



# Gem & mineral journal

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

**DECEMBER 2011    VOLUME 20 ISSUE 12**

## *Presidents Message:*

Hello To All,

Merry Christmas and a Happy New Year. It's hard to believe that 2011 has come and gone already. They say, as you get older that time passes faster because a year represents a smaller fraction of your life. This may have some truth to it but I believe that time flies when you are having fun. I think that was the case for this year considering the field trips, workshops, festivals, buying rock collections, adding new lapidary equipment and all the good meeting programs added up to a great year for the GMSL. I would like to thank all the members that participated in workshops and festivals; this is the reason that our Club's treasury is ending this year in great shape. We had several new items added to our list of sale items at festivals and next year we have plans for a few more. You need to come to the workshops in the spring to see what's new for 2012.

As most of you know, December is our annual Christmas Dinner. I hope all of you plan to attend and bring your favorite covered dish to share with everyone on our buffet table. The Club is

supplying some good fried chicken as our main meat dish and I am sure we will have a lot of dishes to compliment this along with some great desserts. We will have a gift exchange called Dirty Santa. Everyone that brings a gift will draw a number and gifts will be selected from lowest to highest number. You will be able to exchange the gift you selected with a previously opened one if you so desire. So it is advantageous to draw a high number. Try it- you will like it.

Anyone that has collected a special specimen this year is encouraged to bring it along and show it off. If you have something and you don't know what it is, please bring it in and we will try to identify it for you. There will also be a silent auction and mineral specimens to purchase.

We will have the election of officers for 2012 with an acclamation vote, as there was only one candidate for each elected office. I hope you will come out and join in the fun at our December 21<sup>st</sup> Dinner Meeting. Until then

***Keep Looking Down,  
John Haskins***

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## *From The First VP:*

Merry Merry Christmas everyone! May this year's Christmas be one of the best ever. To help us feel the joy, the GMSL will host its annual Christmas party this month on the 21st. Please bring along your favorite desert or side dish for the potluck dinner. And please also bring a wrapped, geology-related gift valued at ten dollars or more to take part in our provocatively naughty

Dirty Santa gift exchange.

Many lucky folks will surely be getting some jewelry this year for Christmas. The following article written by Donald Clark, CSM of the International Gem Society may help us with some terms that we might use to describe our jewelry to friends and family. Article begins on page 11.

***Merry Christmas Everyone,  
Jack Curtin***

**2011 ELECTED OFFICERS**

**John Haskins - PRESIDENT**

(434) 525-8430

[JMHaskins1@netzero.net](mailto:JMHaskins1@netzero.net)

**First Vice President**

**Jack Curtin**

(434) 384 -6249

[jacwcurtin@gmail.com](mailto:jacwcurtin@gmail.com)

**David Callahan**

**Second Vice President**

(540) 297-1853

[DBCALL1@aol.com](mailto:DBCALL1@aol.com)

**Secretary**

**Brenda Glass**

(434) 525 6664

[glass57@netzero.net](mailto:glass57@netzero.net)

**Natalie Darling – Editor**

(434) 941-1899

[gmsleditor@comcast.net](mailto:gmsleditor@comcast.net)

**Frank Midkiff- Treasurer**

(434) 660-1565

[midkiff@aol.com](mailto: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

*November Meeting Minutes*

**Meeting:** Wednesday, November 16<sup>th</sup>, 2011

**Attendance:** 35 members and 3 guests

**Hospitality:** Our hosts for this evening were Thom and Linda Noble. For our December meeting we will be enjoying our annual holiday covered dish dinner. Please bring your favorite dish to share.

**On Time Drawing:** Winners were: Bernard Rivera, Jean Midkiff, Cindy Shields, Dave Callahan, John Haskins, and Kyle Buggs.

**Old Business:** None

**First VP:** Jack Curtin welcomed Dr. Lenhart for another presentation. We feel very fortunate to have him return again.

**Second VP:** Dave Callahan: Field Trips/Activities: 11/19- field trip to Manassas Quarry, 12/10- Piney River Quarry; 1/23- JMU lab and mineral museum. **The Astronomy club bus trip for 12/17 has been cancelled.**

T-shirts are in, please pay Dave and pick up your order. Dave is also looking for lights, fluorescent minerals and helpers for the Roanoke Club show – sign up sheet on stage.

**Treasurers Report:** Treasury balance at this time is \$8,902.25. Bills paid include PO box and T-shirts. Income from the Apple Festival and annual auction.

**New Business:** The club will

furnish Fried Chicken for our covered dish dinner at the Dec. meeting. Everyone is asked to bring a dish to share. We will also have a dirty Santa rock exchange. Bring a hobby related, wrapped gift (about \$10-\$15 value) if you wish to play. We will also have our 2012 officers elected. Our nominating committee announced the slate as follows:

President: John Haskins

1<sup>st</sup> VP: Jack Curtin

2<sup>nd</sup> VP: Dave Callahan

Secretary: Brenda Glass

Treasurer: Franklin Midkiff

Editor: Natalie Darling

Members-At-Large: Bernard

Rivera and Tony Shields. There

were no additional nominations from the floor.

It has also been asked that we wear our nametags to the meetings. This is especially helpful to new members and guests- everyone likes to put a name with a face.

Members were asked for approval to purchase new wheels and supplies for our cabbng machine. Cost is around \$400.00. Motion was made and carried.

We are also looking for a Radial arm tile saw with a 10" blade.

