

# The Opal Express

American Opal Society  
P.O. Box 4875  
Garden Grove, CA 92842-4875



**Volume #38 Issue #10  
October 2005**

TO:

### Some Topics In This Issue:

- Noel Lamkin – Jewelry
- Soft Tissue in Dinosaur Bones
- Spencer Opal Deposits, Idaho
- Helpful Hints for Cabochon Making
- ToeMaline Discovered in Wilmington
- Safety First - Hand Tool Safety

### Important Info:

**Board Meeting  
October 11<sup>th</sup>**

**General Meeting  
October 13<sup>th</sup>**

Francis Lau, G.G.G.I.A., will give a presentation on PEARLS. Come and learn about natural, cultural, and imitations pearls. 7:00 p.m. sharp.

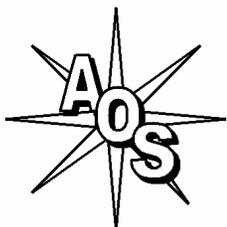
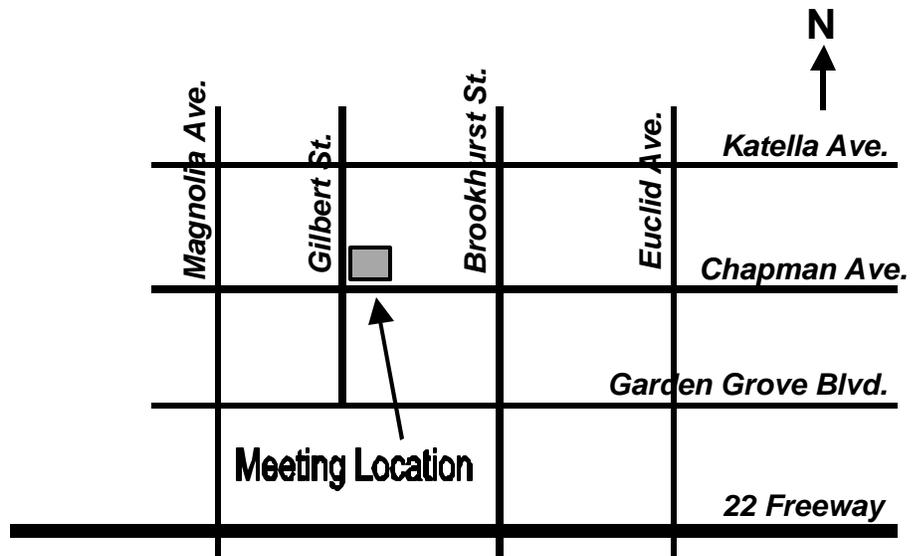
### — GENERAL MEETINGS —

2nd Thursday of the Month  
7:00 pm - 9:00 PM  
Garden Grove Civic Women's Club  
9501 Chapman Ave.  
(NE corner of Gilbert & Chapman)  
Garden Grove, CA

### MEETING ACTIVITIES

Opal Cutting, Advice, Guest Speakers,  
Slide Shows, Videos, Other Activities

## October 13th Lecture: Francis Lau, G.G.G.I.A. on PEARLS



## The American Opal Society

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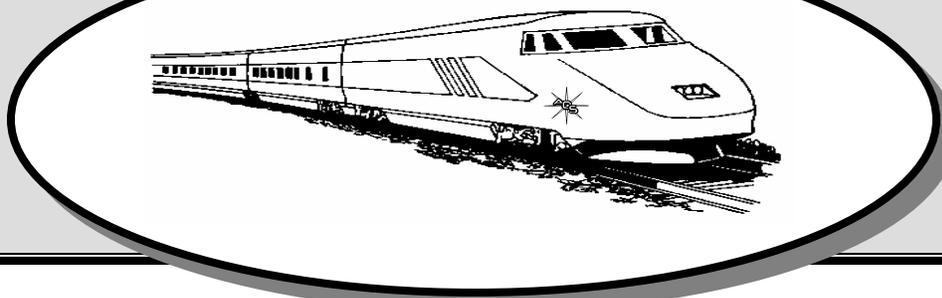
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Include my name & address on a list provided to the Dealers selling at our Annual Opal & Gem Show.

