GEM & MINERAL JOURNAL

Official Monthly Publication of the Gem & Mineral Society of Lynchburg, VA, Inc
WWW.LYNCHBURGROCKCLUB.ORG

OCTOBER 2014 VOLUME 23~ ISSUE 10

Presidents Message:

Hello To All,

I am having a hard time concentrating on the task at hand, writing my October news article. My mind is preoccupied with thoughts of my surgery on October 1st. Nothing serious, just a couple of hernia repairs. I just don't like hospitals, especially when I'm the patient. The field trip to Kyanite Mining on Saturday the 27th was a great diversion.

There were rock hounds from North Carolina to Maryland and everywhere in between. I believe there were some 96 people all over Willis Mountain. I would like to thank Mike Morris for allowing this trip and being such a great host. We are looking forward to next years trip already. I am not sure what everyone else found, but Nona & I, with the help of others, collected some of the best Apatite and Troelite Crystals we have found to date.

I heard that there was a little mix-up about opening the meeting doors at the September meeting, but all turned out well. I'm sorry I couldn't be there but we enjoyed our Bahama Cruise all the same. Seas were calm, weather was great and the 24 hour buffet was a real treat. No- we actually lost a few pounds. Had to walk everywhere, gas was almost $10.00 a gallon. We tried to bring home some of that famous pink sand from Horse Shoe Bay, but got caught in the X-ray machine and had to give it up. We did manage some coral, shells & of course rocks.

We are going to have to work fast to get ready for the Apple Harvest Festival on October 18-19th. There is a lot of inventory to take, in order to make sure we have enough material to satisfy our customers. I hope you will come out October 11th at the monthly workshop to help us get ready. Remember we will have our yearly auction in November, and start thinking about what dish you will contribute for our Christmas Dinner in December.

I hope to be recovered enough to be at the October 15th meeting, and hope to see you there. Until then,

Keep Looking Down,
John Haskins

From The First VP:

Our latest field trip to the Willis Mountain Kyanite mining quarry was lots of fun. The weather was ideal and most of those attending found some treasure to take home. I was fortunate to find many "yard" rocks which have already been placed among the Blue Rug junipers in the front yard. The most prized piece is a 150 pound or so piece of quartzite emblazoned with iridescent hematite. Being so close to Appomattox, I decided to ride over to Earthen Paradise, the gem and mineral shop that most recently opened there after our rock hounding adventure ended.

They have a great variety of rough rock and lots of special mineral specimens as well. They have many varieties of rough rock cut up into small pieces priced at $9.99/pound. Most of these pieces were labeled as some type of jasper. Most were very colorful and drew my attention right away.

Continued on page 19

Meeting Minutes

Meeting- Wed.Sept. 17, 2014

Upon our arrival at the Parks and Recreation building tonight, the door was locked. Thanks to Malcolm Parker who contacted the non-emergency number for the City of Lynchburg and also to Mark Reasor who was sent out to unlock the door for us.

Attendance-46 members

Host- Jean and Frank Midkiff hosted tonight's meeting. Linda and Thom Noble will host the October meeting.

On Time Drawing- There was no on time or 50/50 drawing due to our late start.

Old Business- John Haskins, Not Present. Dave Callahan: All who wish to place an order for T-shirts are asked to do so tonight. Order will be placed in October. Filter lenses and Lamps received for the UV display cases and the lights should be ready for the Novemver show. Dave has enough aluminum to finish them so there should be no further cost.

First V.P.- Jack Curtin: Introduced Dr. Lenhart who will be presenting tonights program on Gold.

Second V.P.- Dave Callahan: Field Trips: 9/27- Willis Mountain; 10/22-12/6- The Morefield Mine will be open to the public on Saturdays, as well as Tuesdays through Fridays by reservation only.

Treasurers Report- Balance at this time $5,907.12

New Business: Everyone was encouraged to attend the October workshop to help ready us for the Apple Harvest Festival. We need to empty and inventory the trailer, repack and wash it before the show. Thom Noble gave an account of his and Linda's trip to William Holland Lapidary Wrokshop and encourages anyone who has the opportunity to attend. The classes and instructors were very good. Thom will also be contacting Ed English again to see if he is going to have his yard sale the first weekend in Octover to sell his rock collection and equipment. He will send out an email letting everyone know.

Program: Dr Lenhart presented "How the Earth was Made- GOLD" There were specimens available for the silent auction

Minutes submitted by Linda Noble, Secretary.

THERE WAS NO EXECUTIVE MEETING THIS MONTH

2013 ELECTED OFFICERS

PRESIDENT - John Haskins
(434) 525-8430
JMHaskins1@netzero.net

First Vice President
Jack Curtin
(434) 384 -6249
jacwcurtin@gmail.com

Second Vice President
David Callahan
(540) 297-1853
DBCALL1@aol.com

Secretary
Linda Noble
(434) 332-4869
linda-noble@hughes.net

Editor - Natalie Darling
(434) 941-1899
gmsleditor@gmail.com

Treasurer - Frank Midkiff
(434) 660-1565
midkiffsml@gmail.com

Members At Large-
Bernardino Rivera &
Dave Woolley

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

PROGRAMS

For the September meeting, we got to hear Dr. Lenharts Program on GOLD.

At this time, we are unsure of the program for the October meeting. Please join us, I am sure you will not be disappointed.

Bench Tips by Brad Smith

More Bench Tips by Brad Smith are at:

groups.yahoo.com/group/Bench Tips/

or facebook.com/Bench Tips

SILVER DISCOLORATION

Working with jewelry involves an ever increasing number of skills. Chemistry is one of them that comes into play when dealing with a discoloration on the metal caused by a chemical reaction between it and the environment.

In the case of Sterling silver there are three discolorations we typically encounter: a tarnish, a firescale, and a firestain. Each is different in its cause, in its cure and in its prevention. All three have to do with the metals in the Sterling alloy (92.5% silver and 7.5% copper) and how they react with oxygen and the heat of soldering or with pollutants in the air over the long term.