Please inform John or Dave if you know of one that may be available.

**Minutes submitted by  
Natalie Darling, Editor**

**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

Once again we would like to extend special thanks to Dr. Steve Lenhart, for his enjoyable and very informative program at our November meeting. The focus of this program, "Zeolites," was very timely, as some of our club members planned to attend the Manassas Vulcan Quarry field trip the following weekend- where Zeolites were expected to be among the collectable minerals. Our club is very fortunate to enjoy the continued support of Dr. Lenhart.

For the **December 21<sup>st</sup> meeting** we will enjoy our annual Holiday covered dish dinner and Dirty Santa Rock Swap. Please bring your favorite dish to share.

If you wish to participate in our **Dirty Santa Game**, please bring a wrapped, hobby related gift, with a \$10-\$15 value. This will allow you to draw a number and select a gift from those on the table. The dirty part is that those with higher numbers have the option of taking your gift if they like it better than the one they select. So the higher your number the better for you. Everyone who plays ends up with a gift!

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## Bench Tips by Brad Smith

*More Bench Tips by Brad Smith are at:  
[groups.yahoo.com/group/Bench\\_Tips/](http://groups.yahoo.com/group/Bench_Tips/)  
Or [facebook.com/Bench\\_Tips](http://facebook.com/Bench_Tips)*

### DEPTH GAUGE FOR DRILLING

Sometimes you need to drill a number of holes all to the same depth. One quick and easy way to do this is to wind some tape around the drill bit so that the tape just touches the part surface when the hole is deep enough. You can do this either by measuring from the tip of the drill to the tape or by drilling one hole correctly, leaving the bit in the hole, and wrapping tape around the bit at the surface level.

And the smaller the bolt, the more difficult this is. Screwing a nut onto the bolt before cutting it easily solves the problem.

So here's how I do it. Screw a nut onto the bolt, grip the bolt by the piece to be sawed off, saw the bolt to the desired length, taper the end with sandpaper or file, and unscrew the nut from the bolt.

Unscrewing the nut over the freshly cut end of the bolt straightens out any damage to the threads. Gripping the bolt by the piece to be sawed off localizes any crushing damage to the piece you're throwing away.

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### CUTTING A BOLT

Whenever you have to cut a threaded bolt shorter, it's always difficult to get the nut to thread back onto it.

December 2011



**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](mailto:dbcall1@aol.com)**

DECEMBER FIELD TRIP

**THE GEM AND MINERAL SOCIETY OF LYNCHBURG, VA. INC.**  
And  
**THE ROANOKE VALLEY MINERAL AND GEM SOCIETY INC.**

**Saturday, December 10, 2011**  
**Boxley Aggregates, Piney River Quarry**  
**739 Warrick Barn Road, Arrington, VA.**  
**9AM to 12 NOON**

***Sign-up is required, call me, email me or sign-up at the meeting***

**COLLECTING:** According to the [mindat.org](http://mindat.org). Web site, the following minerals are listed from MINERALS of Virginia, 1990 edition. Some on this list have not been found on our past field trips.

**Anatase:** A greenish-brown replacement of ilmenite.

**Ilmenite:** Black metallic or highly weathered masses.

**Kaolinite:** White powdery masses from the alteration of feldspar.

**Rutile:** Reddish-brown metallic to highly weathered masses.

**Tacharanite:** White, dull to pearly. Occurs with the weathered anatase, rutile and ilmenite.

**Zoisite var: Thulite:** Veins of pink thulite occur in the feldspar.

Additional minerals: **Pyrrhotite:** (has been verified) Silvery metallic when fresh but weathers to a dark rusty color when exposed to the weather.

The main rock mined here is called **APLITE**. It is very hard, light-colored, and fine-grained and consists primarily of sodic plagioclase feldspar and quartz in the groundmass and, in some cases, orthoclase feldspar phenocrysts. Like pegmatites, aplite dikes may represent a residual fraction on silica-rich magma after most on the magma has crystallized.

Remember that the availability of these minerals depends on where they are working in the quarry at the time of the field trip and that some of the occurrences are very small.

**MEETING LOCATION:** We will meet in Amherst, VA, Saturday morning, at the Hardee's Restaurant on US 29 business no later than 7:45 A.M. We will depart from there promptly 8:00 A.M and drive to the quarry in a group. From Lynchburg and Roanoke, follow US Rt. 460 east / US 29 north by-pass several miles east of Lynchburg. Take the new US Rt. 29 north by-pass across the James River and proceed north to the Amherst US 29 business exit. The Hardee's is in the Ambriar Shopping Center at this exit. Come early and have a bite to eat. From this point, it should take about 20 minutes to arrive at the quarry. **Be sure that you are fueled up and ready to leave by 8:00 A.M.** If you are coming from the north, the US 29 business exit will be about 2 miles south of the US 60 exit. If you live in Lynchburg, it might be closer to just follow US 29 business thru Madison Heights to Amherst.

*Continued on next page*

**FIELD TRIPS...***continued from page 4*

The Hardee's will be on your left at the new US 29 bypass interchange, just before you arrive at the town of Amherst.

**ASSEMBLY TIME: 8:30 to 8:45 AM.** At the quarry scale house / office. You will need sufficient time to read the required Boxley Hazard Training information, fill out and sign the Hazard Training Certificate and sign the required Boxley release form. There will also be a brief review of the safety regulations. Everyone must be present for this presentation. If you are late, you will not be permitted to enter the quarry. We all will enter the quarry as a group about 9:00 AM. All safety rules will be strictly enforced or you will be escorted out of the quarry and barred from future field trips.

