Gem Cutters News

Award Winning Bulletin of the Gem Cutters Guild of Baltimore, Inc.
Baltimore, Maryland

Volume 60, Number 2 February, 2011

Program Notes

from Richard Meszler

Who would have guessed that exploring caves would have any connection with the Gem Cutters Guild? Well, at our next meeting you will find out exactly how.

For over 17 years now, one of our members has been exploring caves. What he does is not spelunking, but caving! His latest underground adventure has taken him into one of the most gorgeous and historically significant caves on this side of the Mississippi. Grand Caverns, once owned by President James Madison, is the oldest commercial show cave in the United States. It's located in the Shenandoah Valley of Virginia and in 2006, as part of its 200th anniversary celebration, a newly discovered extension of the cave was opened to cavers. Our speaker has helped produce a DVD that shows off the discovery and exploration of this area which he will share with us at the meeting on February 1st.

This new extension is out-of-this world incredible. The area contains huge multi-colored calcite draperies, pure-white flowing "streams" of calcite; calcite "shields" that are extremely rare, plus lots of other wonderful formations. This area is off limits to the public, so the only way most will be able to see it is through this DVD.

Take advantage of this rare opportunity and come see not only a fantastic cave, but probably one of the best videos demonstrating the sport of caving that you'll ever see. This is what real caving is all about!

You'll have to come to the meeting to find out who our guest speaker is. We'll begin at 7:30 on February 1st. We hope to see you there.

2011 Committee Chairs Appointed

from the Board of Directors

At its January 4th meeting, the Board of Directors approved the appointment of the following members to head our committees for the year. If you are interested in helping with any of the tasks, please let the chairperson know of your interest.

Budget & Finance.....Steve Weinberger
Bylaws .....Carolyn Weinberger
Class Planning.....Richard Meszler
Class Registrar.....Jackie Orsini
Coffee Breaks.....
Display.....
EFMLS Liaison .....Steve Weinberger
Field Trips .....Wayne Homens
Historian.....
Hospitality & Membership .....
Linda Goldberg
Librarian.....
Program .....Mary Keller
Publications.....Carolyn Weinberger
Scholarship .....Steve Weinberger
Show & Tell.....Richard Hoff
Social.....Steve Page
Sunshine .....Pat Baker
Website .....Emily Brooks
Workshop .....Dave Mitchell
Workshop Telephone & E-mail.....
Jackie Orsini

Vacancies still exist for the Coffee Break, Display, Historian and Library positions. Here's some info on what each does:

▲Coffee Breaks - gets volunteers to donate refreshments for meetings, sets up table & paper goods, notifies editor of those signing up.

▲Display - responsible for seeing that Guild booth at InterGem shows is set up, manned, and taken down.

▲Librarian - facilitates the loan of books to members from our library; purchases new books.

▲Historian - maintains photos, copies of club bulletins etc. so there is a permanent record of what we've done.

If you're interested in any of these positions, please contact Mary.

Gem Cutters GUILD OF BALTIMORE, INC.

The Gem Cutters Guild is a founding member of the Eastern Federation of Mineralogical and Lapidary Societies, Inc. and affiliated with the American Federation of Mineralogical Societies.

About our Guild:

The Gem Cutters Guild of Baltimore, Inc. was established in order to allow its members to gain knowledge and skills in gem cutting, jewelry making and in identifying and evaluating lapidary materials. Through field trips, exhibitions, and cooperation with other societies, we endeavor to further not only our own knowledge, but also that of the general public.

Meetings are held on the first Tuesday of each month except January, July and August at our workshop which is located at Meadow Mill at Woodbury, 3600 Clipper Mill Rd, Suite 116; Baltimore, MD 21211. Meetings begin at 7:30 P.M. Visitors are always welcome. Dues are $30 per year for families and $18 for individuals. More information and directions to our meetings can be found on our website, <www.gemcuttersguild.com>.

Officers:

President - Mary Keller
info@gemcuttersguild.com

Vice President -Joe Gehring

Recording Sec'y - Tricia MacNeal

Corresponding Sec'y - Jane Fallon

Treasurer - Steve Weinberger

Past President - Richard Meszler

Directors:

20010 - 2011	2011 - 2012
Pauline Furtaw	Wayne Homans
Richard Hoff	Anne Millar
Sallie Miller	Dave Mitchell

Editor:

Carolyn Weinberger
PO Box 302
Glyndon, MD 21071-0302
410-833-7926
<cscrystals2@verizon.net>

Deadline is the 15th of each month
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The Prez Sez

by Mary Keller, President

Thank you to everyone who agreed to take on chairing or participating in the Guild committees. Your participation is very important and appreciated by all. There has been lots of activity in the workshop and many ideas under discussion. I find the interest very gratifying. Let's keep it going!

January classes are underway. Thank you to all who registered. If anyone is looking for an interesting class please consider one of the others on the Winter schedule. Is there a class that you would like offered? It can be one not offered recently or something new. Talk to me or Richard Meszler, Class Planning Chair.

How about a field trip? There have not been any scheduled yet, which means the calendar is open. Please give your ideas to Wayne Homens or any board member. Where would you like to go? Suggestions are needed – quarries, shows, museum displays, …..

Thank you to everyone who attended the party in January. The food was plentiful and delicious. The "exchange" was fun. I did not get the blue lace agate slabs I had my eye on, but did get a great lighted loupe. I am looking forward to the picnic and more good food this summer. Do not forget about the show coming up in September; this time the building will be air conditioned!!!!!

Mary

Redesigned Guild Webpage Coming Soon
<www.gemcuttersguild.com>

Help Silence The Growling Stomach!

We need volunteers to bring refreshments to our February meeting!

No food = growling stomachs during the break.

Board Notes

from the Board of Directors

Our Board of Directors held its first meeting of the year on Tuesday, January 4th. Routine matters, such as approval of committee chairs for 2011, approving the Guild and show budgets were taken care of.

The Board approved hosting a PMC Certification class at our workshop. The class, sponsored by Rio Grande, and taught by Barbara Becker Simon will be held April 8 - 10 at our Workshop at Meadow Mill. Details and registration procedure will be forthcoming once details have been finalized.

In addition to the PMC class, the Board approved having a PMC Texturing Class, also taught by Barbara Becker Simon on Monday, April 11. Details are still being finalized.

Dave Mitchell reported that the saws have been repaired and cleaned and that general repairs and upgrades to the workshop are in progress. New procedures for training monitors and usage of the workshop are being established.

The Guild website is in the process of being revamped by Emily Brooks and Adam Block with an eye to adding additional features including a "members only" area.

