

# GEM & MINERAL JOURNAL

Official Monthly  
Publication of the Gem &  
Mineral Society of  
Lynchburg, VA, Inc  
[www.lynchburgrockclub.org](http://www.lynchburgrockclub.org)

MARCH 2016

VOLUME 25~ ISSUE 3

## President's Message:

Hello To All,

Cheer up!! Spring is almost here. Dave Callahan has several field trips planned for the next couple of months, so we can get out there and stretch our rock hounding muscles again. The trip to J.M.U. last week was great. Dr. Lance Kearns was a great host once again. Coffee and sweet treats were a welcome sight as well as the trip to the Mineral Museum. He had added a nice piece of Topaz from the Moorefield Mine which he placed in the Virginia Mineral Cabinet. It is always great to see all the other goodies he has procured over the years. We also had several minerals identified with the help of the X-ray Defractor machine. It's always nice to have a printout of your minerals.

Please remember we will start the Club workshop on the second Saturday of each month as soon as the weather breaks. See Dave Callahan for details.



Thanks to Natalie Darling for her program at the February meeting it really drew a nice crowd. If any of you have an idea for an interesting program please let a Club Officer know. Remember to bring your favorite snack to share at the meeting, it makes for a nice selection at break time. I hope to see you at the March 16<sup>th</sup> meeting. Until then,

Keep Looking Down,  
John Haskins

## From the First V.P.

Have you ever attempted to make a cabochon? It seems easy at first, doesn't it? Then you find that the material isn't properly centered or that the bevel could be better, much better in fact. There are more variables to conquer than one might guess in forming a chunk of stone into a pretty piece of jewelry, especially if you are trying to bring out the perfect cat's eye from a promising stone. This month's article brings to light the whole subject of the cat's eye, what it is, what stones have the potential for the effect, and the beauty of the cabochon possessing one. The website is <http://geology.com/gemstones/chatoyancy/>. Inspired? Well go ahead and have a crack at it!

Happy Hunting,

Jack Curtin

Article continues on  
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© geology.com

## Chatoyant Gems - The Cat's Eye Phenomenon

*What causes the bright line of reflected light that moves under the surface of a chatoyant gem?*

### What is Chatoyance?

Chatoyance is an optical phenomenon in which a band of reflected light, known as a "cat's eye," moves just beneath the surface of a cabochon-cut gemstone. [Chrysoberyl](http://geology.com/gemstones/chrysoberyl/) and tiger's eye are two of the best-known gem materials that exhibit this phenomenon. Excellent specimens of chrysoberyl exhibit the finest chatoyance, and tiger's eye is the chatoyant gem most widely used in jewelry.

*<<<Chrysoberyl is the gem that exhibits the finest "cat's eye." When the name "cat's eye" is used alone, it is understood that the speaker is referring to a cat's eye chrysoberyl. When the speaker is referring to any other gem with a cat's eye, the name of that gem is used after the words "cat's eye." For example: "cat's eye apatite." This green cat's eye chrysoberyl was produced in Sri Lanka and is about 5.6 x 4 millimeters in size.*



## February Meeting Minutes

**Meeting:** Wednesday, February 17, 2016 @ 7:00 PM

**Attendance:** 38 members

**Host:** Noell Weller was host for tonight's meeting, Jean and Frank Midkiff will host the March meeting.

**On Time Drawing Winners:** Bob McIntire, Jennifer Adams, Grayson Adams, Pam Routon, Dave Woolley, Jesse Dudley, Mary McIntire Noell Weller, Joel Follmeyer, Rebecca Couture, Deborah Tyler, Tom Davis, Siglinde Allbeck, Nick Wilson, Natalie Darling, Frank Midkiff, Gabby Routon, Pam Cline, Don McIntyre

**50/50 drawing winner:** Rebecca Couture

**President** - John Haskins- Old Business: Don McIntyre instated the 2016 Officers

John Haskins-President  
Jack Curtin – First Vice President  
Dave Callahan- Second Vice President  
Natalie Darling – Editor  
Frank Midkiff – Treasurer  
Linda Noble - Secretary  
Bernard Rivera and Eric Routon- Members at Large

**New Business:** John Mitchell has contacted club to see if we are interested in purchasing 23,000 lbs of rock. Thom Noble has emailed him but received no reply. Phillip Durston brought his collection to sell to club members.

**First VP:** Jack Curtin- not present.

**Second V.P.** – Dave Callahan: Upcoming field trips: February 27- fieldtrip to James Madison University – see sign up sheet.

March – Fieldtrip to Faber Mine.  
April – American Rutile.

**Treasurer:** Frank Midkiff- the current balance of \$6,199.07.

**Program:** Natalie Darling gave a presentation on her trip to Cappadocia, Turkey. She also supplied information on a Gallery in Harrisonburg, VA. Natalie is the Featured Artist at Oasis Gallery for the month of March, and encourages anyone in or near Harrisonburg to stop by and see what this fabulous gallery has to offer. Oasis Fine Art and Craft; 103 South Main St, Harrisonburg, VA.

