at all times. No fee is required. **See safety statement below.**

Tools: Bucket and rock hammer, we will be surface collecting and no digging is necessary. Spray bottle with water is very helpful.

Safety: All safety rules must be followed. A copy of the safety rules can be obtained from the Field Trip Leader.

Continued on next page
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Field Trips... Continued from page 5

Remember, any time eye hazards may exist, such as hammering or prying, safety glasses MUST be worn.

This is an active mine with dangerous areas, including water hazards. Do not walk or climb under/on any equipment. All children must be under **CONSTANT ADULT SUPERVISION and NEVER** allowed to roam around. Shoes must be closed and laced (no flip-flops or Crocs) and Long Pants are required. Bring plenty of water and sunscreen!

Field Trip Leader:

Alan Parks (mobile phone/text: 901-481-9730)

Email: alan.parks@msgravel.com more information at www.memphisgeology.org

9:00 AM TO 5:00PM

Saturday, November 5, 2011

GRAVES MOUNTAIN, Lincolnton, GA

Where: Graves Mountain - off SR 378

Assembly Time: 9:00 am. Everyone off the mountain by 5:00 pm

Accommodations:

Cullars Inn, Lincolnton, GA: (706) 359-6161

Soap Creek Lodge, Clarks Hill Lake, Lincolnton:
(706) 359-3124

Elijah Clark State Park: (706) 359-3458 / (800) 864-7275

Directions: From Washington, Georgia, drive 11 miles on SR-378, or from the Hardee's in Lincolnton, Georgia, drive approximately 5-½ miles west on SR-378. Look for a sign at the entrance to Graves Mountain on the south side of the road.

FEE: \$5 or more per person *donation* to Clarence Norman, Jr., the mine's caretaker. All DMC members must sign a liability release before being allowed onto the mountain. No children under age 12 permitted due to the dangerous steep cliffs. All children 12 and over must be supervised

by an adult.

Collecting: Beautiful lazulite, pyrophyllite, and kyanite; world-class rutile can be found rarely. Over 50 different minerals can be unearthed in this extinct volcano and former mine, and now dig site for gem and mineral clubs and other organizations. Georgia Mineral Society has further details and photos on their website: <http://gamineral.org/commercial-sites.htm>

Tools: A hand truck to ferry buckets and hand tools to surface collect specimens. Backpack, gloves, 8-lb sledge, 2-4 lb. crack hammer, rock hammer, pry bar, shovel, chisels, and SAFETY EYEWEAR are useful. Hardhat required if you plan to work adjacent to the high wall areas.

Safety: DMC Members must sign and adhere to the **Graves Mountain Code of Conduct** (see below). Doing so keeps everyone safe. Dress for the weather, and bring plenty of water and something to eat. There are no toilet facilities.

Field Trip Leader:

Contact: Shellie Newell, Aiken GMF

(803) 439-2625, shellienewell@att.net;

www.aikengmfs.org

Bench Tips by Brad Smith

*More Bench Tips by Brad Smith are at: groups.yahoo.com/group/Bench Tips/
Or facebook.com/Bench Tips*

REMOVING A STONE FROM BEZEL SETTING

If you've forgotten to use dental floss and got your stone caught in a bezel, there's one thing you can try before starting to pry. Find some sticky wax or beeswax. Roll it into a pencil-sized cylinder and stick the end onto the top of the stone. Mold it on well and yank.

If all else fails, you either have to very carefully pry open the bezel with a sharp knife blade or drill a small hole in back of the stone and push it out with the point of a scribe.

MAKING YOUR OWN MOKUME

Ever think about making your own mokume? Here's a link to the detailed steps in the sequence as done by a professional. Look for mokume on <http://www.rchristopher.com/tech/>

FOREDOM STAND

A quick and easy way to suspend a Foredom over your jewelry bench is to use some steel pipe components from your local hardware store. It attaches with a couple screws and costs a little over \$10

I use 1/2 inch galvanized pipe and fittings. To build a stand that attaches to the top of your bench, all you'll need is a flange and a thirty-inch length of the pipe. If you prefer a stand that attaches to the side of your bench, you'll need a little longer pipe, three foot, a flange, and a 90 degree "street elle".