**EQUIPMENT:** The Boxley Quarries are very safety-conscious. Standard quarry gear is required. Hard hats, steel-toe boots or other substantial stomp-proof boots and safety glasses. Good protective clothing and gloves should be worn. It could be very cold, wet or hot in the quarry, so dress according to the weather forecast that morning. Be sure to bring plenty of water and snacks. Bring your own collecting equipment such as rock hammers, chisels, buckets and newspaper to wrap your delicate specimens. We will be allowed to drive into the quarry. Bring rain gear in case of bad weather. **HARD HAT NOTICE: CHECK THE MANUFACTURE DATE, LEFT SIDE, UNDER THE BRIM IN THE SMALL CIRCLE ON EITHER SIDE OF THE ARROW.** If you see a 1 on either side it was made in 2011. A 0/7 is 2007. If it's older than 5 years, it should be replaced. New rule enforcement. You should comply now and not be rejected later.

**AGE LIMIT:** Children of all ages will be allowed but it will be the parent's responsibility to keep them under control at all times and see that they obey all the safety requirements. The same dress requirements apply.

**NOTE:** Severe weather or other crisis out of our control may result in the canceling or rescheduling of this trip. If there is any question, please call me to confirm the trip.

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**JANUARY 2012 FIELD TRIP**

Dixie Mineral Council Field Trips

**The Southeast Federation of Mineralogical Societies, Inc.**

**DMC Program of the SFMS Field Trip Committee**

**An Official Field Trip of The Treasure Coast Rock & Gem Society (Vero Beach, FL) (HOST)**

**An Official Field Trip of the (GMSL and the RVMGS)**

**9:00 AM, Saturday, January 7, 2012**  
**Fort Drum Crystal Mine/Ruck's Pit**  
**Fort Drum, Okeechobee County, FL**

**FEE AREA**

*Continued on next page*

**FIELD TRIPS...***continued from page 5*

**FEE AREA:** \$20 per adult  
Children : under 12 - half price  
Pets: allowed on leash

**COLLECTING:** Honey colored calcite in fossil clam and whelk shells found in the Nashua and Tamiami formation limestone (1.8 to 3 million years old). Also, sharks teeth and bone fragments have been found.

**BRING:** Even in January, Florida can be hot so bring a hat, sunscreen, gloves, sturdy boots, food and plenty to drink. Also buckets, newspaper for wrapping specimens. Hammer, pick, chisel, rake/garden hoe and safety glasses.

**DIRECTIONS AND WHERE TO MEET:**

We will meet at the mine in the covered pavilion in front of the collecting area.

From Vero Beach the trip will take you about one hour. Ft. Drum is on Hwy 441 approximately 15 miles south of the intersection of Hwy 60 and 441 (Yeehaw Junction). Go south of the Ft. Drum General Store about 0.5 mile and turn east on 304<sup>th</sup> St. Go about 2.75 miles to the quarry entrance (north side of the road just past the dairy). Eddie and Debbie Ruck will be on site. They have opened a gift shop at the mine.

**WHERE TO STAY:** Okeechobee is the nearest town! There are also many inexpensive motels in the Kissimmee area and on I-95 south of Melbourne down to Ft. Pierce.

Motels near Okeechobee, FL

Field Trip Contacts:

**Darryl Taylor,**  
POB 644044

Vero Beach, FL 32964

**rockhound531@yahoo.com 772-633-4423**

**OR Eddie Ruck863-634-4579**

**COMBINED LYNCHBURG / ROANOKE  
CLUB FIELD TRIP  
SATURDAY, JANUARY 21, 2012** weather  
permitting (9AM until NOON)  
**JAMES MADISON UNIVERSITY,  
Harrisonburg, Virginia**

**GEOLOGY DEPARTMENT and MINERAL  
MUSEUM**

**Sign-up required...call me, e-mail me or  
see me at the meeting**

**We may have to limit the attendance due  
to the size of the facilities.**

We will all provide our own transportation and park in the JMU parking lot in the front of the new facility, Memorial Hall (The old High School). Plan to arrive between 8:45 to 9AM. See the directions below and walk directly to the Geology Lab. If you need transportation or any other information, please call or e-mail me for assistance. This is Dr. Kearns only available date. If the weather is bad, use your own best judgment before driving. JMU has a fully equipped geology lab with state of the art equipment. Dr. Kearns is well known in his profession and has generously allowed us to visit his lab, museum and dedicate this Saturday morning to our clubs. If you have any minerals that you need to identify, bring them along. We should have time to run five or six specimens thru the x-ray diffraction equipment. There will be microscopes available and other equipment for testing and viewing. Dr. Kearns also has a large fluorescent mineral collection for our viewing pleasure. Dr. Kearns may have some surplus mineral books, specimens, miniatures and micros for sale to benefit the museum, be sure to bring cash or your checkbook. This material will be first class and all the proceeds go toward future museum purchases.