*Minutes submitted by  
Linda Noble, Secretary*

**Hello Spring!**



### 2016 ELECTED OFFICERS

**PRESIDENT - John Haskins**  
(434) 525-8430  
[JMHaskins1@netzero.net](mailto:JMHaskins1@netzero.net)

**First Vice President  
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**Secretary  
Linda Noble**  
(434) 332-4869  
[linda-noble@hughes.net](mailto:linda-noble@hughes.net)

**Editor - Natalie Darling**  
(434) 941-1899  
[gmsleditor@gmail.com](mailto:gmsleditor@gmail.com)

**Treasurer - Frank Midkiff**  
(434) 660-1565  
[midkiffsm1@gmail.com](mailto:midkiffsm1@gmail.com)

**Members At Large-**  
Bernardino Rivera &  
Eric Routon

### 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**- OPEN  
**Membership**- Thom Noble

For the February 17, 2016 meeting, Natalie Darling shared her experiences visiting and viewing the Rock formations and underground city of Cappadocia, Turkey.

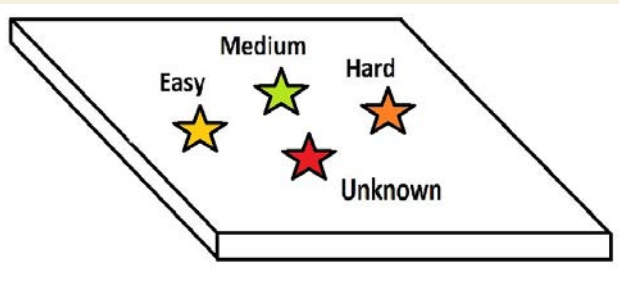
The program for our March meeting has not yet been determined. Please join us on Wednesday, March 16th at 7:00 PM.

**BenchTips by Brad Smith**

"Get all 101 of Brad's bench tips in "Bench Tips for Jewelry Making" & "Broom Casting for Creative Jewelry" on Amazon"

**IDENTIFYING UNMARKED SOLDERS**

There are plenty of ways to mark your sheet or wire solders, but suppose you forgot to mark them and have a couple that you can't identify. The answer is to compare the melting temperature of the unknowns with that of a known solder. What I do is take a thick scrap of copper or nickel and arrange several solders on it. Ideally, I would have a sample of easy, medium and hard known solders surrounding the unknown solder. Then I heat the plate from the bottom and watch the order in which the solders melt.



**INEXPENSIVE ELECTRIC WAX PEN**

You can make your own wax pen from a small soldering iron plugged into a light dimmer switch for heat control. Both components are easily found at Radio Shack, a big hardware store or at Harbor Freight. As an example of the components, see [www.harborfreight.com](http://www.harborfreight.com) items #43060 and #47887

File the tip of the soldering iron into the shape you prefer or even better get a soldering iron with replaceable tips. Then you can make several tip shapes for different tasks. Set the dimmer control just hot enough to melt the wax without producing any smoke.

A tip design that I find ideal for some work is a length of small gauge wire that lets me reach in around the model to melt some wax. The wire is about 15mm long and 18 or 20 gauge. To conduct heat all the way to the tip, I use Sterling wire and silver solder it into a hole on the end of a copper or brass rod that will fit into the soldering iron.

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## FIELD TRIP REPORT...



Contact Information  
for Field Trips  
David Callahan,  
Field Trip Chairman  
Home phone: 540-297-1853  
Cell Phone- 540-874-5201  
E-mail [dbc11@aol.com](mailto:dbc11@aol.com)

### 2<sup>nd</sup> VP Report for March 2016 JMU Re-scheduled field trip report.

The weather was cold but clear and sunny for our re-scheduled annual visit to the Geology Department and Mineral Museum at James Madison University in Harrisonburg on Saturday February 27<sup>th</sup>. We had a tremendous group of 50 members about equally divided between the Lynchburg and Roanoke Clubs present. The Lab was full but we visited the museum in smaller groups so people could move around without bumping into the display cases and setting off the alarms. Everyone had a great time and Dr. Kearns identified many minerals members brought for identification. There

was also a very nice selection of minerals and publications to purchase with the proceeds going toward future museum purchases. Dr. Kearns tried something new for our group this year. He had two very large and beautiful museum quality specimens that he set out for a silent auction. The bidding was aggressive and each item went for over \$150.

We departed at noon and several of us went rock hunting along the South River. We found some beautiful rocks to cut up for club projects.

This could be the last opportunity for this type of visit to JMU. Things are changing in the geology curriculum offered there and Dr. Kearns will soon be retiring. Dr. Kearns has been a gracious host for many years giving up his Saturdays to provide an opportunity for the 9 area rock clubs to visit during each January and February. I hope something can be worked out with the administration to continue these worthwhile outreach programs to the area Gem and Mineral clubs. I will keep you posted as plans are developed.