Tarnish is a grayish coating that builds up slowly on the surface as a result of a reaction of the silver with sulfur-based compounds in the air. Typically these are pollutants from the burning of petroleum fuels, but they can come from other sources as well. I once tarnished all the silver in my display case by putting a pretty specimen of iron pyrite in with the jewelry. Turns out pyrite has sulfur in it! Sulfur combines with the silver to form a grayish silver sulfide film on the surface.

Preventing tarnish involves keeping sulfur away from the metal. Plastic bags will help, and anti-tarnish strips are available from jewelry supply companies to pack near your items. Tarnish is easily removed by hand polishing with a jeweler's cloth or with one of the products sold for cleaning the good silverware for holiday dinner.

Another way is to remove it chemically. Put a piece of aluminum in the bottom of a dish large enough to contain your piece. Heat enough water to cover the silver. Mix in 2 tablespoons of sodium carbonate per cup of water and pour into the dish. Be sure the silver touches the aluminum. Sodium carbonate is the main ingredient in washing soda. Read the labels in grocery and hardware stores.

The second type of tarnish is called firescale. It is the dark gray to charcoal colored film that forms on Sterling or other copper alloy like copper or bronze when we heat it with a torch. The copper in the alloy reacts with oxygen in the air to form a dark cupric oxide coating on the surface. Luckily, the oxide is easily removed by dissolving it in a mild acid - generally called a pickle. It's important that we not let firescale form on a solder joint because it will block the flow solder over the joint.

Prevention can be done two ways. Most common is to use a flux, a borax-based solution applied to the metal before soldering. When melted, borax forms a thin glassy layer that keeps oxygen away from the metal. A second way is to do your soldering on a charcoal block. Together with the flame, charcoal greatly reduces the amount of oxygen in the area being soldered. In either case oxygen is prevented from reaching the metal, so no cupric oxide firescale is formed.

Continued on page 18

FIELD TRIP REPORT…

2nd VP Report

Contact Information for Field Trips

David Callahan, Field Trip Chairman

Home phone: 540-297-1853

September Field Trip

Annual Combined Field Trip and Open House
Kyanite Mining Corporation
Willis Mountain Mine
September 27th, 2014

What a beautiful day it was for Kyanite Mining's Annual field trip. It was open to all Eastern and Southeastern Federation Gem and Mineral Clubs in the Virginia, Maryland and DC area. There were approximately 83 attending. My best count totaled 26 from the Lynchburg Club, 2 from the Roanoke Club, 18 from the Richmond Club, 10 from the Tidewater Club, 11 from the Virginia Peninsula Club, 3 from the Northern Virginia Club, 5 from the Shenandoah Valley Club, 2 from the Southern Maryland Club and 6 from the Montgomery County Maryland Club.

Photo submitted by Linda Noble

It was a wonderful turnout and the mine representives, Mike, Steven and Dan were very pleased with the safety and the actions of everyone. A big thanks go out to all for being so safety conscious, paying attention and obeying all the rules and regulations. It looks like we will be invited back for another open house next September.

I saw many beautiful minerals collected. There were many very nice specimens of a beautiful rainbow colored iridescent hematite (goethite) coating over kyanite crystals. I saw several very nice chunks of pretty blue kyanite crystals and many pieces of white kyanite crystals. I also saw some very nice pale green apatite and trolleite, red (iron stained) mica, and pyrite. The minerals were there for sure and if you didn't find much, you were not looking in the right place or paying attention to what you were looking at. If in doubt, don't be embarrassed to ask someone nearby to help you find something. We had many experienced collectors and field trip leaders there, all willing help.

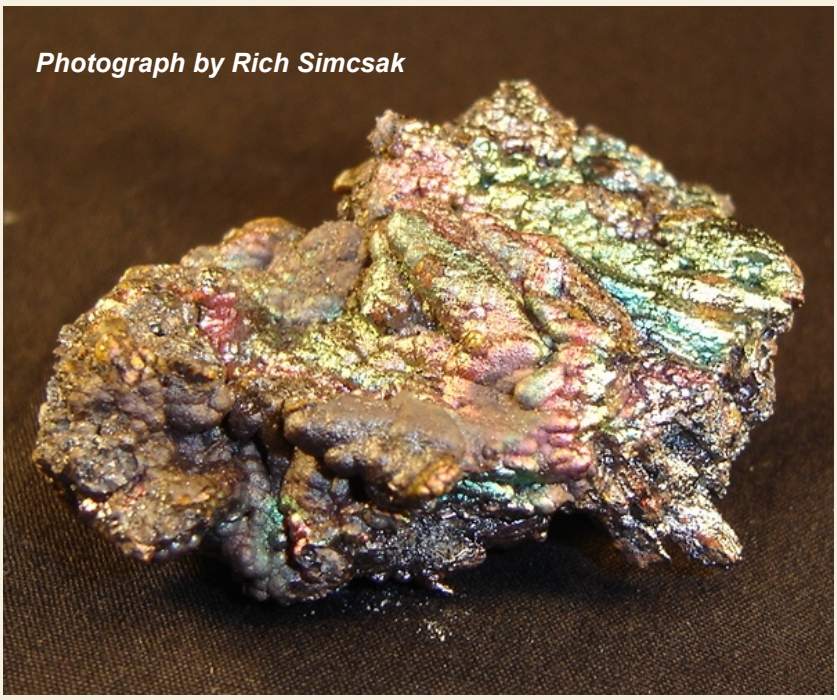
It was a wonderful trip; the weather was absolutely beautiful there on the mountain top with a nice breeze constantly blowing, sunshine and low humidity.

We cleared the mountain at 1PM and about 13 of us went into Dillwyn for some good Mexican food and lots of fellowship. Several of us then stopped by the new rock shop in Appomattox to check it out and then for some Ice cream at the local Dairy Queen. What could be a better way to end the day?

Additional photographs and another report- continued on next page.

Rainbow Rocks From Willis Mountain, VA

An article on the finds of the recent Field Trip;
by Dave Lines, club member from LaPlata MD


Photograph by Rich Simcsak

Immediately upon splitting open the large black boulder, you could see several pockets of kyanite crystals completely covered with a coating of very brightly colored iridescent hematite. They absolutely glistened in the bright sunshine with a shiny metallic luster. At last, we had finally found some Willis Mountain specimens of iridescent hematite that clearly rivaled the beauty of those found at Graves Mountain, Georgia.