Finally, make a hook that goes into the top of the pipe to hang the motor from. You can use heavy coat hanger wire or better yet, a 1/8 steel rod from the hardware store.

WELCOME NEW MEMBERS:

Patricia Harmon, Big Island, VA

Kitty McGann, Bedford, VA

Judy Moon, Long Island VA

Debby Reinke, Prospect VA



Upcoming Events

Shows and Trips

October 19th - GMSL Annual Auction
We are very excited to be able to offer many beautiful and rare specimens that we acquired as part of one of our private collection purchases this summer. Join us for the October meeting to have your chance to bid on something special for you while helping your club at this annual fun fundraiser!

October 21st – 23rd - Treasurers of the Earth Gem Show, Rockingham county Fair Grounds; 4808 South Valley Pike, Harrisonburg, VA www.toteshows.com for more information.


October 22nd-23rd- 42nd Annual Rochester Gem, Jewelry, Mineral & Fossil Show, Rochester Academy of Science Mineral Section. Minett Hall, Monroe County Fair & Expo Center, 2695 E. Henrietta Rd., Henrietta, NY. Website: Rochester Show

Nov. 12th- 9-3; Rock Swap 2011, Sponsored by The Richmond Gem and Mineral Club. Ridge Baptist Church Meeting Hall; 1515 East Ridge Rd., Richmond, VA . Contact: Murray Rosenberg at 804-740-0019 or email rgms_info@yahoo.com

Nov. 25th-27th- Roanoke Valley Mineral and Gem Club Annual Mineral and Gem Show at the Salem Civic Center in Salem, VA. GMSL will host the Fluorescent Mineral Booth. More information at the club meeting.



October 2011

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19 Club Meeting 7PM	20	21	22
23	24	25	26	27	28	29
30	31					

PLEASE NOTE....

Newsletter articles are due ON or BEFORE the 1st of each month. This does not allow a great deal of time for processing. Please help your editor by submitting your articles as early as possible to facilitate timely delivery of the newsletter.

Your cooperation and continued support are greatly appreciated!

Fundamentals of Lapidary Part 5

Faceting

By Donald Clark CSM Submitted by Jack Curtin

Faceting is a marvelous amalgamation of engineering and art. Through a mechanical process of cutting facets on a piece of crystal, marvelous gems are created.

To the uninitiated, faceting appears to be the apex of complexity, but that is not the case. Faceting has its complex areas, like competition cutting and design, but one does not need to enter these areas. Learning the standard cuts is within the reach of almost everybody. The primary requirements are a desire to learn and the ability to follow instructions.

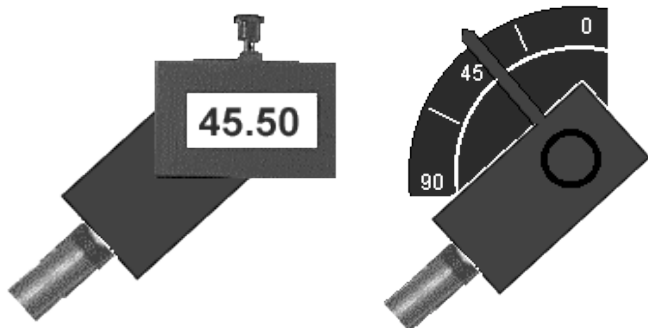
To unravel the mysteries of faceting, we will describe the actual cutting process. The material is not important; the procedures are the same for amethyst, emerald, or any other gem material. There are several steps, but none of them are particularly complicated. Once you see how simple it is, you will understand that it is something you can do!

Basic Controls

There are three basic elements to arranging the facets on a gemstone. They are: 1) the angle of the cut, 2) the rotation of the gem, and 3) the depth of cut. These three settings precisely locate every facet on a gem. How to make the adjustments varies slightly from one machine to another. However, all machines work on the same principles and there are only subtle variations on how to make the settings.

When cutting a gem, the design instructions tell you the index and angle for each facet. There is no guessing. The depth of the cut will be obvious when cutting. If your facets do not come together, you need to cut them deeper. If you cut them too deep - well, all beginners need to learn to use a light hand. Correcting over cut facets requires recutting the previous stages to the new depth. Hence the saying, "Cut a little, look a lot."