Please sign here: \_\_\_\_\_ Date \_\_\_\_\_

<p>The Opal Express is published monthly by The American Opal Society. Copyright 2005. All rights reserved. Non-Commercial Reprint Permission Granted Unless Otherwise Reserved. <b>Editor-Jim Pisani</b> Please address all inquiries and exchange newsletters to: <b>The Opal Express C/O</b> <b>Jim Pisani</b> <b>P.O. Box 4875</b> <b>Garden Grove, CA 92842-4875</b> E-mail: <a href="mailto:editor@opalsociety.org">editor@opalsociety.org</a></p>	<p><b>Are Your Dues Due Now?</b> <b>PLEASE CHECK YOUR ADDRESS LABEL.</b> If your label shows the current month/year your dues are <u>DUE NOW</u>. If the date is older, your dues are overdue. <b>A Renewal Grace Period</b> of two months will be provided. If your dues are due now you will receive two additional issues of the newsletter. Please note, however, that as the system is now set up, if your renewal is not received you will be <u>AUTOMATICALLY</u> dropped from membership thereafter. It is your responsibility to assure your dues are current. Thank you, <i>The Editor</i></p>
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# The Opal Express



Published monthly by The American Opal Society

October 2005

Volume 38 Issue 10

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## A Message from Your President

*Dr. Walt Johnson*

After an absence of over 3 months, I have returned and am anxious to get back to work. Many thanks to Eugene LeVan and the board for carrying on with the business of the American Opal Society.

Be sure to mark your calendar for November 12 and 13 for our upcoming show. It should be an exciting weekend. Extensive coverage is in this issue and November's.

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## Francis Lau - Speaker for October Meeting

October's program will feature Francis Lau, G.G.G.I.A., who will give a presentation on pearls. Come and learn about natural, cultural, and imitations pearls. Learn how to buy the best and how to avoid fraud. Find out why pearls are so much in demand as a gemstone. This knowledge should help you buy wisely.

Mr. Lau was asked to come in a response of the request your board of directors has received for diversity of speakers. We hope our members attending will acquire a greater knowledge of pearls. Hope to see you on October 13, 2005 at 7:00 p.m. sharp!

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## Members Only Website Password

To log onto the website's members only area at: [http://opalsociety.org/aos\\_members\\_only\\_area.htm](http://opalsociety.org/aos_members_only_area.htm) type: Name: "member" and Password: "grawin".

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## Volunteers Needed for Opal & Gem Show

We need volunteers to help at the show next month. Help make our main fund raiser a success! Please contact Fran Todd at (310) 987-0642 or email: [toddle@aol.com](mailto:toddle@aol.com), or come to the October meeting. You may also just show up at the Opal & Gem Show. Volunteers get into the show free!

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**IT'S NEXT MONTH!!!  
Get READY!!!**

*The American Opal Society's 38th Annual*

## ANNUAL OPAL & GEM SHOW

*The Largest Opal Show in USA!*

**Sat. & Sun., November 12 & 13, 2005**

**Saturday 10AM - 6PM**

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Opal and Gem Dealers from around the USA and Australia.

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Huge Raffle many prizes of gemstones, jewelry, tools, etc.

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**AOS DOWN UNDER!** Here is a photo that was taken of Mike, Len Cram and myself (Frank Gross) whilst Mike was staying at Bluey's Motel in Lightning Ridge, Australia. I was invited to a meeting with Len and Mike in the later days of July, 2005 for a chat. The chat lasted about 1.5 hours and drifted between Len's opening the opal trade to Japan in the 60's to synthetic opal. Mike treated us all with potato scallops, rock cakes, and soda. If you don't know what these things are ask us at the next meeting. Mike did a fair bit of fossicking with Len during his stay in Lightning Ridge. He will have some good stories to tell at the October meeting.

## **EXCUSES, EXCUSES, EXCUSES, Need any more EXCUSES to attend the AOS show or Tucson?**

November 12 and 13: I have arranged for us to go to Disneyland for the weekend. We'll stay within walking distance. We'll see one park each day; even eat at Downtown Disneyland at night. I hear they have some great restaurants and free entertainment. (Once you get there...) What!!! I don't believe it!!! An Opal Show... Go on ahead and take the kids, I'll catch up with you later.

February 2006: Honey, I'm a member of the Opal Society, they are having a booth and need help staffing it. If we go down a few days early, we can relax and do some shopping. Mexico is just a short drive away. You and the kids can go...

Need more?