Unfortunately, it was time to leave --- it was 12:45 p.m. and the field trip was over in 15 minutes. Acting quickly, I continued to break apart the rather soft rock with a large (20 pound) sledge hammer and a long pointed steel chisel. Within a few minutes, I broke the 300 pound hunk in half and reduced one part into manageable chunks which were then expertly packed by Rich Simcsak into heavy duty cardboard boxes and flats in single layers. Together, we carried our finds about 30 yards to the van for the trip home.

We had to leave the other half of that rock there. It broke my heart. I gave a nice hand sized specimen of the material to Mike Morris (Willis Mountain rep) in appreciation --- he was ecstatic and said it would go into their display case.

The annual field trip to the Willis Mountain kyanite mine had again been superbly put together by Dave Callahan of the Lynchburg Club and hosted by the owner (Mr. Dixon) who was represented by Mike Morris. Participants were limited to 100 members of local rock and mineral clubs. Safety was paramount as all attendees were required to wear steel toed shoes, safety glasses, up to date hardhats, gloves and long pants. Additionally, all vehicles that entered the mine had to apply the parking brakes and chock their wheels when parked.

When we entered the mine in a long convoy of vehicles at 9:20 a.m., it was obvious that a great deal of mining had occurred in the past year. The usual area where we had parked on the mountain in past years was all red dirt with very few rocks. After a cursory inspection of the area, we walked to the top where many folks had already driven. The trees on top of the mountain were gone and much of the top had been removed. There was lots of fresh rock everywhere up there. Near the top the road divided and Rich went left and I went right and uphill.

I saw John Haskins and his wife Nona of Lynchburg hammering with a small hammer on a good sized rock, so I asked if I could help. The upshot of this was that John drove me back down to my van which I drove back to the top so I could use my BIG sledge hammer (the 20 pounder) to break open some very hard boulders showing promising looking blue-green crystals. After about 30 minutes of work, we had some nice gemmy crystals (in matrix) of what we think is either apatite or the rare green mineral found there called “trolleite”.

Then I said farewell to the now small crowd of specimen admirers that had gathered and walked further along the road toward the top. I had in mind finding some iridescent hematite because back in the summer of 1996, my son Jeff and I had stopped at Willis Mountain during a weekday and were given permission to collect that day (big difference from nowadays). I remember Jeff had walked up an old firebreak (or trail) that went almost straight to the top of the mountain and he found a good deal of iridescent hematite coating on matrix.

Continued on next page

Rainbow Rocks …

continued from page 5

We were both inexperienced novices at that time, but we could see that the specimens were interesting, but of little value because the iridescence was faded and the matrix was crumbly. Since that firebreak had been exactly on the opposite side of the area where I now was, I reasoned that the recent shots on the mountain top might have uncovered some better specimens. As it turned out, I was right.

At the end of the road, I walked into a small clearing at the base of a recent shot. A very friendly family --- Wayne Lee and his young son Addison and Wayne's sister Karen all of the Shenandoah Valley Club --- had already discovered some of the iridescent hematite in some small rocks which were very soft and almost crumbled when broken apart. But inside these rocks were small pockets and vugs of iridescent hematite coated kyanite crystals. I asked Wayne if I could join them and look around for more. Yes.

I spotted a double bread loaf sized rock of black hematite streaked with white quartz --- and showing some small areas of iridescence. It was very soft rock, but with a small chisel and a four pound hammer, I carefully began to split off small pieces and soon revealed some nice pockets of kyanite crystal clusters coated with iridescent hematite. They were small, but gorgeous. In the next hour or so, I collected a full flat of specimens. Meanwhile I had called Rich on the cell phone and he had joined me. As the word spread of this discovery, about a dozen other folks joined the search for more. Everyone was finding something interesting --- I saw some nice blue blades of kyanite crystals --- including one about 4 inches long and very gemmy.

While this was all going on, young Addison (about 10 years) was nearby pecking gently on the side of a large black rock with a small rock pick about 10 feet above and 20 feet away from our location. He was very intent on his discovery and had found some good thumbnail specimens of iridescent and botryoidal hematite.

Then along came Mike Morris (the mine rep) who immediately recognized that young Addison was in a potentially dangerous situation as the large rock (4 feet tall by 2 feet wide by 1 foot thick) was resting in a vertical position on soft sand and could fall on him and/or others. We were caught totally unaware and we should have been more observant for such dangers. Lesson learned.

Mike asked Addison to move away from the rock and Mike then pushed it over where it remained. Later, after Mike left, Wayne examined Addison's finds and decided to reinvestigate that rock. Throughout the morning, Wayne and I had been comparing our finds, so when he

Dave Lines

broke open a section of that rock and showed me two nice hand-sized specimens of iridescent hematite, I became very interested. Since it was 12:45 p.m. and time was running out and since Wayne only had small tools, he quit and gave me the rock--- (back to the first two paragraphs). When I broke it apart, I gave the first nice hand-sized specimen to young rockhound Addison. He beamed! The best one went to Mike Morris. And when we returned home to Maryland, Rich and I equally divided the remainder of the specimens. I believe there is much more of this iridescent hematite there, but it will probably be crushed and gone before we return next year.

During our drive home, Rich and I discussed the probable geological source of this beautiful material. Those of us who have collected at Willis Mountain over the years have all found a blend of white or light gray kyanite, white quartz and pyrite. The pyrite is small and is disseminated throughout the material. It is a bright and flashy material that kids love. Anyway, we surmised that when this rock mixture was subject to rain water and the atmosphere, the pyrite probably turned to sulfuric acid and seeped away --- leaving empty spaces. In these empty spaces, the released iron (Fe) combined with oxygen and dissolved in water that had trickled down through the rock. The iron oxide (hematite) was then redeposited in coatings of various thicknesses on the remaining material --- mostly kyanite --- where some of it, depending on conditions, was partly oxidized in a variety of patterns and striking colors --- every color of the rainbow. Rainbow rocks.