Angle Setting:



The angle of your cut is set on a protractor, or read off a digital display. How to set the angle varies slightly with the different machines. Sometimes it is a matter of loosening a setscrew, adjusting the angle, then retightening the screw. On other machines, it involves turning a handle until you reach the proper angle.

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Index Gears

The index gear controls the rotation of the gem. They are available in a variety of sizes, but 64 and 96 are the most common. To set the index; you release a pin, rotate the gear to the properly numbered slot, then let the pin return to its holding position.

Depth Control

This is actually called a "height setting," but it serves the purpose of determining how deep each facet is cut. While there are variations in how this is done on different machines, the principals remain the same. A coarse adjustment brings your setting in close, and then a fine control makes the final setting.

Cheater

Due to subtle variations in your equipment, you will occasionally have a facet that will not lay flat on the polishing lap. A "cheater" control makes subtle, side-to-side adjustments. These are less than a full index number.

Lubrication

Water, (often with additives,) is used as a lubricant. Each machine has a method of wetting the cutting laps. The most common is a simple drip tank. Its beauty lies in its simplicity. Simply open the valve to where you get a few drips per second. You want just enough to keep everything damp, without excessive splashing

Speed Control

Each machine has a method to control the speed of the laps. Many will also allow you to reverse the direction of rotation. As a rule, use higher speeds with coarse cutting, slower speeds when polishing.

Laps

Laps are disks with abrasives on the surface. They are usually metal charged with diamond, but other materials and abrasives are used. They go on a revolving platform and are changed as needed.

The cutting and polishing procedure is done in stages. It begins by removing the excess material with a coarse lap. Next, the scratches are sanded out with a finer lap. Finally, a polishing lap is put on the machine for finishing.

Procedures

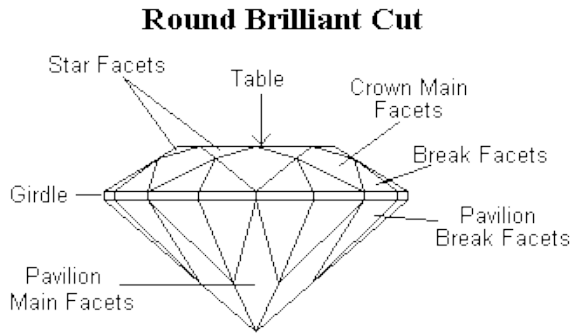
Now that you know what the controls are, we will go through the procedures for a standard, round brilliant cut. First, inspect the gem to make there are no fractures that will cause problems. Then attach the gem to a dop stick and insert it in the faceting machine. (For more information on these subjects, see the ["Minimum Cutting Technique"](#) and ["Dopping Techniques"](#) in our archives.)

The dop is free to swing side to side during cutting, or lifted for inspection. It is the angle setting that limits the downward swing. It is important to understand this, because an under or over cut facet will not be at

Continued on next page

Faceting...Continued from page 10

the proper angle. This is called a "hard stop" and is on almost all machines. The Facetron has no stop and you need to modify your technique to suit this machine.



Instructing for a Round Brilliant Cut

Facets	Angle	Pavilion Settings								
		Index								
Pavilion Mains	42°	96	12	24	36	48	60	72	84	
Girdle	90°	94	86	82	74	70	62	58	50	46
Break Facets	43.7°	38	34	26	22	14	10	2		
		94	86	82	74	70	62	58	50	46
		38	34	26	22	14	10	2		
		Crown Settings								
Crown Mains	35°	0	12	24	36	48	60	72	84	
Break Facets	37.5°	2	10	14	22	26	34	38	46	50
		58	62	70	74	82	86	94		
Star Facets	16°	6	18	30	42	54	66	78	90	
Table	0°									

Cutting the Main Facets

Place a coarse cutting lap on the machine. Set the speed to medium and turn on the water. Get the lap thoroughly wet, spreading the water with your fingers if necessary, then turn everything off.

Look at the instructions to the right. We have eight pavilion main facets cut at 42 degrees. Set the angle on your machine to 42 degrees. They are cut at index settings 96, 12, 24, 36, 48, 60, 72, and 84. Set the index on your machine to 96 for the first facet.

Adjust the height so the stone will just meet the lap. This will not be deep enough, but it is

the proper place to begin.