## Up Coming Field Trips



For additional information or to sign up for field trips, please contact Dave Callahan, Field Trip Chairman

**Home phone: 540-297-1853**

**Cell Phone- 540-874-5201**

**E-mail dbcall1@aol.com**

### COMBINED MINERAL COLLECTING FIELD TRIP

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

**Saturday, March 26, 2016  
OLD FABER MINE, ALBEMARLE COUNTY, VA.**

***Sign-up required, call me, email me or sign-up at the meeting—parking space is limited to 12 cars.***

**MEETING TIME AND PLACE:** We will meet in Amherst, VA, Saturday morning, at the Hardee's Restaurant (114 Ambriar Plaza) on US 29 business no later than 8:30 A.M. We will decide if we need to carpool. We can leave cars here if needed. **We will depart from there promptly 8:45 A.M.**

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. We can determine if carpooling is necessary and leave any cars here. From this point, it should take about 45 minutes to arrive at the parking area along Rt. 6. Be sure that you are fueled up and ready to leave by 8:45 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. The Hardee's will be on your left at the new US 29 bypass interchange, just before you arrive at the town of Amherst.

Dress for the weather that day and be sure to bring food, water, bug spray and warm clothing. Wear boots, gloves,

long pants and safety glasses. Hard hats will not be required.

Due to the restricted parking along Route 6, we must limit attendance to 10 or 12 cars maximum. Only those that call to reserve your place or sign up at the meeting will be allowed to attend. Car-pooling is recommended. We will arrive at a small parking area at the intersection of Rt. 29 North and Rt. 6 East about 9:30AM. We can leave some cars here if necessary and pick up those that will meet us here.

**THE TRIP:** I have received special permission from the landowner and he has some rules that must be obeyed. **NO SMOKING** (extremely dry and a high fire hazard could exist). Keep away from the 3 open shafts and collect only geologic specimens, not historic pieces, and leave **NO TRASH**. This is a beautiful, classic and historic site and the owner is graciously allowing us to collect here on this day.

The mine is about 1.5 miles (a good 45 minute walk) along a mostly level, rutted dirt road. Recent logging in the area has made the road rough and possibly muddy in places. Since we must walk in and out, and galena is very heavy, you might want to bring a wagon, hand truck or at the least a good back pack. Good walking shoes are a must and be sure to bring plenty of water and snacks. You'll also need safety glasses, hammers, chisel, and a tool to scratch thru the dirt, overburden and turn over rocks, buckets or bags with newspaper to wrap your delicate specimens.

**COLLECTING:** Expect to find **galena** (lead), **sphalerite** (zinc) and **fluorite** (white and purple). Other minerals that exist there are **chalcopryrite**, **pyrite**, **pyrrhotite**, **magnetite**, **quartz**, **calcite**, **cerussite**, **chalcantite**, **pyromorphite**, **kaolinite**, **azurite**, **chlorite** and **hydrozincite**. Many of these are fluorescent under ultraviolet lamp.

*Continued on next page*

## Up Coming Field Trips

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**HISTORY:** The mine was discovered in 1849, and operated off and on by the Confederates during the Civil War producing an excess 7,000 pounds of lead, but abandoned when General Sherman crossed the Blue Ridge at Rockfish Gap. In 1905, it was again opened for Lead and Zinc but closed again about 1919. Several other unsuccessful attempts to reopen the mine were short-lived. The 3 shafts are now partly choked and caved and the audit reopened in 1958 is now caved. A large dump still exists and will still yield beautiful specimens after much searching and digging.

We must arrive and walk in together, but you may leave any time you want and walk out by yourself. This is a unique collecting site and we are fortunate to have it in our area and have a landowner who is willing to share it with us.

**CONTACT:** David Callahan, Field Trip Chairman. The Gem and Mineral Society of Lynchburg, VA, Inc. and The Roanoke Valley Mineral and Gem Society, Inc. Web site: [www.lynchburgrockclub.org](http://www.lynchburgrockclub.org) and [www.rvmgsoc.org](http://www.rvmgsoc.org) E-mail [dbc1@aol.com](mailto:dbc1@aol.com) Phone [540-297-1853](tel:540-297-1853) Cell [540-874-5201](tel:540-874-5201) (let it ring and leave a message please)

### You must act quickly on this trip...read carefully please

Subj: An Official Trip of the Southern Maryland Rock and Mineral Club(\*) --- Multi-day (and possible Multi-location) Field Trip to Graves Mountain, GA [with possible additional visits to Jackson Crossroads Amethyst Mine, Tignall, GA and Diamond Hill Quartz Mine, Antreville, SC] on Thurs thru Sat March 17<sup>th</sup> to 19<sup>th</sup> from 8- 5 daily (\*Possible Joint trip with members of other MD and VA area clubs)

Meeting Time --- TBD location and time at a Lincolnton, GA motel on Weds March 16<sup>th</sup>, 2016

**Club Membership** --- attendees must be a paid up member of a AFMS Club that carries insurance.

**Trip Leader** --- Dave Lines, cell phone [\(240\)427-7062](tel:2404277062); email [dave.lines@earthlink.net](mailto:dave.lines@earthlink.net)

**Locations** --- Mar 17-19 – Confirmed field trip to Graves Mtn, GA; [Mar 18 – possible visit to Jackson Crossroads (JXR) Amethyst Mine, GA and possible visit on Mar 19 to Diamond Hill Quartz Mine, Antreville, SC]

**Directions (to Lincolnton, GA)** --- (1) From D.C. and Maryland area, trip takes 9-1/2 hrs/ 600 miles, take I-95 south to South Carolina I-95 Exit 160B onto I-20 west Exit 200 onto GA-104 northwest to GA-47 to Lincolnton.