Additional Willis Mountain Field Trip Photographs. Submitted by Linda Noble, Dave Lines and Rich Simcsak.

UP COMING FIELD TRIPS…

October GMSL and RVMGS Field Trip
Morefield Mine in Amelia, Virginia
October 25th, 2014
Details available at the meeting and by broadcast…
still being finalized

DMC Field Trip
October 11, 2014
Taylorsville, Spencer County, Kentucky
Ordovician rocks and fossils
(Contact me for go-on-you-own details)

UPCOMING EVENTS

Oct. 25- Morefield Mine Field Trip.Details at the October 15th meeting, or contact Dave Callahan.

Oct. 18-19- Apple Festival at Amherst County High School. We will have our sluice, geode cracker and various lapidary crafts set up during this festival.

Oct. 24-26- Treasures of the earth Gem, Mineral, Fossil, Jewelry and Bead Show; Rockingham Co. Fairgrounds, Commercial exhibit Building. 4808 South Valley Pike, Harrisonburg, VA. www.toteshows.com for complete details.

Nov. 8- 9:00 AM to 3:00 PM- 23rd annual Richmond Gem & Mineral Society Rock Sale & Swap. See page 17 for details.

Nov. 1-2- 45th Annual Gemarama 2014 sponsored by the Tuscarora Lapidary Society. School at Chruch Farm, 1001 E Lincoln Highway, Exton, PA 19341

Nov. 22-23- 23rd Annual Gem, Mineral, Jewelry, Bead and Fossil Show sponsored by the Gem & Mineral Society of the Palm Beaches. So. Florida Fairgrounds Expo Center East, 9067 Southern Blvd. West Palm Beach, FL

Nov. 28-30- Roanoke Mineral and Gem Club Annual Show & GMSL Fluorescent Mineral Exhibit. More information in next months newsletter and at the club meeting.

October 2014

SUN	MON	TUES	WED	THURS	FRI	SAT
			1	2	3	4
5	6	7	8	9	10	11 Callahan's Workshop
12	13	14	15 Meeting 7-9 PM	16	17	18 Apple Festival
19 Apple Festival	20	21	22	23	24	25 Field Trip
26	27	28	29	30	31	

ATTENTION ALL CLUB MEMBERS

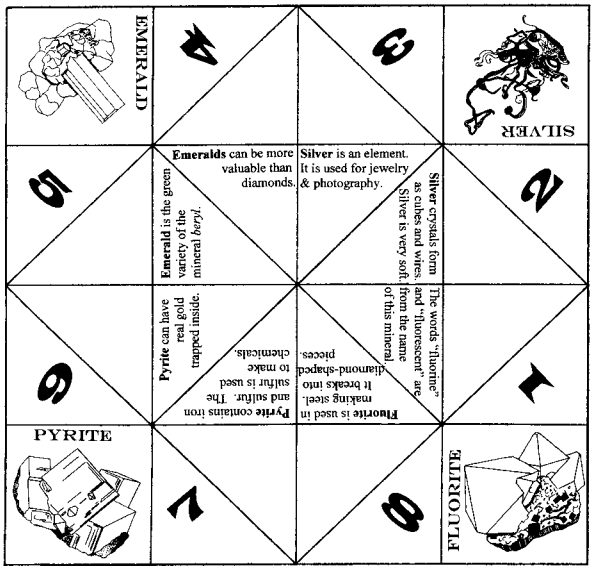
Workshops will be held regularly on the second Saturday of each month at Dave Callahan's. Start time is 9:00 AM, but come anytime and stay as long as you'd like. There is a store/deli about a mile down the road if you want to break for lunch and return.

The workshops will be open format, and the purpose will be for club members to learn how to use the lapidary equipment to turn rough specimens into finished lapidary pieces for their own personal use. Experienced members will be available to help teach and assist.

We have a great set up with several sets of wheels for cabbing, faceting machines, saws, and much much more. From time to time there may be special class offerings, so be sure to let us know what you are interested in.

Cootie Catcher Directions

1. Cut out the cootie catcher on the previous page.
2. Fold it in half from the silver corner to the pyrite corner. You will be folding the pictures of the minerals in half. Every time you make a fold, press hard to make a sharp fold in the paper.



3. Open the paper and fold it in half from the fluorite corner to the emerald corner. Again, you will be folding the pictures of the minerals in half. Unfold so you are back to the square.
4. Next, flip it over so the blank side is facing up and fold the mineral picture corners into the center of the creases in the paper. You will now have a smaller square with the four mineral pictures facing you.
5. Flip it over again so that the facts about the minerals are facing up. Fold all four corner points to the center again.
6. Put your two thumbs and two fingers into each of the four flap pockets. The flap pockets are the spaces under the mineral pictures. Use your fingers to press the center creases so that all four flaps meet at a point in the center.

How to play

Have a player choose one of the top four mineral squares. Spell the mineral they chose while you open and close the Cootie Catcher once for each letter in the mineral they selected. The player then selects one of the four numbers on the inside. Open up and down and side to side as you count the number they picked. When you've stopped counting, look inside and let the player choose again. Open and close the right number of times, then choose once more. Open the panel under the number and read the mineral fact under the panel. Play over and over, again and again.

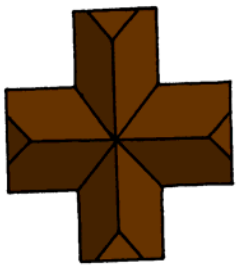
Mineral Names

Where do they come from? What do they mean?

When a baby is given a name, the name usually has a special meaning. Ask your parents why they chose your name. Our cats and dogs have names that say something special about their looks or personalities. A dog named "Fluffy" usually has fluffy fur. Can you guess why a dog would be named "Fang"?

Mineral names also tell you a story. If you look closely at mineral names, you can discover all sorts of interesting information. Mineral names sometimes tell their chemical formula. They introduce us to famous and not-so-famous collectors. They can also introduce us to scientists and poets. Some are named after cities and some after regions. When you study mineral names, you will know more about geography, history, and languages.

Before we start looking at different kinds of mineral names, I want to show you how mineral names end.