Now, turn the water and machine on again. Gently introduce the stone to the lap and sweep it back and forth across the surface. Do not use much force; apply just enough pressure to keep the stone in contact with the cutting surface. When you have cut all the way to your depth setting, the sound will change. It will go from a grinding noise to a 'shhh" sound. If you are using light enough pressure, it will be a clicking sound as just the largest particles of abrasive touch the gem. This technique is called "Cutting by sound." It is a valuable skill to develop, so pay attention to it right from the beginning.

When your first facet is cut, turn the gem over to the opposite index setting, 48. Repeat the cutting procedure until the facet is fully cut to the selected depth.

Now look at your stone. Do the two facets you have cut come together in the center? If they do, you set your machine too deep. Bear this in mind for the next stone, as you do not want to remove too much material in the initial stages.

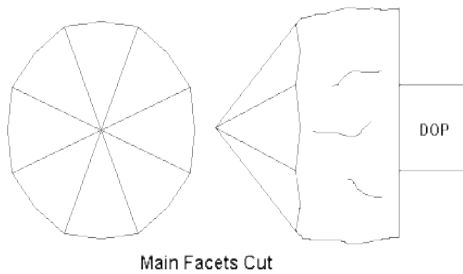
You should see two flat surfaces on an otherwise rough shaped piece of material that do not come together. Lower the head a bit and cut both facets again.

Repeat this process of lowering the head and recutting the facets until they meet in the center. With practice you will get quicker, but you need to start on the conservative side so you learn not to waste material.

Once you have your depth set properly. Cut the remainder of the pavilion main facets at index settings 12, 24, 36, 60, 72, and 84. If you find that one of these facets does not reach the center, or has an uncut shallow area in it, lower the stone again. Recut all the main facets at this new depth setting.

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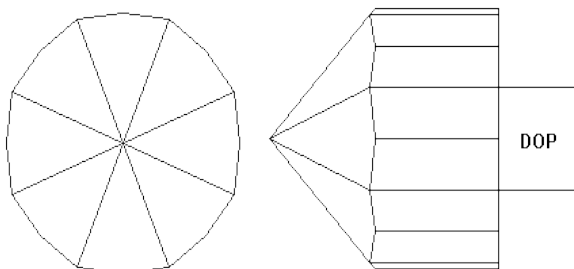


Main Facets Cut

Cutting the Girdle

For the next step, you will cut the girdle. Adjust the angle setting to 90 degrees. This puts the gem parallel to the lap. Your machine will have an opening in the splashguard, or a means to hold it out of the way while cutting the girdle. Do this now. Set the index to your first setting, which is 2. Now, carefully lower the gem until it just touches the lap.

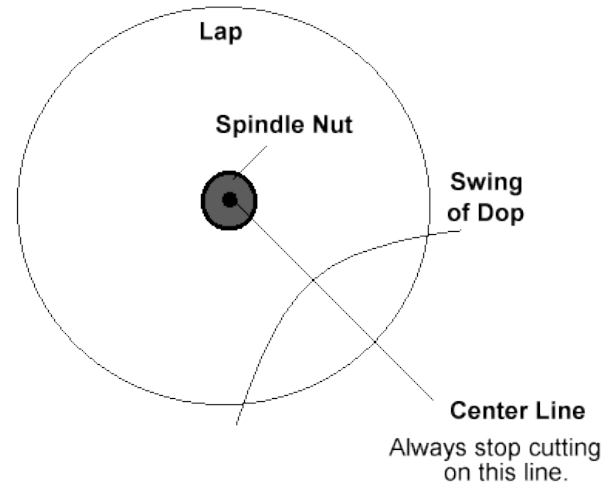
Turn the machine and water on. Cut the first three facets at indexes 2, 10, and 14. They are small and will not need nearly as much cutting as the main facets did. When finished, inspect your gem to see if these facets come together. If they do not, then you will have to lower the head. When the depth is set, continue cutting at the other index settings. You will probably come to an area that is shallower than the rest of the stone. Lower the gem until you can cut the girdle facets at this section. You have now found the minimum distance you need to cut. Go back and cut all the girdle facets to this depth.