(2) From Lynchburg, VA --- trip takes 6-1/2 hrs/380 miles

**Safety** --- Each location will require signing a waiver. Common sense says to wear gloves, use eye protection as necessary, wear sturdy shoes/boots and long pants, use sunscreen and stay hydrated. It will be warm enough for snakes and bugs. Stay alert.

**What to Collect** --- (1) Graves Mtn – Rutile xls, iridescent hematite, kyanite, lazulite + 35 minerals - Good micros; (2) JXR --- amethyst; (3) Diamond Hill --- quartz xls --- amethyst (rare), smoky, skeletal white covered with orange iron stain.

**Recommended Equipment** --- sturdy shoes/boots (expect mud), gloves (thin with rubber palms), safety glasses, rock hammer, crack hammer, pick, shovel, chisels, wedges, long screwdriver, bamboo (chopsticks), 5 gal. bucket, old newspaper for wrapping specimens, small pry bar. Optional -- large sledge hammer, long pry bar, extra buckets. Your best tools are sharp eyes. Clothing --- daytime temps in 60's---[expect muddy conditions at JXR and Diamond Hill.] Rain poncho nice to have. Bottled water/snacks.

**Mine Descriptions / Hints** --- Research the web --- good info and pix of what to expect at each place is readily available. If you do your homework, your experience will be more enjoyable.

**Vehicles** --- At Graves Mtn, we will be allowed to drive our vehicles to near the mine, but it is still a good walk to all the locations in the mine --- it is a large area. [If we are allowed to visit JXR and Diamond Hill, you can park closer.]

**Fees** --- Graves Mtn -- \$15-\$20 donation/person/day to Junior Norman (mine caretaker); [if we are allowed to dig: JXR --- \$25/person/day; Diamond Hill --- \$20/adult/day (\$10/senior[65+]/day)]

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## Up Coming Field Trips

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**Misc** --- This trip is open to several invited clubs in MD and VA. [Dave Lines will provide names of who signs up to participate later plus exactly where we will meet on March 16<sup>th</sup> (night before we dig)]

**Sign-up List** --- Sign up by email ASAP to [dave.lines@earthlink.net](mailto:dave.lines@earthlink.net) --- Please provide your name, cell phone #, email address and your club's name. Please sign up soon --- by March 10<sup>th</sup> at latest for planning. [\*\*If you sign up and later find you cannot make the trip, tell Dave Lines at (240)427-7062.]

### An Official Field Trip of the Jacksonville Gem & Mineral Society (Jacksonville, FL) (HOST)

### An Official Field Trip of the GMSL and RVMGS

Saturday, April 23, 2016

Jacksons Crossroads Amethyst Mine  
Wilkes County, GA ~ 8:00 AM

**Fee Site**

**TRIP:** The Jacksons Crossroads Amethyst Mine of Wilkes Co. Georgia is the premier Amethyst locality in the United States. It consistently produces world class specimens and crystals that are justifiably celebrated for its pure rich purple color reflecting red and blue flashes. In 2008 the Jacksons Crossroads Amethyst Mine was included in the American Mineral Treasures as one of the most important collecting sites in American mineral history. Many museum quality specimens have been produced by this mine which now reside in museums and prestigious private collections across the world.

**COLLECTING:** The North American Jacksons Crossroads JXR Georgia mine is known for producing high grade, dark purple with red flash collectible amethyst clusters, amethyst rough and amethyst mineral crystals. Other gemstone specimens such as clear quartz clusters form in our deposit as well.

**FEES:** \$20.00 per adult and children under 16 are \$10.00

**Group Travel** --- Carpooling is encouraged. As soon as we get a list of attendees, Dave will provide a list of attendees in order to facilitate carpooling. Dave can take up to 3 additional people in his minivan.

**Motels in Lincolnton** --- recommend advance reservations after we determine how many will go.

(1) Lincoln Motel, 688 S. Washington St., Lincolnton, GA 30817 - (706) 359-4315 --- Standard room = \$35.99/night + tax = \$50 less \$5 discount = \$45/night total - no breakfast in a.m., but Hardees Restaurant nearby.

(2) The Cullars Inn, 140 Elm St., Lincolnton, GA 30817 --- (706) 359-6161 - Standard room (2 queen beds) = \$52/night+ tax = \$63.76/night total --- No breakfast --- but coffee available. Each room has microwave, frig/TV, WIFI. Hardees nearby.

**TOOLS:** Boots. Rock hammers, picks, bamboo sticks (chop sticks) and wedges are needed for digging in piles and breaking open granite to find specimens. First aid kit. Water to keep hydrated and snacks. Sunscreen. Bucket for collecting.

**FACILITIES:** There are Porta potties available and those who wish to camp can camp at Calaway plantation or there are hotels accommodations in Washington or Elberton GA.