Some mineral names end with **–lite**

like staurolite, lazulite and mesolite.

"-lite" comes from the Greek word "lithos" which means "a stone." So, staurolite is a stone in the shape of a cross and lazulite is a blue stone.

Left: A dark brown staurolite crystal from North Carolina, USA.

Many more minerals end with **-ite**

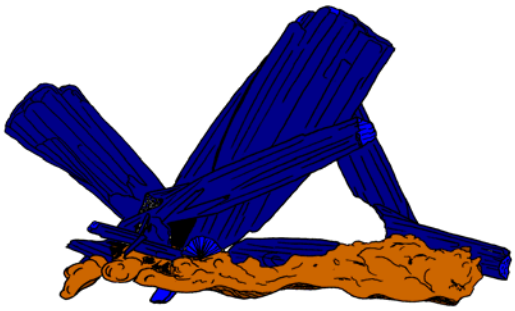
like fluorite, malachite, azurite, magnetite, and pyrite.

Pliny

The –ite ending is NOT a short version of –lite!!!!! It is an ending that was used by ancient Greek and Roman writers . For example, a man named Pliny the Elder (here's his picture) called the mineral malachite by the name "molochites." Do you see the –ite in there?

Modern mineralogists continue to use this ancient ending, even today!

Right: A polished slab of banded malachite *from Africa. The bands alternate between dark green and light green.*

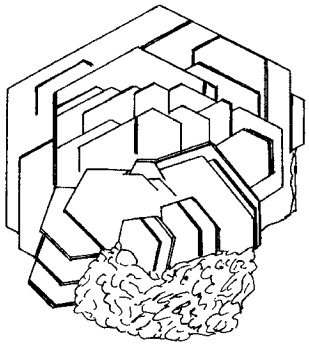


Left: Dark blue azurite *crystals on brown rock.*

Using the internet or a good mineral book, list the meanings of the names of 25 different minerals.

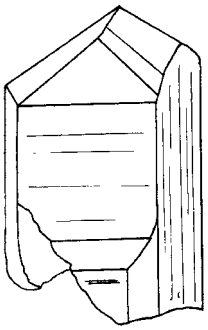
Mineral Names, continued

Some minerals were named after a **special place**, usually a place where they were first found or where there is a large deposit of the mineral.

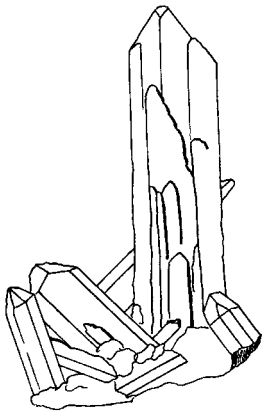


Muscovite was named after a region in the old country of Russia. The region was called *Muscovy*. Muscovite can be broken into very thin sheets that are clear. You can see right through them! Pieces of muscovite were cut up to make windows for stoves. Because of this, some people called muscovite "Muscovy Glass."

Left: Golden brown muscovite crystals from Brazil.



Tanzanite was named after the African nation of Tanzania, where it was discovered in July of 1967. Tanzanite is a deep blue, gem variety of the mineral zoisite. To the right is a tanzanite crystal.

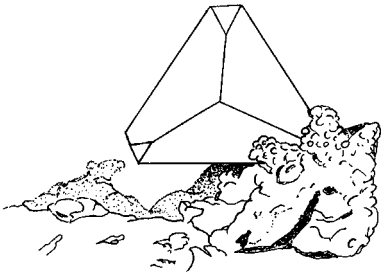


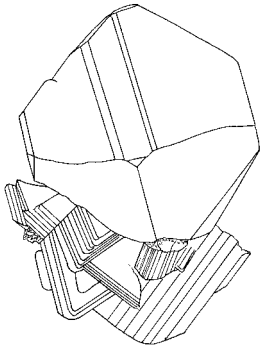
Vesuvianite was named after Mount Vesuvius in Italy. The first crystals of this mineral that were studied by scientists came from Mount Vesuvius.

Left: Vesuvianite crystal group from the Jeffrey min, Asbestos, Quebec, Canada. The vesuvianites from the Jeffrey mine are light green, purple, or yellow.

Benitoite was named after San Benito County, California, USA where it was discovered.

Right: A light blue benitoite crystal.





Brazilianite was discovered where???? You can do this!

Left: A large, light yellow brazilianite crystal sitting on light tan muscovite crystals.

Minerals are also named after cities, people, mountains, their chemical formulas, their physical properties, their color, and more.

Find the Minerals with a Metallic Luster

All minerals have a property called *luster*. "Luster" is the appearance of the mineral in light. *Metallic luster* refers to minerals which look like a very shiny metal.

Antimony
Bornite
Copper
Galena
Gold
Hematite
Iron
Magnetite
Marcasite
Platinum
Pyrite
Silver
Stibnite

M	**A**	**R**	**C**	**A**	**S**	**I**	**T**	**E**	**S**
A	**B**	**D**	**Y**	**F**	**I**	**X**	**D**	**A**	**B**
G	**E**	**L**	**P**	**M**	**L**	**N**	**G**	**B**	**O**
N	**T**	**O**	**L**	**O**	**V**	**T**	**V**	**H**	**R**
E	**I**	**G**	**A**	**L**	**E**	**N**	**A**	**E**	**N**
T	**N**	**E**	**T**	**I**	**R**	**Y**	**P**	**M**	**I**
I	**B**	**A**	**I**	**N**	**L**	**P**	**R**	**A**	**T**
T	**I**	**U**	**N**	**R**	**O**	**E**	**D**	**T**	**E**
E	**T**	**Q**	**U**	**C**	**O**	**H**	**S**	**I**	**G**
P	**S**	**F**	**M**	**I**	**K**	**N**	**T**	**T**	**S**
Y	**N**	**O**	**M**	**I**	**T**	**N**	**A**	**E**	**W**

Diamond Dan loves colorful minerals. Help him find these favorites.