A new waiver, to be signed by all members, was adopted, effective immediately. It says: *I hereby indemnify, release, and hold harmless, the Gem Cutters Guild of Baltimore, Inc. (the "Guild"), its instructors, officers, agents or representatives, from any and all responsibility for any injuries or damages I may sustain as a result of my use of, including but not limited to, Guild premises, such as the workshop, any equipment, tools, ma-*

chinery, or supplies maintained, supplied or owned by the Guild; or owned by myself and used on Guild premises, business, events or activities. I agree that I will abide by all safety rules and regulations as set forth by the Guild, its instructors, officers, agents or representatives, whether given orally or in writing, so as to prevent any injuries or damages to my person or property. I also agree not to remove Guild equipment and to use due diligence to not damage Guild premises, equipment, tools, machinery, or supplies, or create an unsafe condition by my exercise of the use of these.

Several additional ideas for promoting the Guild including an increased effort to upgrade the Guild's public "look" and added community outreach are being planned and we will learn about these in upcoming months.

Birthdays

from Linda Goldberg, Membership Chair

Happy birthday to those celebrating during February. Your birthstones are amethyst and onyx.

Book Botvin - 2
Joe Gehring - 11
Joe Sobrio - 14
Bill Bixler - 17
Linda Goldberg - 17
Adina Kaiden - 18
Lois Schwartz - 23
Sheri Mutreja - 24
Barbara Schoen - 29

Amethyst is the purple variety of quartz. The color is caused by iron impurities. If you heat amethyst it turns yellow (citrine color) or yellowish brown.

Onyx is actually a variety of agate. In correct usage it refers to a black and white banded variety and to the brown varieties known as Sardonyx. It is sometimes confused with the banded calcites found in caves in Mexico and Pakistan that is often used for carvings, but these are carbonate, not silicon in composition.

Winter Weather Advisory

We've already had a few "snow events" in our area so we know that winter is definitely here! – and last year we had Snowmageddan in February. Here's a reminder about what happens if we get snow or ice when we're supposed to have a meeting.

If Baltimore City schools are closed or close early, our meeting will be cancelled. You can obtain this information by tuning to WBAL radio (1090 AM) or most TV stations. You usually can also find it on the web at <wbaltv.com>. We'll also try to put out a notice via the Guild's Yahoo Group e-mail list.

Should a workshop class need to be cancelled, students enrolled in the class will be notified directly by their instructor.

Holiday Party Recap

from the Social Committee

Approximately 50 members and guests enjoyed a fabulous evening of fun and fellowship during the Guild holiday party on January 7th. Steve Page and his gnomes and elves transformed the Woman's Club of Catonsville into a warm and festive party venue with wonderful table decorations, candles, and fairy lights. Conversation among members was lively throughout the evening as members partook of a lavish "pot luck" meal of items including sliced ham and turkey, a variety of vegetables, spicy noodles, chicken, cranberry/apple relish, ambrosia, lox and cream cheese, salads, and of course delicious desserts.

The annual gift exchange was enjoyable, with some items exchanging hands much to the dismay of the "owner" and amusement of the rest of the crowd. And our food drive collected several pounds of non-perishable items for the Maryland Food Bank.

A wonderful time was certainly had by all.

Sunshine

from Pat Baker

Bill Rinker underwent successful hernia surgery in early January, and is now back to his "normal" self and feeling much better.

Bob Hudgins is well on the mend and is able to get out and about again on a limited basis.

Condolences go out this month to ***Trish MacNeal*** on the passing of her cousin and ***Lorraine Johnston*** on the passing of her sister.

Don't Miss Out

from Steve Weinberger, Treasurer

As you read in the Board Notes, our new Board of Directors is planning lots of fun and interesting things for the Guild in the coming year and I know you won't want to miss out on them. If you've not yet renewed your membership, you still have time.

Dues remain $18 for indviduals and $30 for family membership. If you want to participate in Open Shop sessions this year, the fee is $35 per person.

To renew, simply fill out the form on page 17 and either give it to me with your dues at the February meeting or mail it to me with your check. Our Bylaws say that if you've not renewed by March 1, you'll no longer be a member. We don't want to lose you as a member, so please take care of the renewal today.

Safer Collecting & Some Things to Make You Think!

by Andrew Brodeur. Connecticut Valley Mineral Club
from AFMS Newsletter, Feb. 2011

Everything we do has a certain amount of risk involved and mineral collecting is no different. We are constantly going to remote places with rough unfamiliar terrain and once you start getting comfortable with them is when the bad stuff can happen! Complacency will get you in trouble every time but with a little planning, maybe you won't come back with more than a scrape and sore knees.

We go to some fairly remote places and the more remote they are the more you need to be thinking about the moves you are making and staying safe, no mineral specimen is worth and injury in the field! In my opinion the most dangerous places we go as a club are the Chester emery Mines, Shaft 10 in Hardwick and the Loudville Lead Mines. Chester has steep, rough terrain, you are quite a distance into the woods and there is NO CELL PHONE CONTACT!. Shaft 10 has similar hazards as well as snakes and if you fall there, you are going for quite a rough ride all the way to the bottom. Loudville, dangerous….? Yes Loudville has a certain amount of danger, mostly the distance away from the road and a couple rough spots depending on where you go there.

I think the most valuable thing you can know when you go out collecting is know where you are, sounds funny doesn't it? How many times have you headed out on a field trip following the trip leader and the only concern is not losing sight of his vehicle or the guy in front of you, you get to the location and off you go. If something happened to you or another person and you needed help, could you tell a rescuer or emergency person where you are and how to get to you??? KNOW WHERE YOU ARE!!! Location, Street, and Town, three very simple and very important things that will allow help to get to you faster. You should also notice some landmarks on your way in, this will also help you tell people how to get to you. When you dial 911 from a cell phone it doesn't always go to the closest police station, it may go to the closest State Police Barracks and it may be in a different town. If you can't tell them how to get to you, you have just lost precious time and you just added being lost to the problem, and your rescuers have to try and figure out where you are and get you out too!

If you need help, you need to know what to tell the people, what is your emergency?? The type of injury, what is being done for them in the field, how far in the woods, adult, child, male, female, HOW BIG ARE THEY?? These are all important things for the rescuers to know, getting somebody out of a rough remote location isn't just a 2 man job in fact it could take a dozen or more rescuers to get one person out of a bad situation. If you don't have a cell connection and you need to send another person for help, they will have to know all of the fore mentioned things to get to help and to lead them back to the location to help the injured person. If you can send 2 people on this mission its better just in case something happens to one of them. They should try to get to the car as fast as possible WITHOUT getting hurt in the process. Try to make a mental note of the closest house or store as you drive in to the site just in case you need to go for help and a phone.