***Driving Directions on page 15.***

**FOR YOUR GENERAL INFORMATION**

All these trips are open for the **GMSL** and **RVMGS**

**UPCOMING DMC FIELD TRIPS:**

**Year - 2012**

- January - Treasure Coast Rock & Gem Society (Vero Beach, FL)
- February - Western South Carolina G&MS (Greenville, SC)
- March - Tennessee Valley Rock and Mineral Club (Chattanooga, TN)
- April - Mobile Rock & Gem Society, Inc. (Mobile, AL)
- May - Mississippi Gem and Mineral Society (Jackson, MS.)
- June - Montgomery Gem & Mineral Society (Montgomery, AL)
- July - Southern Appalachian Mineral Society (Asheville, NC)
- August - Knoxville Gem & Mineral Society (Knoxville, TN)
- September - Lowcountry Gem & Mineral Society (Charleston, SC)
- October - KYANA Geological Society (Louisville, KY)
- November - Mid-Georgia Gem and Mineral Society (Macon, GA)
- December - Middle Tennessee Gem & Mineral Society (Murfreesboro, TN)

**Year - 2013**

- May - The Gem and Mineral Society of Lynchburg Virginia, Inc.**
- June - Henderson County Gem & Mineral Society (Hendersonville, NC)
- July - The Carroll County Gem & Mineral Society, Inc. (Carrollton, GA)
- October - Middle Tennessee Rockhounds (Nashville, TN)

**DMC Program / SFMS Field Trip committee's purpose:**

**To collect field trip information from it's member societies; schedule and coordinate field trip dates; disseminate field trip information to all member clubs so that each member society may publish this information as one of their "official" scheduled field trips.**

**"Earth first...we'll collect on the other planets later."**

**Beasts of Burden**

*Reprinted from Rockbuster News, 12/2011*

*By way of Rocky Mountain News 3/09; The Rockpile 2/09; and The T-Town Roockhound 11/08*

Three animals are outstanding examples of the Beast of Burden class: the mule, the camel, and the simple-minded rockhound.

The mule is smart- put one pound more than his usual load on him, and he simply balks until it is removed. The camel is even more decided in his ideas- try over loading him and he'll stay in the sand, and if you persist, will spit his cud at you.

But that simple-minded rouchhound? He takes 15 to 20 pounds of equipment in with him, then tries to load on about 50-60 pounds of rock and carry it back to the car on the road. Does this sound familiar to anyone?

**NOTICE**

**ALL THE CLUB TEE SHIRTS ARE IN. THERE ARE A FEW PEOPLE THAT WERE NOT AT THE NOVEMBER MEETING.**

**PLEASE BRING THE CORRECT CHANGE OR A CHECK TO THE DECEMBER MEETING TO GET YOUR SHIRT.**

**-----THANK YOU-----**

**Lynchburg...  
Powers \$17.00,  
McIntire \$16.00,  
Skinner \$14.00**



## HARD HAT EXPIRATION DATE EXPLANATION

### HARD HAT NOTICE:

State and Federal mine and quarry safety inspectors are now checking the manufacture date on hard hats. They must be replaced at least every 5 years under normal use and more frequently if damaged. I know we keep ours in a closet, out of the sun and protected from all damage put the rules were written for mine workers, not rockhounds. We must comply with all the same rules as the mine employees.

**CHECK THE MANUFACTURE DATE, LEFT SIDE, UNDER THE BRIM IN THE SMALL CIRCLE ON EITHER SIDE OF THE ARROW.** If you see a 1 on either side it was made in 2011. A 0/7 is 2007. If it's older than 5 years, it should be replaced. New rule enforcement. You should comply now and not be rejected.

Most all of the new hats I've checked have these two 1/2" diameter circles under the brim. Get a loop unless your eyes are very good.

Left side circle shows 12 tick marks around the perimeter. Each mark represents a month. And the arrow points to that month. The small numerals on either side of the arrow show the year. Example, on my old hat, the arrow was pointing to 8 with a 0 / 5 on either side of the arrow. That represents a manufacture date of August 2005.

Right side circle shows 30 tick marks with the numerals 5,10,15,20,and 25 spelled out. These represent the day of the month the hat was manufactured and the arrow points to the day. Mine pointed to the 15.

My old hat was manufactured on August 15, 2005. I have since purchased a new hat (check to be sure you get a hat with 1 / 1 or 1 / 2 ether side of the

arrow unless you like to buy hats more frequently than once every 5 years)

I purchased my new 2011 hat with a ratchet headband at Lowe's for about \$9.00.

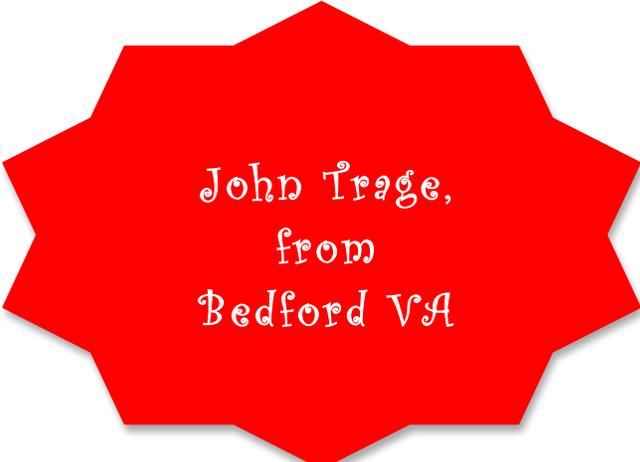
Now what do I do with my 5 old expired hard hats with lots of memories and lovely decals. Speaking of decals, keep them an inch or more above the lip, as they could be a path for an electrical current to your head. Just another cause for rejection.