DIRECTIONS AND WHERE TO MEET:

**Where we will meet:** we will meet at the mine at 8am where we will sign waivers upon arrival and the host director will review the rules then we will proceed to the dig site.

**Directions:** From Tignall, turn off of HWY 17 onto Independence Rd. Head west on Independence rd. (Co. Rd. 184) about 7.8 miles and turn right at the church onto Hollis Norman Rd. The mine is the 2nd entrance on the right.

**CONTACT:** James Webb 904-314-0303  
[jameswebb.jgms@gmail.com](mailto:jameswebb.jgms@gmail.com)

**Note:** [The Graves Mountain Rock Swap & Dig](#) is the same weekend, so since you will be in the area, you may want to take time to do both -- DMC

**Please reply by e-mail to:**

[sfms-dmc@amfed.org](mailto:sfms-dmc@amfed.org)

World Wide Web site for the DMC is:

[http://www.amfed.org/sfms/\\_dmc/dmc.htm](http://www.amfed.org/sfms/_dmc/dmc.htm)

DMC is a program of the Field Trip Committee of the South

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**UPCOMING EVENTS**

*March 2016*



**March 19-**Special Club Auction sponsored by the Southeastern Massachusetts Mineral Club. Mitchell Memorial Club, 29 Elm St. Middelboro, MA.

**April 2-3-** 43rd Annual Mineral, Gem, Jewelry & Fossil Show sponsored by the New Haven Mineral Club. Amity Regional Middle School, Sheffield Rd, Orange, Ct.

**April 16-17-** Western Mass. Mineral, Jewelry & Fossil Show presented by the Connecticut Valley Mineral club. NOW LOCATION: Hadley Farms Meeting House, 41 Russel St. Hadley, MA. For additional info: <[westernmassmineralshow.com](http://westernmassmineralshow.com)>

**May 4-8** -Franklin NC Gem Shows-in the Franklin NC area. Wholesale and retail shows, something for everyone! <http://www.xpopress.com/north-carolina-gem-mineral-fossil-jewelry-shows-schedule.html>

**May 27-29-** Treasures of the Earth Gem, Mineral, Jewelry, Fossil and Bead Show and Sale- Salem Civic Center in Salem, VA. [www.toteshows.com](http://www.toteshows.com) for details.

**June 24-26-** Treasures of the Earth Gem, Mineral, Jewelry, Fossil and Bead Show and Sale- Fishersville VA at The Augusta Expo Center. (I-64, exit 91) [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	11	12
13 Daylight savings Time	14	15	16 Meeting 7PM	17 St. Patricks Day	18	19
20 First Day of Spring	21	22	23	24	25 Good Friday	26 Field Trip
27 Easter	28	29	30	31		

*Happy Easter*

**REMINDER...**

Club workshops are held on the second Saturday of each month at Dave Callahan's home. Workshops are open to members only, and all members are encouraged to attend when possible.

There will be some discussion at this months meeting about possibly offering other days for the workshops also.

This is a great learning & fellowship opportunity, as well as a way to contribute to your club. You can "learn" while helping to fabricate items for sale at our fall festival, then use the equipment available to complete your own personal pieces.

Please consider coming out, regardless of your level of experience. All help is needed and appreciated!





## Additional Class schedule with Errett Callahan's Cliffside Workshop

**New Saturday workshop time and dates**  
**Starting March 5 ~ 12 Noon to 4PM**  
**Every Saturday thru November**

**What:** Learn flintknapping and by request also Indian pottery, bows, arrows, bowstrings, soapstone carving, wood-work, artifact illustration and other skills about primitive technology and survival.

**Where:** Cliffside, 2 Fredonia Ave, Lynchburg, VA.

**Cost:** \$20 each for the afternoon  
 No charge to visit, read or observe

**Who:** All skill levels welcome

**Questions:** Call Errett at [434-528-3444](tel:434-528-3444) or email Linda at [bucklinda10@yahoo.com](mailto:bucklinda10@yahoo.com)



*Welcome New Members...*



**Mary Barrett of Lynchburg VA**

**Deak Childress of Lynchburg VA**

**Rebecca Couture of Moneta VA**

**Joel Follmeyer of Forest VA**

## Herkimer Diamonds

From <http://www.virtualmuseumofgeology.com>  
 Editors note: *This is a great website, with online shopping options, many educational articles and other resources such as club directory and rock shops listed by state.*

The name "Herkimer Diamond" refers to specimens of double-terminated quartz crystals found in the area of Herkimer County, NY.

Similar to the structure of the other types of quartz, Herkimer Diamonds retain a general hexagonal crystal shape (six sides). They form in bugs (small solution cavities) and pockets (larger cavities) of the 500 million year old Cambrian Little Falls Dolostone host rock. Due to crystal growth with very little to no contact with the cavity walls of the host rock, Herkimer Diamonds are double-terminated, that is terminate in a point at both ends.

Herkimer Diamonds can be clear, cloudy, smoky or contain impurities of fluid solutions (water, oil or methane), gases or inclusions of smaller crystals. Phantoms (crystals containing other visible crystals of the same type) also occur. Singular crystals are found as well as crystal clusters, scepters (a Herkimer Diamond growing on top of a black prismatic quartz crystal) and as skeletal crystals (a series of crystal edge outlines inside the main crystal). Hooper crystals, where crystal faces are replaced by a step like pattern are also found.