If a person can't get up on their own after an accident, don't move them!

continued on page 6

Safer Collecting

continued from page 5

If they aren't alert to PERSON, PLACE or TIME and other everyday things they should know, they shouldn't be moved. These are signs of a serious head injury and moving them could be very dangerous. Keep them warm, dry, and awake. If the person is unconscious try and place them on their left side so if they vomit, they don't aspirate it into their lungs. It would be a shame to get them out alive only to have them die of a respiratory infection a week later. If you have the option of staying with the injured person and calling or sending another person for help, you should do just that, getting the person and all your gear out of the woods and driving them to a hospital yourself wastes precious time in them receiving the critical care they may need, LEAVE IT TO THE PROS!

If you are collecting either alone or in a group, there is some information that should be shared before you go out. If you are going out alone or in a group, tell people where you are going and what time you plan on being back, if they are more than an hour over due you should be making a phone call to the local or state police so they can see if their vehicle is still where they planned on going. If you are leading a group, you should know who is a diabetic or allergic to bees just in case there is a problem and do they carry their meds with them? Is there is anybody with you that has first aid kit or any medical training? Don't take unnecessary chances look up before you settle down to do any collecting, are you sitting under a hanging dead branch or tree? Use your head and eyes and be aware of your surroundings, know where you are and what's around you. Don't be afraid to tell the person near you if they are in a bad spot, you may see something they don't. With just a little knowledge and planning you can make your collecting trips much safer for yourself and others in your group, nothing can put a damper on a great day faster than an injury or incident that might have been preventable. Have fun, be safe and come to the next meeting with a good story about your collecting trip.

Scholarship Update

by Steve Weinberger

Thanks to your contributions during 2010, we were able to send $323 to the AFMS Scholarship Foundation. The Guild received a letter from the EFMLS coordinator for the Foundation thanking us and letting us know hat we have reached the new giving level of 6,200%. This means that over the years we have contributed the equivalent of $62 for each of our members.

AFMS
Scholarship Foundation, Inc.
Established by the
American Federation of
Mineralogical Societies

The AFMS Scholarship Foundation grants six annual scholarships of $4,000 each to worthy graduate students throughout the country in order to help them pursue advanced degrees in the earth sciences. Only interest and dividends are used to provide scholarships - the principal (what we contribute) remains year after year.

We will receive our certificate at the EFMLS Convention this coming July.

Again, many thanks to all of you who contributed. Let's continue to be generous with our contributions in 2011.

Board of Directors Meeting

Friday, February 18
7 pm
at the Workshop

Board members - please notify Mary if you cannot attend!

Trivia Vug

by RJ Harris
from Rock Buster News, October 2010

☺Spirit Quartz is the synonym of amethyst.

☺In ancient Rome, gold salves were used for the treatment of skin ulcers. Today, gold leaf plays an important role in the treatment of chronic ulcers.

☺Cat gold is another name for mica.

☺Diamonds from Brazil are harder than those from Africa.

☺In 1976 a Los Angeles secretary named Jannene Swift officially married a 50-pound rock. The ceremony was witnessed by more than twenty people. [And you thought you were a dedicated rockhound! CW]

Sources: More fascinating Facts; Launch Radio

Come and Play in Our Sandbox!

by Steve Weinberger, Wildacres Workshop Chair from EFMLS Newsletter, Feb. 2011

Many of us have fond memories of our childhood days playing in a sandbox or on the playground with friends. We tinkered with Erector® Sets, Lincoln Logs®, cars, play kitchens etc. Chronologically, we're probably a bit old to still play in the sandbox although many of us still build sand castles at the beach and "play" in the kitchen. Our interests have broadened to include hobbies like gem cutting, jewelry fabrication and mineral collecting. And we're definitely not too old to play and learn new skills.

I'd like to invite you to come and play in the EFMLS "sandbox", better known as the Workshops at Wildacres. We're fortunate to have use of the fabulous Wildacres retreat twice a year and during our time there we offer a variety of classes for you to take, plus other activities to have fun doing.

Our spring play dates are April 11 - 17 and the featured speaker for the session will be Dr. Gene LeBerge, retired professor from the University of Wisconsin. Gene taught geology and has travelled widely. He's a wonderful "story teller" and will bring to us many pictures and tales of his hobby related adventures.

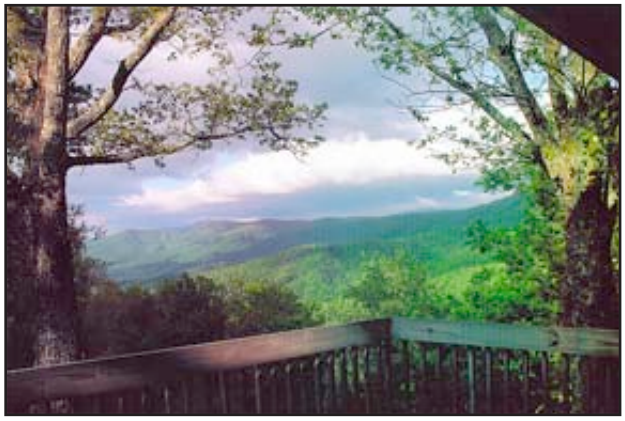
The fall play dates are September 5 - 11 and the featured speaker will be Dr. Steve Chamberlain, Chairman of the Rochester Mineralogical Symposium, passionate mineral collector, author and wonderful speaker. Steve's returning to Wildacres by popular demand!

In addition to the talks given by Gene and Steve, we're offering additional chances to "play" in the classes we'll be teaching during each session. If you need a list of classes and an application form, please contact me directly.

Cost for either session is $350 per person. This includes lodging in comfortable "motel style" rooms, excellent meals during the week and gratuity for the retreat staff (grounds keepers, kitchen staff, maintenance folks etc.). You will also be asked to pay a materials fee for whatever class or classes you take during the week.

Each session has an auction, field trip, tail gate, and most important - time to sit and talk with friends -- both new and old -- who are with you at Wildacres.

So now the ball is in your court. Do plan on coming to play in the EFMLS sandbox this year.



Clockwise from left: View from porch, Made in Fused Glass, Silversmithing, Sunrise, Pamm Bryant, Lobby

Making Filigree Jewelry - Part 5

by Leon Hornstein. Reprinted from Gem Cutters News, October, 1992.
Original article used with permission of the Author

The first piece of filigree jewelry you will make is a pendant. Make a life-sized outline of the picture below, Draw in, or better yet, place the wire units you've made into your outline. Arrange the units so that they will be in contact with each other and the frame.