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## **September Speaker:**

### **Noel Lamkin - Jewelry Design - Do's & Don'ts**

*By Russ Madsen*

Noel Lamkin, our September guest speaker, is a long time opalhollic and member of the American Opal Society and an expert practicing jeweler for 23 years. Her talk provided members and guests in attendance several excellent hints and tips (Noel's do's and don'ts) concerning jewelry design.

Noel pointed out an early instructor advised her a gemstone is not something to be "stuck on metal". A well designed setting compliments a gemstone. For example Noel set rutilated quartz surrounded by silver "needles" so the setting complimented the stone.

**RINGS** - A very interesting feature of rings relates to the fact that human fingers attach to the hand at a slight angle. A ring needs to accommodate this in order to best present its design. Also,

shaping the ring/shank with a slant often helps keep a ring from rotating upside down.

Noel emphasized a ring should be understood as a miniature sculpture. Its design should look beautiful from 5 directions ... all four sides and down from vertical. In addition, rings are an opportunity for men to wear and enjoy artistically designed beautiful jewelry.

**Problem 1** - People's knuckles are often bigger than the area on the finger where a ring is worn. Noel offered two creative ways to deal with this...[1] design the piece as three separate rings which interlock and fit together when worn. They will go over the knuckle easier separately because each has a narrower shank than a single bigger ring. The central ring provides a setting for the prominent gemstone and design while the two inner and outer \*guard rings\* compliment and complete the setting. When worn, the three rings appear as one! [2] Another suggestion is to make the shank as a hinge / clasp that opens around the finger.

**Problem 2** - What if the ring is "stuck" on a swollen finger? Cut off with a special saw by making two cuts in the shank. Two cuts are necessary because spreading a single cut in the shank will likely ruin the setting and may injure the wearer. Once the ring has been removed from the swollen finger a proper repair to resize the shank can be effected as necessary.

**EARRINGS** - Noel pointed out earrings with a gemstone setting are often a bit on the large, heavy side. If the ear post is in the center, the earring will have a tendency to tip over, fall forward and appear unsightly. Instead, Noel locates the ear post up from center so the design hangs vertically and doesn't tip forward. She suggested adding a small weight on the post's backing to help the earring hang vertically as well.

**DESIGN DO'S** - While it is true every design needs balance, Noel favors asymmetry because it is more interesting and is often more engaging to both the jewelry wearer and admirers.

Noel enjoys using \*found\* objects in her jewelry designs. She mentioned using shells, nacre from shells and pearls in various jewelry pieces.

Another design suggestion is to watch for antique and estate jewelry (yard sales, thrift shops etc) which can provide ideas. Sometimes a portion of the design of such a piece can be incorporated in a new creation. As an example, Noel noted she was able to cast a bird she found on a Christmas ornament.

**WHAT ABOUT OPAL?** Noel began by offering a "don't". Don't use opal with orange and pink color play as an offset to make a ruby look more "red".

In deciding what color play to use in a jewelry piece Noel noted that green is the natural common denominator color of our entire existence here on earth. Therefore green is often an attractive color play for an opal in her jewelry designs. It can be helpful to think of a field of flowers ... green with colorful highlights. In addition, the soft glow of pearl often goes well with opal.

Important! Don't use diamond for the eyes of animals. Ever noticed the eyes of a dead animal? They are always solid white. Diamonds are (ordinarily) white. It is much better to use opal and other "alive" colored stones for animal eyes and accent other body parts with diamonds.

**OTHER DESIGN CONSIDERATIONS** Many people have quite acidic skin and acidic skin wears off gold plating. (shhhh) Don't tell anyone Noel's secret trick - she uses a gold colored ink pen from Home Depot to "paint" the worn off gold plating which once highlighted her jade bracelet.

To obtain really fine detail in a casting such as a finely detailed bracelet or necklace, Noel uses tatting (very fine thread needlework as in doilies) instead of working in wax. Burn out and cast the tatting directly.

Noel advises when designing jewelry in gold use 18k because working and clean up are much easier than with 14k gold.

Be aware that dental gold alloys contain platinum to achieve durable hardness needed in dental applications. Platinum yields a very high melting point which can often be problematic for jewelers.

**A FINAL IMPORTANT NOTION - ODD OR EVEN?** As previously noted, designs should be balanced. However, a jewelry piece can become staid or boring because it uses an even number of elements. Noel favors achieving balance through asymmetry using uneven numbers of elements in her designs. Odd numbers of elements create interest and often engage the wearer or observer's attention to 'move' from element to element through the piece.