Agate
Amethyst
Azurite
Beryl
Calcite
Crocoite
Dioptase
Fluorite
Gold
Jade
Lapis
Opal
Ruby
Sulfur
Tourmaline
Turquoise

D	**T**	**U**	**R**	**Q**	**U**	**O**	**I**	**S**	**E**
T	**I**	**Y**	**B**	**U**	**R**	**P**	**L**	**N**	**T**
O	**E**	**O**	**F**	**S**	**M**	**A**	**S**	**E**	**D**
U	**T**	**C**	**P**	**W**	**U**	**L**	**N**	**T**	**F**
R	**I**	**E**	**J**	**T**	**Q**	**L**	**O**	**I**	**L**
M	**O**	**T**	**A**	**R**	**A**	**E**	**F**	**R**	**U**
A	**C**	**I**	**D**	**V**	**T**	**S**	**B**	**U**	**O**
L	**O**	**C**	**E**	**A**	**Y**	**B**	**E**	**Z**	**R**
I	**R**	**L**	**G**	**O**	**L**	**D**	**R**	**A**	**I**
N	**C**	**A**	**M**	**E**	**T**	**H**	**Y**	**S**	**T**
E	**H**	**C**	**S**	**I**	**P**	**A**	**L**	**J**	**E**

OPALS ~ PART II

Article submitted by Jack Curtin, from geology.com

Opal Names Determined By Base Color

White Opal or Light Opal

"Light opal" and "white opal" are terms used for opal material that has a white, yellow or cream body color. This is the most common body color for precious opal. These stones were cut from material mined at Coober Pedy, South Australia. They are calibrated 8 x 6 millimeter cabochons.

Black Opal or Dark Opal

"Black opal" is a term used for opal that has a dark body color, often black or dark gray. The term is also used for opal that has a dark blue or dark green body color. The dark body color often makes the fire of black opal more obvious. This contrast of fire color to body color makes black opals very desirable and sold for high prices. This specimen is a solid black opal with a strong blue face-up color play. It was mined at Lightning Ridge, Australia, the "Black Opal Capital of the World". It is 2.46 carats in weight and 9.5 x 12.5 millimeters in size.

Crystal Opal

"Crystal opal" is a term used for a transparent to translucent opal material that has a play-of-color within the stone. The stone shown here is a crystal opal with blue to violet play of colors. It is a calibrated 8 x 6 millimeter stone cut from material mined at Lightning Ridge, Australia.

Blue Opal

Shown here is a tear-drop shaped stone cut from "Peruvian blue opal" mined in the country of Peru in South America. Although this stone is common opal that does not have a play of color it is nevertheless very desirable because of its beautiful blue body color. This stone is 13 millimeters by 8 millimeters in size, and weighs 2.3 carats.

Pink Opal

Opal also occurs in shades of pink. These pink opal beads were made from common opal mined in Peru. They are about four millimeters across and range in color from nearly white, through carnation pink, thorugh lilac.

Morado Opal

"Morado" is the Spanish word for "purple". Some common opal with a purple base color produced in Mexico has been given the name "Morado Opal". The stones at right are nice examples. The stone on the left is a 13x26 millimeter teardrop and the stone on the right is a 19 millimeter round.

Continued on next page

Names That Describe an Opal's Fire Pattern

Harlequin Opal

"Harlequin opal" is a name given to an opal with patches of color in the shape of rectangles or diamonds. The specimen at right is a harlequin opal from the Constellation Mine in Spencer, Idaho. It is 6 millimeters by 4 millimeters in size.

Contra-Luz Color Play

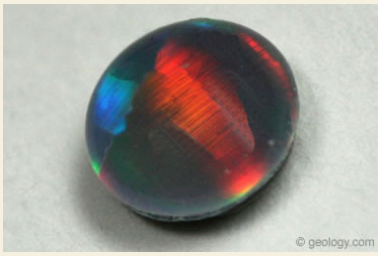
"Contra-Luz" is a name used for a color-play that is visible when the light source is behind the stone. This effect only occurs in stones that are transparent or nearly transparent.

Pinfire Opal (also Pinpoint Opal)

"Pinfire opal" is a name used for opal that has pinpoints of fire throughout the stone. The opal on the left is a pinfire opal cut from material mined at Coober Pedy, Australia. The stone on the right is a pinfire opal from the Constellation Mine in Spencer, Idaho. It is 6 millimeters by 4 millimeters in size.

Cat's Eye Opal

Rarely, opal will have fire that yields an optical effect similar to a cat's eye. In these opals a thin line of fire will be visible from multiple directions and track back and forth across the stone similar to the cat's eye known in other stones. Shown here is a cat's eye opal from the Constellation Mine in Spencer, Idaho. It is four millimeters round.



Opal Names Determined by Geography

Andamooka Opal

Andamooka is one of the early mining districts of South Australia. Commercial production began there in the 1920's. The area is famous for its matrix opal. The stone at right is a cabochon cut from Andamooka matrix and weights about 30 carats.

Coober Pedy Opal

Coober Pedy is a small town in South Australia that was first settled in 1916 when mining for opals began. It was one of the early prolific producing areas and has earned the nickname of "Opal Capital of the World". Coober Pedy is famous for producing white base-color opals and production has continued uninterrupted since 1916. The stone pictured at right are white Coober Pedy opals cut to a calibrated size of 8 x 6 millimeters.

Continued on next page

Opal Names Determined by Geography

continued from page 14

Lightning Ridge Opal

Lightning Ridge is a town in New South Wales, Australia that has become world-famous for its deposits of black opal. More black opals have been produced at Lightning Ridge than at any other location in the world. The specimen on the left is a solid black opal with a strong blue face-up color mined at Lightning Ridge. It is 2.46 carats in weight and 9.5 x 12.5 millimeters in size. The specimen on the right is a solid crystal opal with blue to lavendar play of colors cut as an 8 x 6 cabochon.

Honduras Black Opal

Honduras is well known for producing a black opal with a matrix or pinfire distribution of fire. Most people who know opal will know exactly what you are talking abouut if you use the term "Honduras Black Opal". The specimen at right is a bead cut from Honduras Black.