When you are satisfied with your arrangement, glue the drawing on a small size piece of 3/4" wood. Arrange several brads on the drawing so that it becomes a pattern to help you form an outline for this or any future pieces. Form the outline to the pice with the 22 gauge square wire on the pattern.

Pickle and rinse the frame, then pin it to the soldering block.

Next, place and pin the ovette you made previously in the position shown in the next drawing. (Figure 2) Because this is the first filigree piece you are making, we are pinning and soldering the initial unit in place so it will be easier to hold the rest of the units in place. Later on, when you are more experienced, you won't need to do this.

Squirt some "B & B" at the juncture point of the unit and frame. Burn off the alcohol. Place a bit of paste solder at this point. If you have a butane torch, this would be an excellent place to use it.

Be sure that the ovette makes good contact with the frame.

Make certain that the pin holds the unit in place and that it forces the ovette against the frame.

Be sure that you have applied "B & B" and burned it off.

If you were successful, it is not necessary to unpin and re-pickle the assembly. If you "missed" try again, but if your second attempt is not successful, the assembly will need to be re-pickled before you try a third time. Be sure that before you solder, you check for good contact!

Put the other units you made earlier in place, making sure good contact is made with the frame and the other units. If necessary, bend or shape the units slightly so they make good contact, but do not to bend or reshape the frame. If you need to, make a few small units to fill open spaces or points of poor contact. These small units can be made on the jig or made free-hand to use as you wish. The bent steel pins you made can be used as necessary to hold the units in position.

Before beginning to solder the units in place, test to see that the frame is properly loaded with the units. Remove the pins from the frame and units, lift the frame gently and if properly packed, none of the units will fall out.

Until you gain more experience, it's okay to cheat a little. Instead of testing for good packing and lifting the frame, leave several pins in place.

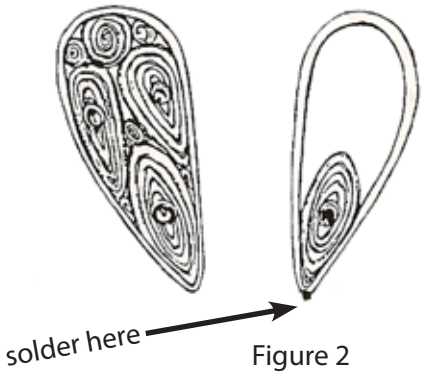


Figure 2

You may also solder a few units at a time. Pinning and repinning is another aid. There really is no right or wrong way to do this - use the technique that works best for you.

When working on a unit that is not completed, be sure to pickle it if you remove it from the soldering block before you begin working on it again. Always us the "B & B" solution again as well. The liberal use of the "B & B" solution will help ensure success because it is a flux, cleaner and anti-oxidizer.

When using a gemstone in your design, make a bezel with a backing and solder it to the assembly. Settings for faceted stones and small metal balls may be soldered to the assembly whenever needed. Easy grade paste silver solder seems to work well for this.

A good way to give strength is to add dabs of solder to the units as you work. Place them where the coil seems to be loose. This is important when a piece needs forming or shaping. Shaping can easily be done on an old soldering black, a gouged-out wood block or in some cases, a dapping block.

Sand Barite Rosettes

adapted from "Barite in Oklahoma" via Rock 'N Rose, January 2011

The distinctive concretions known in central Oklahoma as "rose rocks", an allusion to their reddish-brown color and general similarity to a rose in full bloom, are petal-like clusters of sandy barite crystals. Their rose-like appearance is due to the growth of barite (barium sulfate, $BaS0_4$) as a cluster of divergent blades. The central Oklahoma rosettes are distinctive because they grew within ancient red sandstone, incorporating quartz sand grains and acquiring the red color of the host rock.

These concretions consist of sand and barite in nearly equal proportions and thus are best known to geologists as "sand-barite rosettes", but they also are called "rose rocks", "barite roses", or "petrified roses". Well-formed specimens are highly prized by collectors.

Most sand-barite rosettes are 1/2 to 4 inches in diameter and consist of 5 to 20 radiating plates, although the largest one known is 17 inches across, 10 inches high, and weighs 125 pounds. They generally occur as isolated individuals scattered through sandstone. Rosettes are harder and more durable than the host rock and weather into positive relief on outcrops. On further weathering they are detached from the rock and occur as individual specimens or are scattered within residual sandy soil. Slow weathering and erosion of the host rock continually expose additional rosettes at the surface.

The sand-barite rosettes of Oklahoma occur mostly in the Garber Sandstone, which was deposited during the Permian Period Of Geologic time about 250 million years ago. They are most abundant along the north - south outcrop of the Garber in central Oklahoma, in a narrow belt extending 80 miles between Pauls Valley and Guthrie. The area just east of Norman is particularly renowned for its abundant and well formed specimens. Although also known from California, Kansas, and Egypt, the rosettes probably have a greater concentration here in Oklahoma than at any other place in the world.

Reference:

Ham, W. E., and Men-in, C. A., 1944, "Barite in Oklahoma": Oklahoma Geological Survey, Circular 23, 42 pages, 2 figures, 4 plates.

Origin of Rose Rocks Remains a Mystery

author unknown
from Copper's , Oct. 2001
via Rock Rustlers News, January 2011

Deep in the red earth, the petals of a rose rock poke through a clump of Oklahoma sandstone. (In 1968 Oklahoma named Rose Rock the state rock.) Tom Redwine, of Noble, uses a butter knife to cut the formation out of the ground. As the grit falls away, it exposes a rock that looks remarkably like a rose.

Rose rocks are composed of barium and sulfate-baryte, which crystallizes in blades. Scientists believe the rocks were formed 250 million years ago as water moved through the sandstone. Redwine has been digging for more than a decade. He says rose rocks run in veins. A few square feet of sandstone may contain thousands, and then there are none for miles.

He uses simple tools – a butter knife and a three pronged garden hoe so he doesn't scratch or break any rose petals when he cuts the formations out of the ground. "There are thousands of diamonds in this world for every rose rock," Redwine said. "If everyone in the state of Oklahoma wanted one, there would not be enough to go around."

Redwine uncovered the largest rose rock cluster found to date – a 788-pound clump he named "Redwine and Roses." He sold it to a convenience store.