Girdle Facets Added

Pre-polishing

You have now shaped the pavilion of the gem. However, the coarse lap has left a very rough surface. You cannot see it, but there are tiny, subsurface fractures as well. You need to smooth the surface before you can polish the gem.



Remove the coarse lap from the machine. Clean the gem and all the controls with a damp cloth. This will remove any coarse particles that could contaminate your prepolish lap. You do not want to learn this lesson the hard way! Contamination is a very serious problem, but one that is easily avoided.

Place the prepolish lap on your machine and wet it. You ended your last sequence by cutting the girdle. Since your machine is already set at 90 degrees, it makes sense to prepolish the girdle first. Set the index to 2.

Setting the height accurately is very important, as you are only removing a tiny amount of material in this step. Begin by setting the height so the stone just barely touches the lap. Many, (if not most machines,) will not have the lap perfectly level to the swing of the dop. If this is the case, adjust

Continued on next page

Faceting...Continued from page 12

your height so the gem first touches the lap in line with the center. For accuracy, always stop cutting at this line.

Using the fine adjustment, lower the gem just one tiny increment. Prepolish the first facet, being careful to stop on your centerline. Now inspect the facet. It should have a smooth, frosted surface, with no visible pitting. If not, lower the gem just a tiny bit more and cut it again. Once you have the depth set correctly, prepolish the remainder of the girdle facets. Listen carefully and you can hear when the cutting stops.

The next step is to prepolish the main facets. Set your angle to 42 degrees and the index to 96. Adjust the height so the gem barely touches the lap on the centerline. Lower it one more tiny increment. Now proceed with prepolishing the mains, just as you did with the girdle facets.

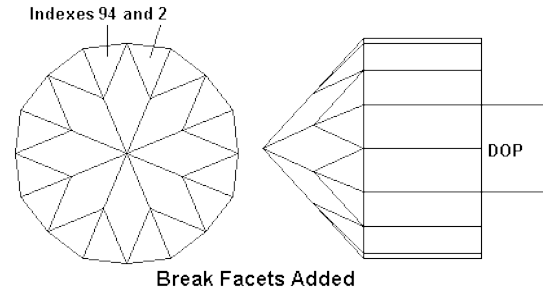
Now it is time to cut the break facets. They were not cut in the coarse stage, because they are so small. Your main facets are cut at 42 degrees and the break facets are cut at 43.7. That is just a tiny sliver!

To cut the break facets, set the angle to 43.7 degrees and the index to 2. Adjust the height so the gem barely touches the prepolishing lap. Very gently, cut two facets at index 2 and 10. The technique is to introduce the gem to the lap with a very light hand and bring it towards the centerline. It should only take a couple swings of the dop to cut the facets.

When fully cut, they will create a level girdle and come together in the center. However, they should not come together yet. Lower the head just a bit and cut them again. Repeat this process until the facets come together properly. When the height is set correctly, cut the remainder of the facets.

Inspect your progress frequently. One of the most difficult aspects of faceting is learning hand control. Even though your machine is properly set, you can under or over cut small facets. From the

beginning, pay attention to the hand pressure you are using. Learning to use consistent pressure is the key to getting uniform facets.



Next Month we will continue this article beginning with "Polishing"

Additional photos from the Kyanite Mine Field Trip. Bottom picture of Madison Allbeck- photo submitted by Siglinde Allbeck.



**Roanoke Valley Mineral and Gem Society Annual Show
Friday, Saturday, and Sunday, November 25, 26, & 27.
Salem Civic Center in Salem, VA**

Our club (GMSL) will be hosting the Fluorescent Mineral Display and we will need volunteers to help make this a success.

Positions Needed:

Set up Friday Morning and Take down Sunday Evening- We will need at least 4 volunteers for each of these activities. You may volunteer for one or both times if you are available to help.

Tour Guides- We will need several people throughout the show times to act as tour guides (at least two every hour) who can help explain a little about fluorescent minerals when the booth will be open. We will have a show every hour on the half hour during the regular show hours. The tours last about 15-30 minutes depending on the questions and public interest. We can also talk about our club and encourage membership.

Fluorescent Mineral Collectors- We need folks to loan us fluorescent minerals for display and also need the use of super bright short wave lamps for cabinet display. You must have a 120 volt adapter. All minerals must be well marked with your name as they will be returned. We need lots of color and just pretty fluorescent rocks of all sizes. Most of the public just wants to see bright colors so we will have a lot of the same calcite and willemite on display. Other colors are needed as well.