Our thanks again to Noel Lamkin for sharing her knowledge and experience regarding jewelry design as well as for having on hand a wonderful collection of examples of her beautifully created jewelry pieces.

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## **NC State Paleontologist Discovers Soft Tissue in Dinosaur Bones**

*NC State University News Services 3/24/05*

Conventional wisdom among paleontologists states that when dinosaurs died and became fossilized, soft tissues didn't preserve – the bones were essentially transformed into "rocks" through a gradual replacement of all organic material by minerals. New research by a North Carolina State University paleontologist, however, could literally turn that theory inside out. Dr. Mary Schweitzer, assistant professor of paleontology with a joint appointment at the N.C. Museum of Natural Sciences, has succeeded in isolating soft tissue from the femur of a 68-million-year-old dinosaur. Not only is the tissue largely intact, it's still transparent and pliable, and microscopic interior structures resembling blood vessels and even cells are still present.

In a paper published in the March 25 edition of the journal *Science*, Schweitzer describes the process by which she and her technician, Jennifer Wittmeyer, isolated soft organic tissue from the leg bone of a 68-million-year-old *Tyrannosaurus rex*. Schweitzer was interested in studying the microstructure and organic components of a dinosaur's bone. All bone is made up of a combination of protein (and other organic molecules) and minerals. In modern bone, removing the minerals leaves supple, soft organic materials that are much easier to work with in a lab. In contrast, fossilized bone is believed to be completely mineralized, meaning no organics are present. Attempting to dissolve the minerals from a piece of fossilized bone, so the theory goes, would merely dissolve the entire fossil. But the team was surprised by what actually happened when they removed the minerals from the *T. rex* femur fragment. The removal process left behind stretchy bone matrix material that, when examined microscopically, seemed to show blood vessels, osteocytes, or bone building cells, and other recognizable organic features.

Since current data indicates that living birds are more closely related to dinosaurs than any other group, Schweitzer compared the findings from the *T. rex* with structures found in modern-day ostriches. In both samples, transparent branching blood vessels were present, and many of the small microstructures present in the *T. rex* sample displayed the same appearance as the blood and

bone cells from the ostrich sample. Schweitzer then duplicated her findings with at least three other well-preserved dinosaur specimens, one 80-million-year-old hadrosaur and two 65-million-year-old tyrannosaurs. All of these specimens preserved vessels, cell-like structures, or flexible matrix that resembled bone collagen from modern specimens. Current theories about fossil preservation hold that organic molecules should not preserve beyond 100,000 years. Schweitzer hopes that further research will reveal exactly what the soft structures isolated from these bones are made of. Do they consist of the original cells, and if so, do the cells still contain genetic information? Her early studies of the material suggest that at

least some fragments of the dinosaurs' original molecular material may still be present. "We may not really know as much about how fossils are preserved as we think," says Schweitzer. "Our preliminary research shows that antibodies that recognize collagen react to chemical extracts of this fossil bone. If further studies confirm this, we may have the potential to learn more not only about the dinosaurs themselves, but also about how and why they were preserved in the first place."

The research was funded by NC State, the N.C. Museum of Natural Sciences and the National Science.

From [http://www.ncsu.edu/news/press\\_releases/05\\_03/075.htm](http://www.ncsu.edu/news/press_releases/05_03/075.htm), via the Breccia, April 2005

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## **Tucson Gem and Mineral Show, February, 2006.**

The American Opal Society will have an information booth in the Galleria section of the Tucson Convention Center. We will be able to meet with opal lovers from all over the world. If you are in Tucson during that time, please come and spend some time at the booth.

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## **Spencer Opal Deposits, Idaho**

*By Lawrence Dee, Geologist*

### **Introduction**

In order to give the reader a better appreciation of some alternative valuable minerals that can be found by the average prospector, we visited Bob Thompson's Opal Mountain Mine located in Spencer, Idaho. Bob is a former chemical engineer turned opal miner. It is easy to see why he lives the work – he has an incredible view of the Snake River Plain from his mine at 7,000 feet elevation. The formation is an amazingly interesting assemblage of hydrothermal mineralization, and he has the opportunity to find very valuable opals, some weighting thousands of carats.