Tiger's Eye

by Carolyn White from Quarry Quips, January 2011

Tiger's eye [also called Tiger eye] is a beautiful semi precious gemstone with a silky pattern of parallel lines that seem to move as the stone is turned. This effect is known as chatoyance and is caused by the fibrous structure of tiger's eye.

Tiger's eye has long been referred to as an example of pseudomorphism, where one mineral replaces another but retains the first mineral's shape. In the case of tiger's eye, fibrous crocidolite (blue asbestos) is replaced by quartz (silica).

Recent mineralogical studies suggest that the fibrous texture of tiger's eye is not caused by pseudomorphic substitution, but by simultaneous formation of crocidolite fibers and quartz through a crack-seal vein-filling process.

Due to its fibrous structure, tiger's eye has to be cut exactly parallel to the length of the fiber in order to get the full chatoyance. A saw cut that is perpendicular to the fibers will produce a dark brown stone that is dull and lifeless.

Tiger's eye is most commonly a golden brown due to the presence of hydrous iron oxide. The absence of this mineral produces a blue/ grey version, which is called *falcon's eye or hawk eye*. Red tiger eye is created through heat treatment and is also called cherry tiger eye, dragon's eye or ox eye.

Blue Tiger's Eye

Ancient Egyptians believed the beautiful tiger eye would bring good fortune and protect its bearer. They related this well-being to the sun which they worshiped as a god. Roman soldiers wore tiger's-eye for protection in battle. Tiger Eye was thought to be all seeing due to its appearance. Wearing tiger's eye is still considered to be beneficial for health and spiritual well being.

In 1968 South Africa, the primary source for tiger's eye, announced an embargo on the exportation of rough tiger's eye in an effort to gain a monopoly on finished stones. Huge quantities of rough stone were smuggled out of Africa, preserving the supply but increasing the price . The ban decreased the supply of rough available to the small volume cutter, however finished stones are both abundant and inexpensive.

Tiger iron is a rock composed of tiger's eye, red jasper, and black hematite . It's contrasting bands of color and luster create an attractive pattern. Tiger iron is a popular material most commonly used for jewelry and ornamentation. Along with tiger's eye it is mined primarily in South Africa and Western Australia.

Sources:

Rock and Gem by Ronal Louis Bonewitz

<en.wikipedia.org/wiki/Tiger's_Eye>

<www.quartzpage.de/eyes.html>

<www.tigereyejewels.com/page/862055>

<www.all-that-gifts.com/se/tigers_eye.html>

<topgems.homestead.com/>

<www.jewelryartistmagazine.com/feature/jul00str.cfm>

How To Get an Eye in Tiger's Eye

from Al Bodman, via Delvings, July 2010

Tiger-eye is a hard siliceous or quartz family gemstone, with hardness of 7 on Moh's scale. In cutting parallel to fibers, a difference of 2 or 3 degrees will noticeably reward you. An improper cut is soon recognized. Now look across the slab at a 60 degree angle, a light or dark area should appear, with the dark on the farther side. China pencil mark a dividing line; each side should be a different color.

1. Hold the slice in the same plane, turn end for end, the light area should prevail nearest you, and the dark farthest away or on the opposite side as before. Again mark a dividing line; it is at the same division area.

2. Turn the slab over, top for bottom, and the reverse lighting is apparent. The dark is on the side closest to you, even if the slab is turned the dark should still be closest. As in (2) the dark area observed at 60 degrees is the top of the stone you wish to finish. As in (1) template marking will be where light half and bottom of cab. A floating eye of light will result.

Another Tiger Eye Tip

author unknown, via Delvers, July 2010

Try cementing three pieces of tiger eye together so that the grain is perpendicular to the next. Cabochons and other stones can then be cut with interesting chatoyancy effects.

Amethyst - Birthstone for February

by Louellen Montgomery from the Glacial Drifter, Feb. 1980

Probably the best known member of the quartz family is amethyst, the birthstone for the month of February. Its color ranges from pale orchid to a deep rich purple. The value of the stone increases with the depth of color. It seldom occurs in large flawless crystals, preferring to form groups of crystals all of about the same size. Uneven color distribution, or zoning is characteristic of amethyst regardless of the shade. Crystals clear enough to be used as faceted gems are not common. For this reason, high-quality, large amethyst gemstones are rare and expensive.

Amethyst is mentioned in the Bible as one of the twelve gemstones in the breast-plate of the High Priest Aaron. The name comes from the Greek word "amethystos", which means "not drunken", or "remedy against drunkenness". Many myths or superstitions prevailed in ancient times regarding amethysts as well as other gemstones. Amethyst was believed to endow the wearer with many supernatural qualities such as quickening his intelligence and making him invulnerable in battle., One of its supposed virtues was the capacity to cure or prevent drunkenness. Another, that drinking from a cup made of amethyst would give protection from the unwelcome effects of over-indulgence. Another myth about the powers of amethyst was that an amethyst pendant suspended on a dog-hair cord around the neck was supposed to be a guaranteed antidote for snakebite.

Amethyst forms in cavities, fissures and faults in rocks where the crystals have room to grow such as linings of geodes or centers of petrified logs. Some fine examples of the latter have been found in the DuBois area of Wyoming. Probably the most fantastic geode containing amethyst was found in Brazil. It measured 33 feet in length, 161/2 feet in width, and 10 feet in height, weighing an estimated 70,000 pounds. Its interior was lined with tons of beautiful purple amethyst crystals, many of them several inches across with glittering crystal faces. Several sections were preserved intact. One of these pieces, weighing 400 pounds, is now in the Smithsonian Institution. Mahy of the geodes found in Chihuahua, Mexico also contain beautiful amethyst crystals. Red hematite inclusions turn the amethyst crystals to a wine red color from the Thunder Bay, Ontario region of the silver mines.

The chemical composition of amethyst shows it to be nearly pure silicon dioxide, with minute parts of iron. As the amount of iron oxide increases, the depth of color also increases, leading to the assumption that iron oxide is the coloring agent. Recent studies suggest that natural irradiation may have some influence on the color. While the color is completely stable at ordinary temperatures, heating produces a remarkable change. If amethyst is heated to 450° C., the mineral becomes citrine, another variety of quartz. Much of the citrine sold as gemstones is probably a poor grade of amethyst heat-treated in this manner.

Amethyst may be tumbled, cabbed, carved or faceted. In faceting, an emerald cut retains a deep color better than the brilliant cut. Always use a deeper color than you want in order to get a good looking deep colored amethyst.