Only double-terminated quartz crystals found in the Herkimer County, New York area are given the name "Herkimer Diamonds." Similar double terminated crystals have also been found in Arizona, China, Afghanistan, Norway and Ukraine,

although these are not given the name "Herkimer Diamond."

The great Herkimer Diamond example pictured was found in upstate New York by American [geode.com](http://geode.com)



Metaphysical Characteristics  
 For those in the metaphysical community, Herkimer Diamonds contain powerful attributes. They are believed to be amplifiers of spiritual energy and exceptions healing crystals. As the most powerful of the quartz crystals, they are also said to magnify the ability of all other stones in their vicinity, and are often chosen to be used during meditation.

Additional Resources for Herkimer Diamonds  
 General Herkimer Diamond Information & Collection Video- American [geode.com](http://geode.com)-  
[www.americangeode.com/herkimer.php](http://www.americangeode.com/herkimer.php)

*Image from [www.healingcrystals.com](http://www.healingcrystals.com)*

Herkimer Diamonds for Purchase- Herkimer Diamonds Mined by Bill and Ann-  
[www.herkimerdiamonds.ca/](http://www.herkimerdiamonds.ca/)

Herkimer Diamond General Information-  
[geology.com](http://geology.com)- [www.geology.com/articles/herkimer-diamonds.shtml](http://www.geology.com/articles/herkimer-diamonds.shtml)

Inclusions & Septers information and pictures-  
[HerkimerHistory.com](http://HerkimerHistory.com)-[www.herkimerhistory.com/inclusionsSepters.html](http://www.herkimerhistory.com/inclusionsSepters.html)

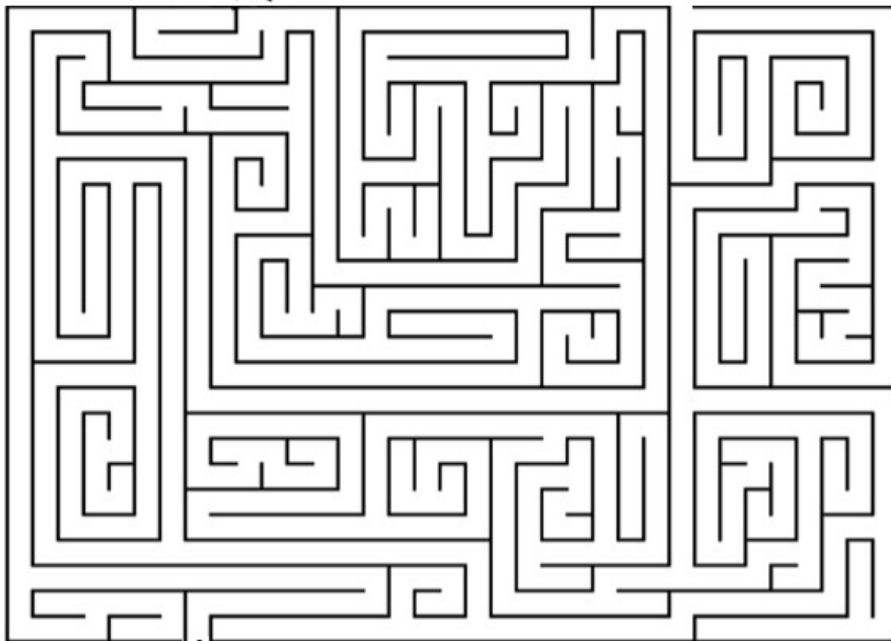
# Rock Raiders

What Do Your  
Easter Eggs Look  
Like?

Find your way through this Easter maze before the  
Easter bunny visits your house!



START



FINISH



## Up Coming Field Trips

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### An Official Field Trip of the Huntsville Gem & Mineral Society (Huntsville, AL) (HOST) An Official Field Trip of the GMSL and RVMGS

**Saturday, April 16, 2016**  
**Hogg Mine ~ Troup County, GA**  
**9:00 AM - 5:00 PM**  
**Fee Site**

**TRIP:** The Hogg Mine started out as the Oxford Mine in 1942 to mine beryl to produce beryllium. Commercial operations shut down in 1960. The site has been opened off and on since then for specimen mining and is currently managed by Chris Painter. It is a surface mine approximately 650 feet long with an east – west orientation.

**COLLECTING:** The parking area is at the east end of the pit. As you enter the pit from the parking area there is a trench approximately 150 feet long and to your right. Here have been pockets of green Aquamarine beryl with some large single specimens. As you enter the main pit area, there is a tailing or spoils pile to your left that came out of the pit in front of you. There has been several large nice gemmy Aquamarine beryl specimens come from this area. The main pit in front of you has a plethora of treasures - Rose Quartz, Smoky Quartz, banded Quartz, Beryl in matrix with the quartz, Tourmaline in matrix with the quartz, etc. The last area of note is at the western end at the back of the pit. There has been a new smaller pit dug in the last year and some very nice Blue Aquamarine Beryl has been found. The new pit was dug because an old drilling report had indicated that Amethyst was found. There are pieces of Amethyst coming from the new pit. There is a small Tourmaline pit to the north east of the Parking Area.