Louisiana Opal

"Louisiana opal" is a quartzite cemented with precious opal that has been mined in Vernon Parish, Louisiana. On close examination you can clearly see quartz grains with the spaces between them filled with a matrix of clear cement that produces a play of color in incident light. It is a stable material that can be cut into cabochons, spheres and other objects. Some of the material is brown like the 20mm x 20mm cabochon at right but it also occurs in a gray to black color that makes the play-of-color easier to see.

Peruvian Opal

Shown here is a tear-drop shaped stone cut from "Peruvian blue opal" mined in the country of Peru in South America. Also some pink opal beads made from common opal mined in Peru. Although these stones are common opal that does not have a play of color they are nevertheless very desirable because of their beautiful blue body color. The blue stone is 13 millimeters by 8 millimeters in size, and weighs 2.3 carats. The pink beads are about 4 millimeters in diameter.

Next Month: Part III- "Assembled Stones, Look A Likes, and Opal Trivia. "

Welcome New Members

Ralph & Terri Boswell from Mechanicsville MD

Leasa, Michael, Tyler, Gavin & Gabe Torrence; Dailee Helfrich from Forest VA

Safety Matters- Critter Safety

By Ellery Borrow, EFMLS Safety Chair

Re-printed from EFMLS News October 2014

By critters, I mean those furry four-footed family members and fabulous friends, our beloved dogs and cats. Numerous folks bring critters along on their rock and mineral adventures. While critters cannot tell a xenocryst from a phenocryst (and truth be told neither can I), they can be great companions during our travels.

Sometimes our critters remain behind at the campsite, sometimes they accompany us to the site of the dig. In either case certain provisions should be addressed for our critter's care and well being.

Critters pretty much need the same things we do- food, water, sleep, rest, shelter from harsh environments, not too much heat or cold, and just a bit (or a lot in the case of some critters) of tender loving care. Oh, as a pout of clarification, I have seen instances of critters being left in hot cars and trucks on hot sunny days with a window just barely cracked open- this is not the "shelter" mentioned above. The interiors of vehicles, even with the window cracked open a bit get mighty hot mighty quickly on a sunny day. How hot? well, try wearing a fur coat in a hot car with no breeze and you will very quickly find out just how hot it gets. If you don't like such heat, your critter won't either.

Rockhounds take care of their rock hounds, rock birds, rock cats and rock critters of every size and type, however, sometimes our rock passions can get the better of us. Please remember that during the heat of passion with a big crystal pocket discovery, during the heat of anticipation with finding that great contacting locality, during the heat of excitement with that new club field trip, or simply with the heat of the day, our four footed rock hounds and rock cats (not the dancers from Radio City Music Hall) deserve, just like us, protection form the heat of the day. Whether a critter accompanies us to the dig site or remains behind at the camp site, they need protection form the sun and plenty of water. Also please keep in mind that your critter's shade in the morning will often be in a different location when you return in the afternoon. And note that water dishes and bowls can sometimes be overturn by a critter's travels and tether/ lead movements.

Critters are pretty much bothered by the same things we are- Ticks, nuisance insects, snake bites, walking on sharp rocks (just try walking barefooted over crushed rock and you'll feel what paws and pads heve to deal with, without benefit of footwear.) Speaking of paws and foot pads and heat, please take note of the high temperatures reached by asphalt pavement in the hot sun. Footwear protects our feet from hot pavement, but our critters are barefoot. Also please note areas with broken glass, scraps of metal, thorn bushes, and sharp quartz slivers. Please take note of what dangers your critters might face while walking to the dig site.

People much prefer not to get lost. Critters, well not so much. if your critters roam free, please make sure they come when called and are not prone to go off on a merry rabbit, deer, turkey or porcupine or whatever chase.

Other things come to mind for our critter safety- make sure your cirtter's lead won't get tangled and prevent him from reaching much needed water or shade. There are folks who are deathly afraid of dogs and cats, please be respectful of other's concerns. Have your critters meds with you on trips and travels. Check your critter for ticks. Again, keep them out of hot cars. Mind that critters can be predators…and prey. Please make sure your critters get plenty of attention, but I suspect that requisite, attention, will be no problem at all.

Critters can make excellent companions on rock hunting trips. Please make their adventure's as enjoyable as yours. Think safe and be safe, for both you and your critter's sakes.

Sunshine News

Earlier this month we learned of the sudden passing of John Haskins brother, Archer Haskins.

John also underwent surgery for bilateral hernia repair on Oct. 1. Please keep John and his family in your thoughts and prayers during this time of healing.

I hope everyone else is in good health and enjoying this beautiful autumn weather.

If you know of someone we should recognize and send a little sunshine to, please forward the information to the editor.

The 23nd Annual
Richmond Gem & Mineral Society
Rock Sale & Swap

Free Admission
Plenty of Parking

Saturday, November 8th, 2014
9:00 am - 3:00 pm

Ridge Baptist Church Meeting Hall
1515 East Ridge Road, Richmond, VA 23229

The Rock Sale/Swap is indoors, so come rain or shine. Open to all children and adults (from novice to expert) to swap or purchase various mineral, gem, fossil, shell, and lapidary specimens. Free items for kids and a raffle!!

The Ridge Baptist Church and Meeting Hall are 400 feet on the right, across from Kroger's Grocery. MEETING HALL IS THE WHITE BUILDING at the rear of the parking lot.

More information at:
http://rgms-va.info/rockswap.html

Bench Tips by Brad Smith

Continued from page 1

A second oxide can also be formed when soldering copper or a high copper content alloy like bronze or brass. It's called cuprous oxide and is reddish in color. That's why a black looking piece you put in the pickle sometimes comes out red. Problem is that while the black cupric oxide is dissolved by a pickle, the red cuprous oxide is not. The discoloration can be sanded or polished off, but an easier way is to use a "super pickle". This is a mixture of fresh pickle with a healthy shot of hydrogen peroxide from the local store.

I've saved the worst form of discoloration, firestain, for last. Think of firescale (above) as like getting dirt on your shirt that you have to wash off. Firestain is like getting ink on it. The discoloration is not just on the surface, it seeps down and stains the material. Firestain happens when we heat a piece of silver too hot, too long, and/or too many times.