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Healed or Not?

from <www.dbrockwerks.com>
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If you are not sure as to whether a fracture in a slab is a healed fracture or not, wet your finger and swipe it across the fracture. Watch the fracture as the water dries, the fracture if NOT healed will take a bit longer to dry out. If it dries at the same rate as surrounding stone, most likely it is healed.

What Do They Mean by a "Petrified" Forest?

from Mineral Memo via Back Benders Gazette, February 2011

Petrified originally meant turned to stone—and this actually happened to certain ancient forests. The famous Petrified Forest of Arizona is a picture-book desert, painted with rainbow rocks under the enormous dome of a dazzling blue sky.

Petrified Forest National Park
nr. Holbrook, AZ

The scene has been this way for several million years. But to a trained eye, the place is strewn with evidence that the region was very different in the dim distant past.

You may bash into a bit of this evidence. Suppose you saw what seems to be a branch or fallen log, lying right there on the ground among the colorful desert stones. If you happened to kick the woody object, you would regret it.

When the agony subsided, you would be ready to learn that the object is a petrified piece of wood made of super-hard stone. Simply stated, you innocently used your kicking muscles to bash your toe on one of the hardest chunks of stone in the Earth's crust. The story goes back at least 150 million years, when forests of living trees thrived in this area. Later a change in climate robbed the region of its moisture, and the magnificent forest trees became a desert region of arid sands. Some fell into old riverbeds and forsaken waterways. In time, desert winds piled desert sands above and around the fallen forest giants. The rocky, bone-hard ground was short of oxygen. Decay bacteria need this vital element to live and perform their demolition duties on discarded organic materials. The fallen trees neither rotted nor decayed. Meantime through millions of years, scanty desert showers percolated down through the surface and accumulated pockets of ground water. In time, it dissolved loads of assorted silicates from the sandy minerals.

The ground water also percolated through the old fallen trees. Patiently, very patiently, their organic chemicals were gently, very gently washed away. The real miracle occurred as the woody substances were replaced by super-hard silicate chemicals left by the lazy mineral-rich ground water. Gradually, these mineral deposits replaced the woody tissue, copying the original cells and tree rings, molecule by molecule.

In time, the woody remains of the ancient forest were turned to stone, which is the original meaning of the word "petrified." The copy was made with age-old patience in finest detail. The quality materials used were molecules of semi-precious silicates, including rainbow colored quartz and opal, jasper, and flower-tinted agates.

Lapis or Sodalite?

from Tulip City Conglomerate
via Rock Writings, 1980

Look for pyrite inclusions in lapis lazuli if you want to know whether you have sodalite, lapis or imitation lapis.

• Lapis-Lazuli – Look for pyrite inclusions.

• Sodalite – Does not have pyrite inclusions.

• Imitation Lapis – Inclusions are golden flakes.

Lapis Lazuli is the gemstone with a rich blue color. Lazurite is the mineral name of the gem and ornamental stone Lapis Lazuli. It has a hardness of 5-5-1/2, is a sodium aluminum silicate with some sulphur. Most of the properties of lazurite are similar to those of sodalite, but the association of pyrite with lazurite determines the identification.

Sodalite is a sodium aluminum silicate with chlorine. It is 5-1/2 to 6 in hardness and the color is usually blue but may be white, grey, yellow or red. It is associated with other feldpathoids, particularly nepheline.

Lapis requires fine sanding to prevent pyrite inclusions from protruding during polishing. Leather may be used with Linde A or chrome oxide for polishing. Sodalite polishes perfectly on felt with cerium oxide, after a fine job of sanding.

Hydrochloric acid is good for testing lapis-lazuli. A drop of it on the blue stone creates an odor of hydrogen sulfide. On the white areas it usually effervesces because the white is usually calcite. This test will distinguish Lapis from Sodalite.

The World's Oldest Amber

From "Popular Mineralogy" ©by Andrew A. Sicree, Ph.D. Used with permission

Scientists recently discovered some of the world's oldest amber in 320-million-year-old coals from Illinois. This amber has only been found in small blebs about one-quarter of an inch (5 mm) across, but analysis of the amber yielded some surprising results.

Amber
Gdansk, Poland

Amber from the Dominican Republic is about 30 million years old. The world's largest sources of amber are the shores of the Baltic Sea; ambers from there are probably about 42 to 54 million years in age. New Jersey amber ranges approximately 65 to 95 million years old. Amber from Lebanon goes back nearly 130 million years. The Illinois ambers were found in coals from the Tradewater formation, Pennsylvania-age rocks about 320 million years old.

Amber forms from fossilized tree resins. Trees produce resins to seal damage and to protect themselves against insect invasions and to discourage animals from chewing on them. We are familiar with the dark reddish-brown resins that ooze from the barks of conifers and other gymnosperms – it sticks to your hand and is almost impossible to wash off. Gymnosperms are trees that have "naked seeds," and the group includes trees such as pines, firs, spruces, and ginkos. Other trees are angiosperms (flowering plants with encased seeds, including trees like apple, maple, and oak). They also can produce ambers. It is possible to identify various types of ambers using a process called pyrolysis-gas chromatography-mass spectrometry (Py-GC-MS). Put simply, this process takes a sample of amber, burns it to break it down, separates the chemicals produced during the break-down, and then identifies the breakdown chemicals. Ambers from gymnosperms and angiosperms will produce different patterns of break-down chemicals and so we can distinguish them.

Analysis of the Illinois ambers revealed that they belong to the class "1c." Ambers in the "1b" class are the most common, and they are thought to form from tress like conifers (gymnosperms). Class 1c ambers are usually thought to come from angiosperms. The problem with the 320-million-year-old Illinois ambers is that they are in class 1c (angiosperms), but angiosperm plants don't arise in the fossil record until almost 200 million years later. (Plants that formed Pennsylvania age coals were not like those in modern-day forests; there were no grasses and no flowering trees; ferns and fern-like plants predominated.) This class 1c amber puzzle leads scientists to suspect that at least some early plants growing in the coal swaps of the Illinois Basin had resin-making abilities similar to those of modern-day flowering trees.

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Bray, P. S., and Anderson, K. B., 2009, "Identification of Carboniferous (320 Millions Old) Class 1c Amber," Science, v. 326, 2 Oct. 2009, p. 132-134.

How to Cab an Opal

by Sol Hummerickhouse

Oh! I'm spinning in excitement and emotion. I looked, and there she was approaching me. Her great beauty and loveliness could not be completely hidden. What a queen she will make!

Now I'm caressing her gently with my 220 grit. Oh! Ever so gently. It's a thrill. Her response is tremendous. The growing form and shape of her makes me tingle in anticipation. I must be sure not to crown her too high. A high crown will detract from her beauty. That's it! Now, one more little touch right here. Wow!