The original Spencer area opal mine was said to have been found by two hunters who were tracking a wounded deer and stumbled upon the deposit during the chase. This story does seem to more believable than the badger digging out the gold vein or the mule kicking up some high grade. After its discovery, the deposit was evaluated to determine the quality of the opals and the extent of the deposit. The quality was excellent and the deposit extensive so claims were staked and it was opened for both mining and public digging in 1968.

### **Location**

The Spencer opal deposits are located about 5 miles east-northeast of the town of Spencer, Idaho, on Opal Mountain. Many opal prospects and several operating mines lie on the south side of Opal Mountain with most of the deposits being covered by patented or unpatented mining claims. The Spencer opal mines are unique in that they are the largest group of commercially operated opal mines in North America. At this time there are two active mines with other sites in the process of being explored.

### **Geology of the Area**

As part of their interesting origin, the opal deposit of Spencer lie along the track of the hot spot that created Yellowstone. The rhyolite that makes up the opal deposits erupted as the Yellowstone hot spot passed on its way to where it now located, in Yellowstone National Park. Volcanics abound as the flat-lying basalt flows of one of the world's great volcanic fields, the Snake River Plain, lap up on the base of Opal Mountain.

### **Origin of the Opal**

If you have been to Yellowstone National Park you have seen a remarkable laboratory of hydrothermal mineralization in action. Opal as well as other minerals and even precious metals are being formed as you observe the hot springs and fumaroles from Norris Geyser Basin and south. This is the same type of hot water system

that deposited the opal of Spencer as well as Cinnabar which the U.S. Geological Survey reported as occurring in the deposits.

The opal of the Spencer area occurs in a Tertiary-age rhyolite flow. Rhyolite is the extrusive volcanic rock that was deposited as incandescent rock or ash that rained down from exploding vents with the superhot particles welding together. As you are probably aware the Tertiary was the time of tremendous volcanic activity in the West and it was during this period that many of the mineralized volcanic areas that are being mined for gold occurred.

The action of the opal deposition is fairly simple; as the rhyolite was extruded from deep within the crust, the sudden release of pressure caused entrapped gas to separate from the fluid magma and form vesicles or cavities in the rock. As the hot water moved through the rocks, it absorbed silica from the rhyolite taking it into solution and then re-depositing the silica as opal in the cavities and fractures. Opal fillings are disseminated through certain zones in the rhyolite and the miners soon learn where these pay zones occur.

In general, precious opal forms when silica gel precipitates very slowly from quiet hot waters that move deep through the volcanic rocks filling the cracks and voids. Next, the silica gel forms microscopic spheres that settle into pockets. These pockets contain spheres of approximately equal size and have a regular concentration or structures. When light strikes fire opal the perfectly arranged spheres break up the light into various wavelengths with each pocket producing a different color with a different intensity depending on the angle from which it is viewed. The fantastic light show that results is what gives precious opal its immense popularity. In common opal, which shows no play of colors, the silica spheres are either of assorted sizes which do not produce the regular array required for color diffraction or are too small to produce a visible play of color.

Opal is known as a mineraloid because it has no crystal structure. It consists of noncrystalline (amorphous) silicon dioxide (SiO<sub>2</sub>) and up to 20 percent water. The best quality opal contains less than 10 percent water. Exposure to sunlight can cause dehydration and fading of the colors in opals with high water content. The Spencer area opals appear to have a low water content, preventing them from fading over time.

Sod of the precious opal in the Spencer deposit occurs within spherulites, which is a spherical mass of crystals radiating from a central point. Some of the sites on Opal Mountain contain large areas of spherulitic rhyolite but only in a few places are they opalized. You have likely seen spherulites in rhyolite flows – they are generally brown in color, perfectly spherical and can range from b-b size to ones the size of basketballs.

### **Mining the Opal**

At the Opal Mountain Mine, mining the opalized rhyolite is accomplished with a dozer, a front-end loader, and recently, a track hoe with a hydraulic breaker.

Opal Mountain Mines found that using explosives was expensive and sometimes destructive to the opals in the opal bearing rock, so they went to a hydraulic breaker. Because most of the final extraction is done by hand, the hydraulic breaker is ideal for reducing large boulders to manageable sizes that can be broken up with hand tools.