If you can help with this, please bring your marked specimens and lamp to the October or November meetings. I would like to have everything in hand before the set up on Friday morning. If you will help with the set-up Friday morning, bring them with you but please let Dave Callahan know what you will be bringing so we will know what to expect. It would be really nice if you were there Sunday to claim your own minerals and help pack up. We will not be bringing the trailer so everything must be packed in our cars and trucks. Cars are better in case it rains.

Thanks for your assistance. I hope that we can get some new members involved so everything does not always fall back on the same few. This is a fabulous opportunity for folks to learn and teach others. Call or email Dave Callahan with your interest or availability. Sign up sheets will be available at the meeting. Hope to see **YOU** there!



Presidents Message cont. from pg. 1

or just have new ideas put your name in the hat.

We had a signup sheet for volunteers for the Apple Harvest Festival at the Sept meeting. If you would like to join us at the Amherst Co. High School October 15 and 16th I hope you will come join in the fun. I hope to see you at the October 19th auction meeting.

Keep Looking Down,
John Haskins

LAST CALL for CLUB T-Shirts!

We will be sending in the order after the October meeting. If you are interested in ordering, see Dave Callahan and you can select your color, style, and size from the catalog, which will be available at the October Club Meeting.

Earthquakes

Continued from page 3

Shallow quakes are from zero to 42 miles deep and account for 85% of the total global energy by earthquakes. Intermediate are from 42 to 210 miles deep and account for 12% of the total. The deepest being 210 would be 3% and the deepest ever recorded is 420 miles deep.

What is the Epicenter? It is the position on the earth's surface directly above the focus.

Waves transmit energy and they are:

L (named for Dr. Love) Love- body waves that travel within the earth.

P waves- the foreshock that precedes the main shock.

S waves- These are the main disturbance at the focus.

Aftershocks are generated at or near the focus of the main shock following the main shock.

Bedrock is what the Seismograph is bolted to in order to record the data of the shocks.

The mass does not move with ground motion due to inertia. Rotating drums in the seismograph record the motion. Earth moves and all the graphs have 1-minute lines showing the scientists how to measure the distance of the quake. It is important to note that P waves travel through air, water and rock. S waves travel left to right, only through solids not liquids.

Seismic Magnitude vs. intensity - magnitude is the measure of energy released by the quake disturbance. Intensity is the measure of effects or physical destruction caused by an earthquake at a particular surface location.

Perhaps the most fascinating fact is: A magnitude 8 earthquake is not measured as "2x2 = 4". It is measured as 31X31X31 and has 29,791 times the energy released by an earthquake with a 5 magnitude. Damage total charts range from I to XII. XII would be catastrophic!

The Gem & Mineral Society of Lynchburg, VA Inc.

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The purpose of the Gem & Mineral Society of Lynchburg, INC. is to promote education in The Earth Sciences including: Mineralogy, Geology, Gemology, Paleontology, and Crystallography



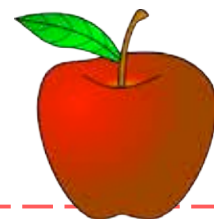
Lynchburg Rock Raiders is the official FRA association of The Gem & Mineral Society of Lynchburg, VA INC



Apple Festival at Amherst Co. High School **October 15th & 16th.**

Please come out and support your club. We will have our booth set up and will need many volunteers to make it a profitable and enjoyable experience for all.

Any amount of time you can spare will be greatly appreciated, and we're pretty sure you will have a great time too!



*The Gem and Mineral Society of Lynchburg VA, Inc.
Meets on the third Wednesday of each month,
From 7:00pm– 9:00pm
In the auditorium of the Parks and Recreation Building
301 Grove St. Lynchburg, VA 24501
Public is invited, Please join us!*



ON THE WEB: Lynchburg Gem and Mineral Society: www.lynchburgrockclub.org

The SFMS Newsletter, the Eastern Federation Newsletter, and the AFMS Newsletters are available for all members to read on line at the Federation Websites:

www.amfed.org/sfms, www.amfed.org and www.amfed.org/efmls