Now to sand her very carefully. Easy now, I must not hurry. I'll have to be patient and take my time. I sure wouldn't want to get her hot and frustrated and break her heart. Slowly, ever so slowly, my sanding becomes finer and finer until she's ready. I can hardly wait.

My felt face covered and wet with cerium oxide, I'm ready to give her a polish. Here we go and here she comes in all her glory. Be careful now; be respectful. Treat her like the queen that she is. The blue green in her eyes; the red in her lovely cheeks and the golden yellow in her hair.

The not too high crown is like a rainbow of color. It all comes forth with my loving caresses. At last! I proudly present the Queen. Her befitting name -- Opal.

When renewing your membership, please fill out and sign the form on page 17.

Native Silver

by Dave Jacobson, from the Canaveral Moonstone via RockCollector, January 2011

This month we will take a look at one of the native elements, silver, Ag. Native silver is rare and it is a minor source of silver ore.

Most silver produced is from silver bearing ores. Some silver bearing minerals are acanthite, proustite, cobaltite, galena, copper zeolites and quartz. In addition to being used in the fabrication of jewelry it has many industrial uses.

One of the largest uses of silver is in the manufacture of photographic film although I suspect the rise in digital photography has to have a large impact on this market. Silver's use in photography is due to it's reactivity to light.

Silver is also the best conductor of heat and electricity although its cost makes it impractical to use for wiring.

Silver was one of the first metals to be used for coinage. The Lydian's made coins from electrum, an alloy of silver and gold as early as 700BCE.

Most silver produced is found with other metal ores such as copper, copper-nickel, gold, lead & lead zinc. Major producers of silver are Canada, Mexico, Peru, Australia and the United States. Mexico is reported to be one of the largest silver producers.

▲*Silver*
La Nevada Mine
Batopilas
Chihuahua, Mexico

◀*Proustite*
Chanarcillo
Copiapo Prov. Chile

Silver has several properties in addition to its color and ability to take a good polish which make it excellent for jewelry work. One is silvers ductility, the ability of the metal to be drawn into wire or rolled into thin sheets. It is also malleable, which means it is capable of being formed by hammering or pressing. It is also sectile, which means it is capable of being sawed or severed smoothly. Another thing is cost, even though the spot price has been hovering around $29.00 an ounce is not out of range for most hobbyists to fabricate jewelry from a precious metal.

Native silver is in the isometric crystal system. Cube shaped or octahedral crystals are rare. Typical forms are compact masses, plates, wire like forms and dendrite like shapes. Color is silver white or gray although many specimens appear black due to tarnishing. It has no cleavage. Streak is silver white. Hardness is 2.5 to 3. Specific Gravity ranges 10 to 12 depending on the purity of the specimen.

Silver takes its name from the Anglo-Saxon *seolfor*. The world in the Old High German is silabar. The symbol for silver, Ag is from the Latin argentium.

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Mineralogy For Amateurs by John Sinkankus.

S*imon & Schusters Guide to Rocks And Minerals*.

Amethyst Galleries Mineral Gallery <mineral.galleries.com>

Rocks And Minerals by Chris Pellent

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Iris Agate Phenomena

by Peter Rodewald, 2007

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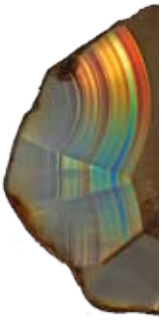
Thin sliced agate slabs that display the brilliant colors of the rainbow with intense transmitted backlighting are known as iris agate. After viewing hundreds of iris agates, several commonalities have been observed: (1) The majority of iris specimens will iris from bands of clear chalcedony adjacent to crystalline quartz centers; and (2) agate species with iris potential almost exclusively originate from volcanic-related environments.



It is widely observed that banded agate nodules containing iris are of the fortification type and it is widely agreed they commence band formation from their outer periphery inward and crystallization of the chalcedony fibers commences only when many variables such as temperature, acid ph levels, pressure, and chemical balances reach a stage of harmony, allowing the tiny crystals to form from a multitude of nuclei along the outer cavity wall.

Rhythms of crystallizing chalcedony begin forming an inward series of bands toward the center of the nodule. It is believed that as time progresses, the solution silica content, whether in a gelatin state established in the cavity or from external hydraulic forces injecting pulses of these silica solutions directly into a vacancy, decreases from depletion and subsequent lowering temperatures. Along with this change, the nucleating points

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Iris Agate Phenomena

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for crystallizing chalcedony fibers become less frequent and therefore the fibers become slightly larger. The fiber crystals, within themselves, are made of even smaller plates infinitesimal distances apart (Frondel) that are precisely arranged clones impeccably and fastidiously uniform. These are the hands of which iris bands are born. This is due impart to the growth at right angles to the previous growth surface, the bands become progressively more contoured as the center of the agate is reached. Many times, the final crystallization process becomes complete with the crowning of a euhedral quartz center.

However, not all iris bands are later stage bands in agates. Brazil agates, for example, may have iris bands anywhere within a specimen, but they also conform commonly to iris next to quartz as so many other species do. \Why do these late-stage bands next to crystalline quartz, or any bands for that matter, provide an iris effect? Visible light is made of component wavelengths of light. Each component wavelength is one color and all colors mixed together are white. There are several ways the laws of physics bend wavelengths into separation, allowing the brain to interpret them individually. These include scattering (why we see a blue sky or an orange sunset), interference (why oil slicks on water give off iridescent colors or why we see the iridescent colors in fire agates), refraction (why we see rainbows or why we see a bounty of color in precious opal), or selective absorption (why we view malachite as green or lapis lazuli as blue a reflection of yellow and green).

However, the effect we observe in iris agate isn't due to any of these. It's credited to a phenomenon known as diffraction grating. It's the same principle that allows us to see the multitude of colors on the surface of a CD or DVD. A large number of parallel, closely spaced slits constitute a diffraction grating. Just as the uniform grooves in a CD or DVD provides the reflection we need to see a rainbow effect, the uniform spaces between the chalcedony fibers provide the reflection we need to see the iris effect. In other words, the diffractions in agates are created predominantly from light reflecting back and forth off faces of minute chalcedony fibers and their faces not off the faces of the bands themselves.

A given percentage of light passes directly through the crystals without reflecting. Population densities of the crystals in combination with their respective sizes determine how intense the diffraction colors appear. Iris colors sometimes appear soft and silky due to very high populations arranged in optimal alignment. In these examples, there is so much diffraction that the diffractions overlap causing diffusion back towards white, hence a silky appearance.