One of the clues to the presence of opal can be the small layers of nodules of common opal. Common opal is the variety that shows no fire but is usually just white or tan in color. Bob wears a lapidary magnifying device and closely examines the broken rock for fire. Sometimes it is just the smallest speck of color that will give away the fact that larger opal lies within – so pieces showing even the smallest amount of fire are saved to be inspected by cutting on the diamond trim saw.

### **Sorting and Classifying the Opal**

At the end of the day the bucket of opal are taken back to the shop where Bob has two large diamond saws. One is configured as

a trim saw so that the matrix on the opal bearing rock can be trimmed away, hopefully revealing some fire. This can be done very rapidly and if fire is found the opal is then carefully cut from the matrix and later polished in a cabochon.

Bob cuts the quality stones into a standard 8x6 mm size cabochon which sells for \$15-\$25. The retail value is determined by the amount of fire in the stone – larger flashes and more brilliant colors command higher prices. Out of 200 cubic yards of material Bob will recover enough quality opal is a season to cut 8000 stones. Once in a while he is lucky enough to find an opal that cuts with a star. This is a very rare occurrence, as most gemstones show stars because of inclusions or certain crystal structures.

Opal mining costs at the Opal Mountain Mine are reasonable as the equipment is paid for and much of the labor is done by hand. However, as with most gem mining, it is difficult to predict concentrations of the gems as very few exploration options are available other than mining.

### **Prospecting for Opal – Exploration Guides**

I have described the type of deposit opal occurs in. It is probably more prevalent in rhyolite than in other rock types but when you consider how it originates it is obvious that it can occur in any type of rock. All that is needed are openings in the rock large enough for hydrothermal solutions to enter the rock and precipitate the opal. In Nevada and Idaho, fire opal has been mined in basalt, usually occurring as very thin seams along fracture sin the rock. At one location near Boise, Idaho, it occurs in sandstone of ancient lake sediments where it has actually cemented the sediments. This is an unusual occurrence, but certainly shows there are few hard rules where hydrothermal mineralization is concerned.

Some of the same minerals used to explore for hydrothermal gold deposits can be used in opal exploration. They are known as low-temperature minerals because they are mobilized at relatively low temperatures. Three of them are mercury, antimony, and arsenic.

Like most other minerals we seek, the first place to look is where it has been found before. The geological literature has numerous references to sites where it has been found in all of the Western states plus many mineral collecting guides mention opal localities. Next, it is important to get an idea what the formations that the opal occurs in look like. For that you need to visit one or more opal mines.

If you have been to Yellowstone or similar fumarole areas you will be able to recognize ancient or paleo-hot spring deposits. These should be closely examined for opal. Then if you are fortunate enough to locate an opal deposit you need to contact experts in the field to determine whether or not the material is saleable. While fire or color are the most important criteria, if it is too soft or decrepitates (falls apart) then it has little value. For example, there is a famous locality in Virgin Valley, Nevada, that produces opalized tree limbs of incredible fire and color. The problem is the material decrepitates so badly by losing water that it cannot, for the most part, be cut into gemstones. It is still valuable to collectors and several mines cater to those who want to dig it.

Most opal will fluoresce a bright green base on the uranium minerals that were present in the hydrothermal solutions. It also has been known to phosphoresce (continue to fluoresce after the light has been removed).

Opal does not have to show fire to be saleable. There are some deposits of blue opal in Idaho that have a market and they occasionally show fire. On the other hand, there is a deposit of yellow opal in Northern Idaho that was mined years ago but as in many stones, color dictates the stones popularity and thus there is little or no demand for it now.

These prospecting suggestions also apply to jasper and agate, as they are formed in much the same manner as opal.

### **Conclusion**

Fire opal is just one of many gemstones that can be found by the prospector willing to research the subject and apply logical prospecting techniques to his search.

Lawrence Dee is a retired geologist, and former District Geologist with the BLM, turned prospector. He welcomes your questions and comments. You may contact him via e-mail at [LDee1@mindspring.com](mailto:LDee1@mindspring.com) or at PO Box 2101, Idaho Falls, ID 83404.

From the ICMJ's *Prospecting and Mining Journal* July 2003.