Oh, and if that's not enough, the head suspension unit should be replaced yearly. I'm sure on our hats they will be OK for the five years unless they are damaged or torn. We wear ours about one or two days a month, not every day. Also keep them out of the sun when not in use as a dull weathered finish is yet another cause for rejection. Remember "bright and shiny" is good. Dull could attract attention and a closer inspection.

Any suggestions for uses of old hard hats? How about a hanging basket for flowers?

*Submitted by: Field Trip Chairman Dave Callahan*

## Welcome New Member:



John Trage,  
from  
Bedford VA

### **The Three “Must Do’s” For Every Mineral Collector**

*By Darryl Powell; reprinted from  
EFMLS News, Dec. 2011*

A lot of mineral collectors love to dig and save their best specimens. They also like to go to mineral shows and buy specimens. Sometimes, they find or buy very expensive specimens. Some of us collect nice, inexpensive specimens that simply make us happy. No matter what kind of mineral collection you have, there are 3 things you **MUST** do. If you do these things, you will take better care of your specimens, you will have a higher quality collection overall, and you will simply have a more rewarding collecting experience. Here are the three “Must Do’s” for all mineral collectors.

#### **1. Number your specimens and keep a list.**

When you buy, find or trade for a new specimen, immediately put a number on it. Some people write or print numbers on paper and glue them on the underside of the specimen. Some people paint a small dot of white paint on the specimen where it can’t be seen and write the number on it with a permanent marker. Then in a notebook, on your computer or both, make a list. Your list should include the number, the name of the mineral, and where it was found. For example:

1. Calcite—Ilion, New York
2. Fluorite—Cave-in Rock, Illinois
3. Quartz—Hot Springs, Arkansas

Now when you or someone else picks up a specimen and doesn’t know what it is, you can find the number go to the list and learn this basic information.

#### **2. Keep a detailed record of each specimen.**

One goal of a serious, careful mineral collector is to keep as much information about each specimen as possible. On your computer, create for yourself a “specimen Record” sheet. On this sheet include all of the following information:

- Mineral name, locality (where it was found)
- Was it a gift, purchased, traded or self-discovered? if a gift, who gave it to you? If purchased, record the price and who you bought it from; if traded, what did you trade

for it?

- Who actually dug or mined the specimen?
- The date the specimen was found
- List any previous owners and with this the number each owner gave to the specimen;
- Mineral color and crystal form;
- Any other special information you any want to include, especially historical information.

#### **3. Store your specimens in a safe place.**

Please don’t just dump your nice specimens on a shelf, tabletop, or in a drawer. Treat them carelessly and you will damage them. If you like to look at them, place them, carefully, on a desktop or shelf. Always keep each specimen two or three inches away from the other specimens. The goal here is that the specimens don’t get damaged. A damaged specimen is less beautiful to look at and is also less valuable than an undamaged specimen. Some collectors like to put their specimens away safely in a box or a piece of furniture with drawers. This is what collectors call a “cabinet.” If you would like a cabinet for your specimens, go to yard sales and buy a piece of furniture that has many drawers in it. You can paint it any color you like. You can even paint mineral pictures or glue mineral pictures to the outside of the cabinet. Then, line the drawers with a layer of foam, then a layer of soft pillow filling, and then cover it all with a nice piece of soft fabric. Then, place your specimens in the drawer on top of the fabric. It is like they are sitting on a safe pillow. Always remember not to put the specimens too close to one another or they will bump into each other and they will get damaged. Place your specimens at least two inches apart from each other. When you open the drawers to see of show off your collection, open them slowly and carefully.

If you follow these three steps, you will find that building a mineral collection is very, very rewarding. In the process you will be building an important and valuable collection. It will be “valuable” because it will be able to teach you, and others, much more about the mineral kingdom and mineral collection. And you will find much more enjoyment in the mineral hobby, too.

## Upcoming Events

# December 2011

### SHOWS AND TRIPS

**Dec. 21<sup>st</sup>- 7-9PM-** Lynchburg Gem and Mineral Society annual holiday covered dish dinner & Dirty Santa gift exchange.

**March 3<sup>rd</sup>-4<sup>th</sup>-** Annual Earth Science Gem and Mineral Show sponsored by the Delaware Mineralogical society. Delaware Technical & community college, I-95, Exit 4B, Churchmans Rd. (Rte. 58); Newark, DE

**March 9<sup>th</sup>-11<sup>th</sup>-** Annual Aiken-Augusta Gem, Mineral and Fossil Show jointly sponsored by the Aiken Gem, Mineral & Fossil Society and the Augusta Gem & Mineral Society Julian Smith Casino, 2200 Broad St; Augusta, GA

**March 10<sup>th</sup>-12<sup>th</sup>-: 23<sup>rd</sup>** Annual North Jersey Gem & Mineral Show sponsored by the North Jersey Mineralogical Society. Pope John Paul II Center, Clifton, NJ

**March 16<sup>th</sup>-18<sup>th</sup>-** Annual Unifour Gem, Mineral, Bead, Fossil & Jewelry Show sponsored by the Catawba Valley Gem and Mineral Club. Hickory Metro Convention Center, I-40, Exit 125, Hickory, NC.

**May 18<sup>th</sup>-20<sup>th</sup>-** Treasures of the Earth Gem, Mineral, Fossil, Bead, and jewelry show, Martinsville National Guard Armory, Martinsville, VA  
[www.toteshows.com](http://www.toteshows.com) for details.