Lapidary and iris agate.

To observe an optimum iris effect, if indeed the iris effect is present in a specimen, cutting must be made as nearly perpendicular to the banding pattern as can be achieved by cutting the agate into slabs that in most instances are best to be ll8-inch thick or less. The fibers are positioned perpendicular to band direction and vary from band to band, stone to stone, and cut to cut. It is seldom exact. If, for example, a saw cut is made 20 degrees off perpendicular to the banding, then the iris colors will appear best if it is viewed tilted that same 20 degrees off to compensate. The very best light sources to observe the iris effect are clear, unfrosted incandescent bulbs in a darkened room. This leads to one more aspect of viewing iris specimens in regards to the photographic results of iris agate phenomena. The very best lighting technique to set up for photographs is to mount the specimen between two layers of black construction paper, from a hobby store. Use a 60 to 100 watt clear incandescent bulb mounted in a receptacle like an" UP LIGHT, " available at most home improvement stores. Paint the interior black and stand the receptacle upright on the floor. Buy two adjustable mechanical iris diaphragms, no relation, from Edmund Scientific. Mount these two devices, on a wooden self built creation, 6" to 10" apart, one above the other, hut so the receptacle can set beneath them. The wooden mounting needs to be able to tilt to steep angles, adjustably, as iris specimens sometimes need the light to enter the slab at various, sometimes acute angles. The diaphragms allow you to narrow the light beam TO near parallel light by blocking out all stray light. When everything is set to shoot turn off all other lights near by and block out windows or better yet shoot only at night. Place camera on a sturdy tripod looking down at the slab. Do so with the lens aperture wide open or partially closed using depth of field preview. With area of color placed in the frame, where desired, aperture

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Iris Agate Phenomena

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down to f16 or smaller. This practice of small apertures removes stray light within the camera body, colors are sharper and richer. Always trigger the camera by some form of remote release, cable release will work. If using an SLR camera it is best the camera features mirror lock up mode and always shoot with The camera internal mirror locked up.

Photography techniques used properly utilize an aspect of film or digital that is an advantage over the naked eye. The eye and the brain can register only ~he light streaming to it at any given time and location. For instance, if the slab of iris is overly lighted, to intense, or on the other hand dimly lit the eye will adjust partially, but it will still he observed improperly lighted. The camera, on the other hand, will allow only the right exposure if overly lit and will accumulate light if dimly lighted and let light to the film until enough light has accumulated for proper exposure even though the subject was dimly lighted. Tip!! Purposely -_ll1der exposing iris colors of minutely small (1/3 to **1/4** stop) margins by adjusting the camera for such creates a deeper saturated and sharper image. Projected or printed, slightly under exposed, forces the agate lovers' eye to see it just that way as the photographer intended. The eye coupled with the brain cannot compensate this, fortunately, while the camera already has.

Excerpted and edited from "The Agates of Northern Mexico" by Brad Cross. (2000). The late Peter Rodewald was inducted into the Rockhound & Lapidary Hall of Fame in 2010.

Bench Tips

by Brad Simon from Jewelry Making With Brad Simon. Used with permission.

Stiffening Earring Posts

Soldering an earring post will always soften the wire a bit. Easiest way to harden it is to grip the end of the post with your flat-jaw pliers and twist it a couple half turns. This work hardens the wire and at the same time tests your soldered joint.

Use a Spray Bottle

Those little spray bottles you can find at the drug store are great for firescale preventors and debubbling solutions. A quick firescale preventor is liquid flux, and a homemade debubbling solution is a little Dawn liquid in rubbing alcohol.

Broken Drills

Have you ever broken a drill bit off in a hole? Sometimes you can grab it with pliers, but other times the steel piece is below the surface in the hole. If this happens, you can usually dissolve the steel in a solution of alum. Alum is typically available from a food store or a drug store.

Use about a teaspoon per cup of warm water. Submerge your piece so that the partially drilled hole is facing up so that bubbles can float free.

Buff Wheels

Drill a 3/8" hole in the center of your muslin buff wheels. Then place on the tapered spindle of your polishing motor. This larger hole will allow the wheel to move up further on the tapered spindle. You can then place an inside ring buff on the remaining tapered spindle. You can then use both the inside ring buff and muslin buff wheel with out stopping the motor to change the buffs.

Clean Files Occasionally

Files need to be cleaned occasionally. Allowing the file teeth to become clogged or collect metal chips, greatly reduces file efficiency. In addition, trapped metal may scratch the work surface. To clean, hold the file by the handle with the tip resting on the bench pin. Then, brush diagonally across the file with a file card (a stiff wire brush with short bristles).

Saw Blade Safety

Often saw blades break before they wear out, a wasteful situation. This can be avoided, or at least minimized with proper sawing procedures. The two main reasons for blades breaking are too much force used while sawing, and pinching the blade from twisting either the metal or the saw frame.

Bamboo Skewer

Placing a section of a bamboo skewer in your flex-shaft can make an excellent wood lap polishing point. File the protruding end to a point, and use your favorite rouge. The bamboo skewers are approximately 3/32" in diameter, which makes them easy to use in a quick-change handpiece.

Filing the protruding end to a point helps to reach into tight places

Soldering Jewelry

When soldering a butt joint on thin metal, it is better to cut the joint on a bevel. This will give you more surface area to solder and will make stronger joint.

Gem Cutters Guild Dues Renewal - 2011

I wish to renew my Gem Cutters Guild membership for 2011.

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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 Guild Meeting 7:30 pm	2  Lapidary Class	3 Inter. Jewelry Class	4 Reg. Deadline Beads & Wire Findings Class	5 Forging 2 Class NO Open Shop
6 Possible Open Shop	7 Jewelry 1 Class	8 Wirewrapping Class	9 Lapidary Class	10 Inter. Jewelry Class	11 Chesapeake G & M Soc. Meeting - 7:30 pm Women's Club of Catonsville	12 Beads & Wire Findings Class NO Open Shop
13 Possible Open Shop	14 Jewelry 1 Class	15 Wirewrapping Class	16 Lapidary Class	17 Inter. Jewelry Class	18 Board of Directors Meeting 7 pm at the Workshop	19 Possible Open Shop
20 Possible Open Shop	21 Jewelry 1 Class 	22 Wirewrapping Class	23 Lapidary Class Baltimore Mineral Society Mtg. 7:30 pm Cockeysville Fire Hall	24 Inter. Jewelry Class 	25	26 Possible Open Shop
27 Possible Open Shop	28 Jewelry 1 Class					

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