From <http://www.pin.ca/us/opalmine/magazine.htm>

## Helpful Hints for Cabochon Making

By Jon Sams with update by Don Esch

During the annual and quarterly cabochon contests held by the Willamette Agate and Mineral Society, there is one predominate error that seems to bother one and all. This, of course, leads to secondary errors that in the final sum total would give a Federation judge fits. Another important factor is that most of the members do not have the time, following a full work day, to grind and grind on a cabochon with a full dome. Hence, there are a number of members who would like to enter contests but hesitate to do. This, I am sure, is cause by the above mentioned factor. The method that will be explained herein is not only acceptable by Federation judges, if you decide to go the contest route, but will cut your working time by two-thirds once you have mastered this technique, and it is not really that hard to learn.

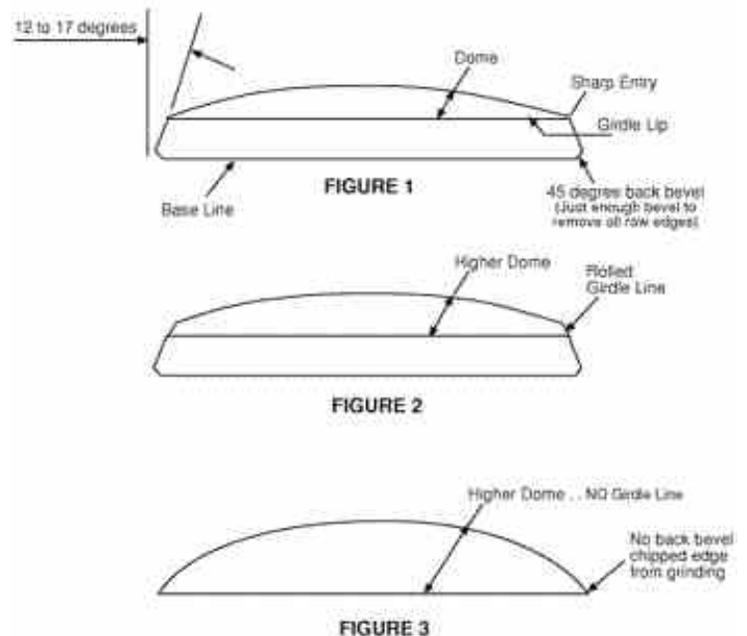
1. Figure 1 is a prime example of a semi-flat dome. If you were to superimpose Figure 1 on Figure 3, you can readily see how much grinding is eliminated. Since most of the cabbers work in harder stone (Mohs 5 to 7), this is really a time saver. Also, a flat or semi-flat dome will hold the reflective beauty of the material much better than a high dome. (Opal is an exception. . to the above statement)

2. Figure 2 depicts a cabochon with a rolled girdle line. This is strictly a no-no. Judges just shake their heads when they see such a fault. Some of this roll is cause by grinding, and some by the polish action. Let's get into some of the simple things that make an poor cabochon into one of outstanding beauty.

Most of us know before we start to make a cabochon, we would like to mount it into a finding. Rule number 1: The prongs of a finding should never extend above the girdle line. So, the obvious thing to do is to measure the height of the prongs and set the girdle line accordingly. Most prongs are 3 to 3\ MM in height. Since there are 25.4 MM to the inch, one can figure the height with ease. A mounted stone with prongs bent over on top of the dome draws your attention to the prongs and not to the beauty of the stone. Therefore, the distance from the base line to the girdle should never be less than the height of the finding prongs. The ideal dome is one that measures vertically ~ the distance from the base line to the girdle. Information such as this, and much more, is never published, but held in the heads of judges. This is one of the things that some times makes the exhibitor bleed and bleed. One must ask question after question to finally compile all of the facts that will give you a score of 95 or above. Rule number 2 (these are my rule numbers): The bezel or slanting edge of the stone, after it has been ground to template size, should be angled in from 12 to 17 degrees. This is to allow the prongs of your finding to grasp the stone firmly. The bottom edge of the bezel should always be back beveled at 45 degrees to eliminate all rough and raw edges caused by grinding. This bevel should always be polished. The dome entry to the bezel (known as the girdle line) should always be sharp and well defined (Fig. 1) and not as shown in Figure 2. Always strive to maintain a straight line of uniform depth to your girdle.