Firestain occurs when the oxides start to build up below the surface of the metal. You generally don't notice it until after polishing. It appears as a darker area of the surface and is easy to spot when viewed under light bounced off a piece of white paper. Because firestain is below the surface, there's no easy bench tip solution. Depletion guilding may work for some pieces. Otherwise, removing it calls for sandpaper and aggressive polishing.

A much better approach for a piece that will require a large number of solderings is to protect the metal from developing firestain by applying liberal coats of a firecoat. Regular soldering flux will provide some protection but will not be as effective as preparations made specifically for the task.

SOLVENT DISPENSER

Frequently I need to fill a small bottle with alcohol, like an alcohol lamp or one of the nail polish bottles that I use for the yellow ochre anti-flux. Often I can't find a small funnel and end up spilling almost as much as I get into the bottle. It's wasteful, and the fumes can't be too good for you either.

A neat and inexpensive solution is to use a lab dispensing bottle to store small quantities of the solvents you frequently use. It has a wide mouth for filling and a fine tip for dispensing. You can get a small stream or just a drop or two. With the bottle's fine tip I don't spill a drop.

There are many suppliers on Google. One I've used is Carolina Biological Supply Company at www.carolina.com The bottle is Catalog # 716580 Unitary Wash Bottle, Low-Density Polyethylene, 125 mL US$ 5.35

ATTENTION CLUB MEMBERS

The Gem and Mineral Society of Lynchburg will again be participating in the Amherst County Apple Harvest Festival October 18 & 19, 2014, for the purpose of raising funds and awareness for our club and it's various activities and benefits of membership.

Please consider coming out to join us ~ There will be a sign up sheet with timeslots at the club meeting, but even if you are not signed up, we would love to see you and appreciate the help and support.

This is a great opportunity to interact with other club members as well as enjoying the delight and amazement of those who experience for the first time our sluice or the opening of a beautiful crystal filled geode.

We know from experience that you WILL have a good time! We hope to see you there!

From The First VP:

Continued from page 1

Their Ocean Jasper and Yellow Jasper are especially beautiful. Doing a little research on the Web, I learned that their "Coquina Jasper" isn't really jasper at all. It is unusual to be sure. Read more about it in Jennifer's blog post which is duplicated below. Her website is Swirlingstone.com.

Coquina Jasper (or Script Stone)
FEBRUARY 5, 2013 BY JENNIFER LEAVE A COMMENT

"At a rock show in December I found this slab of a very pretty tan stone with delicate little swirly lines running through it. It looks like delicate writing or drawing all over the surface of the stone. I'd never seen anything like it. Obviously I got a piece.

I promptly forgot to get a name of the stone and have wondered what it's called. I then picked up an old copy of Lapidary Journal (Jan/Feb 2012) a few weeks ago to catch up on some reading and saw a picture just like this! It is called Coquina jasper. Score! According to the article, it's not a jasper, it's limestone with neat fossils embedded in it. "With a hardness of 3, limestone is much softer than jasper… coquina is more like a marble than a jasper in that it is a sedimentary rock that has been transformed under pressure to something harder and more durable, but not as hard or durable as quartz."

Here's a closeup of it. >>>>>>>>

There seem to be an awful lot of names for this stone. I googled the stone and found it listed under Indian script stone, Arabic script stone, coquina jasper, mariam jasper, elephant skin jasper, cobra jasper and even a few more names. I tend to like the name "script stone" since the patterns strongly remind me a beautiful handwritten cursive script.

It's really hard to find anything at all about this stone. It seems like other people have had the same problem. I managed to figure out that this stone comes from India. The tiny swirly patterns are fossils of ancient sea creatures embedded in a limestone and mud matrix. Other than than, I simply can't find much information about it. Do you know any info about this gorgeous stone? If you do, please leave a link to more info in the comments!

Even though I don't know much about it, I've since cut a few cabochons out of it, polished them, and love the results. It's a very soft stone. When I started to cut out rough shapes, the saw blade released a huge amount of red sediment. It looked like I'd cut off my finger! When I started to grind the stones, the same thing happened, huge amounts of red sediment were released into my grinding setup. I had to rinse out my water supply frequently when working with this stone. But the results are worth it. When I saw how soft it is during sawing I was skeptical that it would polish up nicely, but it really does. The piece of coquina I bought also has very nice small patterns, making the resulting pieces very interesting to look at.

The color of this stone lends itself to setting in not just silver, but also copper and bronze. I decided to play around with a new kind of tab/prong setting with copper and set one of the triangular shaped pieces of coquina in the copper. I really love it! If you want to buy it, it's listed on my Etsy page.

I got such a large slab of the coquina that I'll be able to make a whole lot more with it. I need to think about the shapes I want to cut and how to set them.

Because this stone is so soft, if you buy jewelry with this stone, it's important to protect it. Try to store it in a small bag or in a location where it can't rub up against other pieces of jewelry. The stone might get scratched. Also try to avoid dropping it. I haven't dropped this stone on a hard floor, but I can guess that it might be easily damaged."

If you find yourself near the shop, surely your curiosity will draw you in. There are marvels to behold and new discoveries to be made.

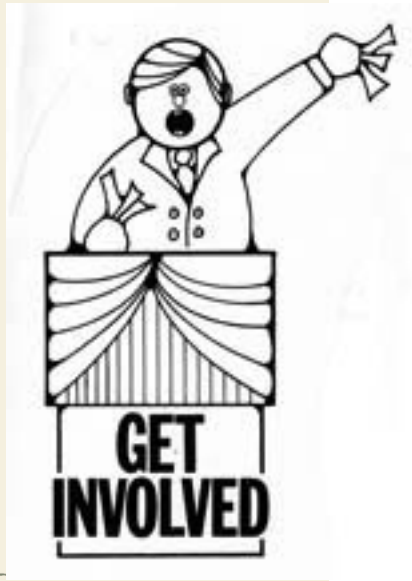
Happy hunting ~ Jack

Gem and Mineral Society or Lynchburg,

Natalie Darling, Editor
211 Chesterfield Rd.
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

Lynchburg Parks and Recreation
Fairview Center
3621 Campbell Ave.

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