**Note:** An aerial map will be available for those that would like to have the above description annotated on the map. (A picture is worth a thousand words.)

**FEE:** 17 years old and up is \$35 per person, 16 years old and younger dig for free. The mine also cooks hamburgers and hot dogs and has drinks. Lunch plate is \$8.00

**TOOLS:** Bring all the tools you have: pick, shovel, screen, rock hammer, hand sledge, rock chisel, bucket, hand cart, etc. The Hogg does sell some tools in limited quantities. It would be a good idea to bring an extra change of clothes. The pit can be muddy and wet.  
**DIRECTIONS AND WHERE TO MEET:**

**Where we will meet:** Meet at McDonald's at 2408 Whitesville St, LaGrange, GA 30240. This is at Exit 13 on Interstate 85 in LaGrange.

**When:** I would suggest arriving at McDonalds as early as 8:00 am, although you can arrive earlier. This will give you time to pay and fill out the required paper work. At 8:15 am the first caravan will be going to the mine. The first to arrive and sign in will be in the first caravan. The mine is approximately 3 miles from McDonalds. If you do arrive late and no one from the mine is at McDonalds, text or call the number I have provided below.

**Directions and Drive Time:** The best way to determine driving directions and time is to enter the McDonalds address above into the directions destination block in Google Maps and enter your home address in the starting point block. For hotel information please contact me.

**CONTACT:** Brian Burgess Cell#: [\(256\) 479-2993](tel:2564792993) Email: [bburgess771@gmail.com](mailto:bburgess771@gmail.com)

Click here for the DMC Field Trip Schedule

**Please reply by e-mail to:**

[sfms-dmc@amfed.org](mailto:sfms-dmc@amfed.org)

World Wide Web site for the DMC is:

[http://www.amfed.org/sfms/\\_dmc/dmc.htm](http://www.amfed.org/sfms/_dmc/dmc.htm)

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



## From the First V.P.

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Chatoyance occurs in stones that contain a large number of very thin parallel inclusions within the stone, known as a "silk." The light reflects from these inclusions to form a thin band across the surface of the stone. The band of light always occurs at right angles to the length of the parallel inclusions. These inclusions can be crystals, hollow tubes, or other linear structures that are present throughout the stone and are usually aligned with a crystallographic axis. Needle-like crystals of [rutile](#) and [hematite](#) are well-known for producing a cat's eye in many specimens.

### Chatoyance - Eye of the Cat

The name "chatoyance" originates from the French word "*chatoyer*," which means "to shine like a cat's eye." The analogy also matches the way a cat's pupils will narrow to a thin slit under bright light.



*Above: This cat's eyes have responded to bright light by closing their pupils to a narrow slit. This is where the "cat's eye" gemstone name originates. Image © iStockphoto and Astrid Gast.*

### Understanding Chatoyance

A good analogy for the chatoyance effect is how light reflects to form a line across the surface of a spool of silk thread. Viewing and moving a spool of silk thread under a beam of incident light can be a useful way to develop



*<<< These spools of silk thread exhibit chatoyance. Light shining on the spools reflects from the lustrous silk threads. As a result, a line of light similar to the "eye" of a gemstone forms across the portion of the spool where the tangent of the spool's surface is at a right angle to the observer's line of sight.*

an understanding of how parallel inclusions produce an "eye" within a gemstone.

In a chatoyant [gemstone](#), the band of light will move back and forth beneath the surface of the [gem](#) as it is turned under a beam of incident light. The band will also move if the position of the light is moved, or the observer moves his head to view the stone from a different angle. The motion of the cat's eye across the top of the gem is one of the things that make these stones so interesting, beautiful, and desired by many people.

### Many Types of Gems Exhibit Chatoyance

Many types of gems exhibit chatoyance; however, it is not present in every specimen of those gems and is usually only seen in a minority of specimens. Gems with well-known chatoyance include the following: [chrysoberyl](#), tiger's eye, actinolite, [apatite](#), [beryl](#) (aquamarine, [heliodor](#), [emerald](#)), [beryllonite](#), [cerussite](#), [danburite](#), [diaspore](#), [diopside](#), [enstatite](#), [garnet](#), [iolite](#), [kyanite](#), [moonstone](#), [peridot](#), [pezzottaite](#), [prehnite](#), [quartz](#), [rutile](#), [sillimanite](#), [scapolite](#), [spinel](#), [topaz](#), [tourmaline](#), and [zircon](#).

### Milk and Honey

Some gems with a highly developed chatoyance can appear to be made of two different materials when illuminated from the proper direction with respect to the observer's eye. In these stones, the cat's eye will appear to divide the stone into a zone of light-colored material on one side of the eye and dark-colored material on the other. This phenomenon is known as the "milk-and-honey" effect. A photo of cat's eye chrysoberyl showing the milk-and-honey effect is included below.