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
				1	2	3
4	5	6	7	8	9	10 Field Trip
11	12	13	14	15	16	17
18	19	20	21 Meeting 7PM Happy Hanukkah	22	23	24
25 Merry Christmas	26	27	28	29	30	Happy New Year

### Attention All Members:

It was brought up at the last meeting that most of us are not wearing name badges to our club meetings and functions.

Nametags are great for getting to know our new members, as well as them getting to know each of us. So please wear your nametag that Ralph Torning sends out with each new membership or renewal. Your cooperation is greatly appreciated.



**GEM CUTTING TERMS by Don Clark CSM***Submitted by Jack Curtin*

... Lapidary is the art of working in stone. For some reason though, it is only applied to working with small, gem materials and is not extended to large objects, like Michelangelo's statues.

... There are four basic styles of gem cutting: tumbling, cabbing, faceting and carving. Plus there are a number of ways to assemble stones into mosaic like patterns, (called intarsia,) boxes, etc.

**TYPES OF GEM CUTTING****TUMBLING**

... The simplest form of gem cutting is tumbling. This is where the rough material is put in a revolving barrel with abrasives. Progressively finer abrasives are used, until a polish is obtained. This process closely resembles what happens to rocks in a stream or on the beach, except that the level of polish is much higher. ... Tumbling is ideal for children. It is easy, takes a minimum of equipment, (approx. \$100,) and the results are sensational! There are a number of inexpensive settings available so the tumbled stones can be turned into jewelry. These make wonderful, homemade gifts.

**CABOCHON CUTTING**

... Cutting a cabochon, or as it is more commonly known, cutting cabs, is probably the most common form of gem cutting. Cabs are gems that are cut with a flat bottom and a curved or domed top. If you can envision an opal or a piece of turquoise, you are looking at a cab. ... Cabs have distinct resale value, based on the material they are cut from and their cutting can be profitable. This makes for an excellent, indoor hobby. It is especially enjoyable if you are cutting materials you have found yourself. ... It only takes a little practice to become proficient and is something almost everyone can learn to do well. Good equipment will cost in the neighborhood of \$1,000. A word of warning though, this can be highly addictive!

**FACETING**

... Faceting is the style of cutting that has the greatest profit potential. If you can envision a diamond, you are looking at a faceted gem. The surface of a diamond is covered with several geometrically arranged, flat surfaces. Each of these flat surfaces is called a facet. The gem is faceted, by a faceter on a faceting machine. This is also where we get the expression, "a multifaceted question." ... The purpose of faceting is to bring out the brilliance of a gem. That is where the light entering the stone is reflected off the bottom facets and returned to the viewer. Brilliance should not be confused with dispersion or fire, which is the multicolored flashes you see coming out of diamonds and some other gems. ... Faceting is one of those art forms that you can become good at with a minimum of experience, but also one where you will never run out of new challenges. Nor does it require any esoteric "artistic" sense. Machinists, engineers and people good at math often excel in faceting. ... Many faceters are semi-professionals. They sell enough gems to support their hobby, or to bring in some supplemental income for their family. For those interested in collecting or investing in gems, this is by far the most practical way to go. The price of rough and labor is almost always less than the wholesale price of the finished gem. ... If you want to facet gems, for fun or profit, expect to invest about \$2,000 in tools to get started. Here, more than in the

*Continued on next page*



**GEM CUTTING TERMS** ...continued from page 11

other styles, the quality of your equipment will greatly effect both the quality of your work and the enjoyment you get out of it.

**CARVING**

... Carving is the most challenging of the lapidary arts and there are very few recognized experts in the field. To be successful, one must have a distinctive artistic sense and a thorough understanding of the principles of lapidary. Unlike working in wood or metal, the materials present definite limits as to what can be done.

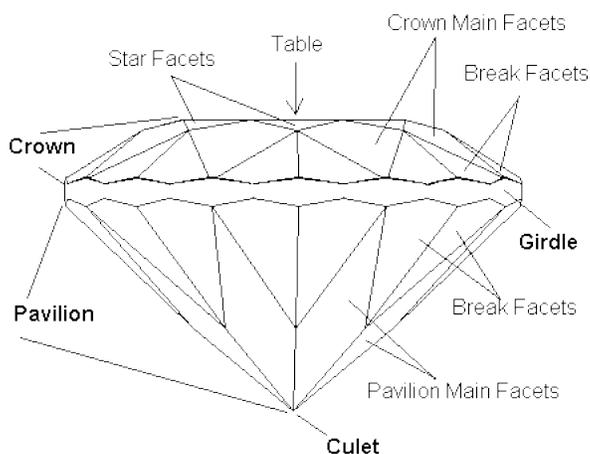
... There are several types of carving. One of the best known is cameo. These are usually cut from seashells or agates, but they can be carved from almost any material.

Often cabochons are carved. If the design is cut into the top, it is called an intaglio, or a relief carving. If the design is carved on the back, it is a reverse intaglio.

Some carvings are not designed to be used in jewelry; they are cut simply for their beauty. These are classed as stand-alone carvings.



**GEM NOMENCLATURE**



For both cabs and faceted gems, the top is called the crown. The widest part of the gem, the part that defines it's outline, is called the girdle. Viewed from the side, the girdle is usually fairly thin. ... The bottom of a faceted gem is called the pavilion. The largest facets are called mains. There are both pavilion mains and crown mains. The large, horizontal facet on the top, the one that acts as a window into the interior of the gem, is called the table facet. ... Adjoining the girdle are the break facets. Their purpose is to scatter light, creating more scintillation. There are both crown and pavilion break facets. ... The top row of facets, those next to the table, are called star facets. Along with the other crown facets, they serve to control the entry and exit of light from the gem. The pavilion facets are designed to reflect the light back to the viewer.

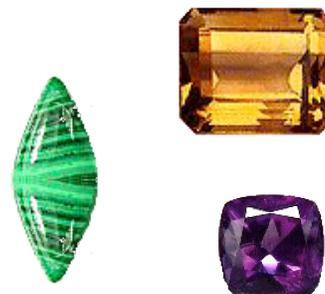
**SHAPES**

Fancy shaped gems are anything other than the standard. For cabochons, that is something other than a round or an oval. They include rectangles, rounds, squares, crosses, teardrops, and free form shapes. The standard shapes in faceting are rounds, squares and rectangles. A rectangle with the corners trimmed off is called an emerald cut.

... Ovals are considered fancy shapes, because they take more work to cut than a round. Heart and pear shaped gems take even more work.

.. Marquis or navettes are long thin gems, with gently curved sides, that come to a point on the end.

*Continued on next page*



## ... GEM CUTTING TERMS ...

*continued from page 12*

Cushions are almost square or rectangular. Their sides are gently curved, like the cushions of your couch.

... A shield is symmetrical from side to side, but not top to bottom. They come in a variety of proportions, with different numbers of sides.

... Other fancy shapes include, rhomboids and parallelograms, as well as triangles, hexagons, octagons, etc.

## FACETING STYLES

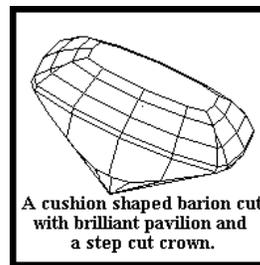


There are two basic styles of faceting. If you look at the round brilliant diagram, you will see it has triangular and kite shaped facets. This style is called a brilliant cut. ... A step cut features rectangular shaped facets neatly arranged, one on top of the other. An "emerald cut," a cut cornered rectangle, is the most common example of a step cut. ... These styles are often combined. The Ceylon cut has a step cut pavilion and a brilliant cut crown. This is an ancient technique and one still used in Sri Lanka today. Modern computer studies have shown that the reverse, a step cut crown over a brilliant cut pavilion, will often produce the greatest brilliance.

... The barion cut was developed by South African diamond cutter, Basil Watermeier. Essentially, it is a method of putting a round brilliant pavilion into a fancy shaped gem. It usually has a step cut crown as well. This usually results in far greater brilliance than other methods. Interestingly, Mr. Watermeier discovered this just before the advent of computer ray tracing programs.

The round brilliant pavilion, compared to other pavilion shapes, offers greater discipline of the light inside the gem. Barion cuts emit a fountain of light effect, that is quite striking!

Some gems combine faceting and cabbing. A gem with a faceted top and a flat bottom is called a rose cut. Occasionally you will see a gem with a faceted pavilion and a domed crown, but this is not a standard method



A cushion shaped barion cut, with brilliant pavilion and a step cut crown.

of cutting. Occasionally you will see a gem with a faceted pavilion and a domed crown, but this is not a standard method of cutting.

There are standard cuts that we all recognize, like round brilliants and emerald cuts. Most faceted gems are simply called by their shape. However, you need to recognize that there are many variations within each shape. A triangular gem can have several or few facets; lots or little brilliance and scintillation.

Then there are other traditional, but less common, cuts with distinctive names. A good example is the Portuguese cut. It has several tiers of facets, which creates a wonderful display of light. It has more scintillation than almost any other cut. As you can see from the picture, it requires many facets and requires considerable labor. That, plus the fact that the rough must have more than normal depth, makes it something that is used only occasionally.

Still other cuts have no name at all. That is because faceters use what fits a piece of rough. It is not always a named cut - it is just what works. The red gem is a good example of this; it is a simple cut with a radiant pavilion. ... In the 1980's a program was released called Gem Cad. It allows people to test their cutting designs inside a computer before taking a stone to a lap. This made it easy for people to create new gem cuts and today there are now thousands of named designs. ... Many of the newly named cuts are simply a means to standardize common techniques. For example, someone may "design" the cut used on this red gem. It then has an established method for cutting that can be referenced and used again, rather than the faceter making it up as they go along. ... While most of the new named cuts are just variations of standard cuts, some are unique. Indeed, there seems to be no end to the imagination of our lapidaries. There is no limit to shapes or the number and arrangements of facets. Some cuts are merging a variety of techniques.

*Continued on next page*

**GEM CUTTING TERMS ...***Continued from page 13***CURVED FACETS**

... Flat facets are not the only technique available to today's gem cutters. A popular style of cutting is called a "Fantasy Cut." This technique uses large pavilion facets. Some simple grooves are used, which are mirrored through out the pavilion. This ametrine is an excellent example of a fantasy cut gem.

... Besides hand carving, there are now machines that will cut precision, concave facets. This requires considerably extra work. The gems are first cut traditionally with flat facets. Then they are transferred to another machine for an additional set of concave facets. The labor is so high, that this technique is unlikely to ever gain widespread use. However, as you can see from this picture, the results are nothing short of spectacular. The brilliance and scintillation exceeds anything that can be done with flat facets alone.