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Chrysoberyl is the gem that exhibits the finest cat's eye. When the term "cat's eye" is used without a mineral name as a modifier, the speaker is most likely referring to chrysoberyl. This specimen exhibits the "milk-and-honey" effect - when properly oriented, the stone has two apparently different colors on each side of the cat's eye line.



This green cat's eye chrysoberyl was produced in Sri Lanka and is about 5.6 x 4 millimeters in size. The stone in this photo is the same stone shown in the photo at the top of the right column.

### Cutting the Cat's Eye

Anyone who cuts cabochons with the intent of producing a cat's eye stone must first find a material with a silk of inclusions that is capable of producing an eye. Then the cutter must examine the rough and orient the stone so that the silk will be parallel to the bottom of the stone within the finished cabochon and the parallel inclusions will be parallel to the long axis of the cabochon. If this proper orientation is not achieved, the stone will have an off-center eye or no eye at all.



Above: This golden-yellow heliodore beryl was mined in Madagascar and cut into a 10 x 8 millimeter oval. It has a beautiful translucent color and a faint eye.

Tourmaline often contains a silk of coarse tubes that can produce a very strong cat's eye. In these stones you can see how the silk crosses the stone at right angles to the cat's eye. A skilled cutter must assess the stone before cutting so that this orientation can be achieved. These colorful cabochons were cut from material mined in Brazil. The pink stone is an 8.5 millimeter round and the green stone is a 10 x 7 millimeter oval.



### Assessing the Quality of a Cat's Eye Gem

The best cat's eye gems have an eye that meets the following criteria:

- it is clearly visible
- it symmetrically bisects the cabochon
- it contrasts sharply with the body color of the stone
- it moves smoothly as the stone is turned under light

If a stone features all of the above criteria and has an exceptional body color, then you have a fantastic cat's eye gem. The importance of a desirable body color cannot be overstated.

### Diffraction in Cat's Eye

Rare chatoyant specimens will have a coarse silk with just the right spacing to serve as a diffraction grating. These specimens will produce not only a cat's eye, but also a display of spectral colors caused by light passing through the coarse silk and being diffracted into the colors of the spectrum. More familiar examples of diffraction are rainbows produced by sunlight diffracted by raindrops and opal's play-of-color caused by light diffracted by tiny spheres of opal within the gem. The specimen of cat's eye scapolite in the photo at the bottom of the right column is an example. (Another stone that exhibits diffraction is [iris agate](#).) *Cont. next page*

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### Purchasing Cat's Eye Gems

If you like cat's eye gems and want to shop for them, they are very easy to find on websites and in stores that specialize in loose gems. The customers who shop at these stores are usually jewelry designers and gemstone collectors.

Cat's eye gems are rarely seen in the mass-production jewelry typically sold in department stores and shopping mall jewelry stores. Why? Because every cat's eye stone is cut from a piece of rough that must be studied and oriented properly before cutting. After that work, the cutter almost always tries to fashion a stone that will produce the largest gem possible. As a result, cat's eye gems are rarely produced in the calibrated sizes needed for mass-production jewelry shops.



Above: This scapolite cabochon, cut from material mined in India, is especially interesting. It contains a very coarse silk that not only produces a cat's eye, but also serves as a diffraction grating that produces a strong display of spectral colors. The stone is a 12 x 9 millimeter oval.



Above: Two "honey" tiger's eye cabochons with very nice chatoyance. These stones are 8 x 6 millimeter ovals and cost a few dollars each. They were cut from material mined in the Central African Republic. Tiger's eye is the only chatoyant stone that is produced in large quantities in calibrated sizes. That makes it the only chatoyant stone commonly seen in mass-production jewelry stores. It is very popular in men's rings and cufflinks.

The only cat's eye gem that is commonly seen in mass-production jewelry is tiger's eye. It is popular in men's rings and cufflinks and is also very popular in beads. Chrysoberyl is occasionally seen in jewelry stores, but it is very expensive in sizes that are large enough to be used in a ring.

If you are looking for a piece of jewelry with a nice cat's eye gem, the best place to shop is at the website or store of a jewelry designer. They are the artists who most appreciate these phenomenal gems and enjoy creating a special piece of jewelry to display a unique gem. Some jewelry designers have an inventory of cat's eye gems or will help you shop for a gem that suits your color preference, size, and price range. They will then create a special piece of jewelry just for you.

Contributor: [Hobart King](#)

# GEM & MINERAL SOCIETY OF LYNCHBURG, VA, INC.

Natalie Darling, Editor  
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Lynchburg, VA 24502



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



Lynchburg Rock Raiders is the official Future Rockhounds of America association of the The Gem & Mineral Society of Lynchburg, VA. Inc.



## MEETING LOCATION

*DIRECTIONS: Fairview Center;  
3621 Campbell Ave., Lynchburg, VA 24501  
434-847-1751~ From Route 29 expressway or Route  
460, take the Campbell Avenue Exit. Follow Campbell  
Ave. to 3621, which is across the street from a Citgo  
Gas Station. There is a fence around the building and  
parking on both streets running along the sides of the  
property as well as a lot in the back. We will be  
looking for you!*