There is no end to what an artist can do with stone. If you keep your eye open, you will see cuts that are totally unique.

***This Concludes the series of articles by Don Clark, CSM, submitted by First VP Jack Curtin.***

*The series of articles will be made into a single publication and distributed to members via email. If you are receiving your newsletter via email you will also receive a copy. If not and you would like to receive it, please make sure to provide a valid email address to: [gmsleditor@gmail.com](mailto:gmsleditor@gmail.com)*

**A Message from Reivan Zaleznik; EFMLS Coordinator to the American Federation of Mineralogical Societies Scholarship Foundation. ("The Foundation").**

*Reprinted from EFMLS News, Dec. 2011*

The Foundation was authorized in an amendment to the AFMS bylaws in 1958 and was subsequently incorporated as a separate entity in 1964. Although an independent entity, it has its own officers and board of directors, all of whom are AFMS personnel that direct its affairs. Six of the seven regional federations are represented on the board.

Contributions to the fund accumulate and are invested. Then, only the interest from these investments are used to award scholarships to graduate students in the earth sciences. In 1965 the scholarships were \$300 per student per year for two years; now, because of growth, the grant is \$4000 per student for one year.

At the beginning of the summer of 2011 the fund's assets had grown to more than \$1 million dollars with the vast majority coming from your club members' individual contributions over the past 46 years. And that is where you come in. This article is being reprinted to raise the consciousness level of club members. Please consider a contribution in your 2012 budget plan.

Checks should be mailed to:

**AFMS Scholarship Foundation**

Reivan Zekeznik,  
EFMLS Coordinator,  
AFMS Scholarship Foundation  
39 Pepper Ridge Pl.  
Stamford, CT 06905

**FIELD TRIPS...***continued from page 5*

- \* I-81 to Harrisonburg, VA. (About 2.5 hours driving time from Lynchburg and 1.5 from Roanoke).
- \* Exit 245 (Turn left on Port Republic Road)
- \* Proceed to S. Main Street (Rt. 11) and turn right at the light.
- \* Proceed northward on S. Main Street to the third traffic light and turn left on to Cantrell Ave.
- \* Proceed over the bridge to the traffic light on South High Street (RT. 42).
- \* Memorial Hall (the old Harrisonburg High School) is directly in front of you. Go straight into the parking lot on your left. Try to arrive between 8:45 and 9:00 AM.
- \* To get to the Geology Department, walk around the building to the left (Grace Street Side)
- \* When you enter the building, go down the flight of stairs on your left. Enter the double doors and you are in the Geology Department. Walk around to your right, and the mineralogy lab will be open.
- \* The new Mineral Museum will be open so be sure to spend some time here. As you enter the building, turn right and walk to the end of the hall. The Museum is on your right. Notice the new brass plaque on the Virginia mineral collection cabinet.

Mineral of the Month:

**SPINEL (MgAl<sub>2</sub>O<sub>4</sub>)**

*By Tom Prachar, reprinted from PESA Rock News, December 2011*

Spinel is a common high temperature mineral occurring in contact metamorphosed limestone and metamorphic rocks poor in silica. Spinel occurs as an accessory mineral in many dark igneous rocks and is associated with phlogopite, pyrroite, chondrodite, and graphite. It is occasionally found as rolled pebbles in stream sands where it has been preserved due to its resistant chemical and physical properties. Ruby spinels are found in this way, associated with gem corundum, in the sands of Sri Lanka, Thailand, Burma, and the Malagasy Republic. Ordinary spinel is found in the United States in various localities in New York and New Jersey. The Limecrest Quarry in Sparta, NJ has produced some fine specimens for some of our PESA field collectors. This past summer, a few of our members were guests at the home of Glen and Karen Rhine of Amity Township, Orange County, New York to explore some interesting outcrops or the Franklin Marble formation on their property. In addition to numerous interesting and fluorescent minerals, we encountered frequent occurrences of attractive spinels.

When transparent and finely colored, spinel is used as a gem. The most popular is the ruby red spinel. The largest known cut stone weighs about 80 carats. Synthetic spinel has been made in many various colors rivaling valuable natural stones like diamond, sapphire, emerald, and ruby in beauty but being much less expensive. Synthetic spinel has a refractive index of 1.73 and a specific gravity of 3.64, which are both slightly greater than natural spinel.

**DIAGNOSTIC PROPERTIES of Spinel:**

Color:	Varies: black, white, red, green, brown
Luster:	Vitreous
Crystal System:	Hexagonal- platy, commonly foliated and in scales
Hardness:	8.0 (Mohs scale)
Cleavage:	None, conchoidal fracture
Specific Gravity:	3.55
Streak:	White

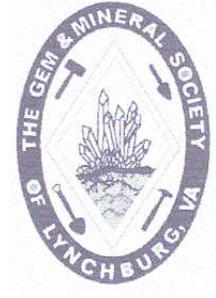
**The Gem & Mineral Society of Lynchburg, VA Inc.**

Natalie Darling, Editor

211 Chesterfield Rd.

Lynchburg, VA 24502 [www.lynchburgrockclub.org](http://www.lynchburgrockclub.org)

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



*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](http://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](http://www.amfed.org/sfms), [www.amfed.org](http://www.amfed.org) and [www.amfed.org/efms](http://www.amfed.org/efms)