In setting up to grind a flat dome, start with grinding around the edge above where the girdle will be, and in a sort of "peel an apple routine." If you are making a 40 x 30, or any other size, always change the angle of your dop stick in relation to your stone, i.e.: When grinding opposite the long axis 40 MM) your dop stick should have a shallow angle and then as you come around opposite the

## The Making of a Cabachon



narrow axis (30 MM) increase your angle. This will insure the correct curvature for the dome. Shape your stone with a silicon wheel to about ~ MM from your marked girdle line. Change then to paper of your choice. Each and every one of us has a different thought on this part of cabochon making. By using paper, which cuts a lot slower, you will eliminate scallop on your girdle line. If using diamond grind wheels, be sure to switch to next finer wheel before getting to these lines. Use a metal edged ruler and run the edge over the face of the dome while holding at eye level. If you can see only one point of contact as you move across the dome face, your curvature is correct. This method will show flat spots in a hurry. Using a worn out 600 paper will remove most to your grinding scratches. The next will sound a little odd, but it works for me. After I have used the 600, I put on a WELL worn 400 and grind at 90 degrees from the direction that I used on the 600. Always change direction of grind by 90 degrees when you change grits.

3. Polish....Oh what a nasty word (sometimes). Use your own method of polishing, but add this....On the first few minutes of polishing, rotate our stone in the opposite direction that your buff is turning and in most cases, use considerable pressure....NOW....reduce pressure and rotate your stone in the same direction as the buff is turning. The results are sometimes astounding. The preceding also works well with diamond. Be sure that you polish the bezel first and then when you are on the dome....do not....roll over onto the bezel. If you do....this will cut our sharp girdle line and I would like to stress again....Always try for a sharp, well defined girdle. I sincerely hope that this short extemporaneous paper will cut your capping time and increase your enjoyment of this wonderful hobby.

For more information comments or suggestions email [info@wamsi.org](mailto:info@wamsi.org). <http://www.wamsi.org/pages/rocksp.html>

## ToeMaline Discovered in Wilmington, CA

By Fran Todd

My husband limped inside the house and onto the couch. With pained eyes he asked "Could you look in my foot? I think I stepped on something outside." With a roll of my eyes, I said "Sure." There was something sticking out of his big toe. It was a clear, but not

colorless. After retrieving the surgical equipment from the jewelry bench, I returned to the couch. Slowly and carefully this small, bothersome object yielded to the hemostats: pink, but not the color of blood and only 2 mm across. A chip of pink tourmaline was finally mined out of my husbands toe!

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## Safety First - Hand Tool Safety

*By Bill Klose, AFMS Safety Chair*

### Chisels & Drills

Chisels and drills are used with hammers. Flat chisels are used to form and cut cold metal and not work with rock. Rock hounds should use brick chisels that have a double beveled point at an inclined angle of 80 degrees and brick sets with a single beveled point with an inclined angle of 45 degrees to split rocks. Star drills are used for making holes and have all cutting edges with inclined angles of 70 degrees. Hold chisels and drills with a loose fist, keeping the fingers relaxed in order to minimize the chance of being hit by a glancing blow of the hammer. A sponge rubber pad forced over the chisel or drill above the hand and a glove will also provide protection for the hand. If someone else is holding the chisel or drill, it is best to use a set of tongs or a chisel holder as a guide. Gloves and protective clothing consisting of long sleeve shirts, long pants, and aprons, eye protection (safety spectacles, safety goggles, and face shields), and safety shoes should be used to protect both individuals from glancing blows and flying chips. The following safe practices apply to chisels and drills: 1. Protect cutting edges by installing protective covers. 2. Store in rack where they will not be chipped or broken. 3. Re grind broken or chipped chisel edges before using. Cool in water often to protect the temper of the metal. Drill cutting edges should be hand filed. Replace chisels and drills with mushroomed heads to prevent shards of metal from breaking off and causing injury. 4. Lubricate with light oil before storing and wipe off the oil before striking with a hammer.

### Crowbars, Pinch Bars, and Wreaking Bars

Crowbars, pinch bars, and wreaking bars are favorite tools of rockhounds. Be sure to pick the proper size of tool for the job, with a point or toe that will grip the object to be moved and a heel that will act as a pivot or fulcrum. Use of a block of wood under the heel will also keep the bar from slipping and causing hand injuries. Store bars secured upright so they will not fall or cause tripping hazards. Never hit a bar with another tool and do not try to pry an item that will cause the bar to bend.

### Knives

According to the National Safety Council, knives are responsible for more disabling injuries than any other hand tool. Only use knives for the purpose intended, not splitting rocks with a hammer. Keep the knife blade sharp and cut away from the body, avoiding jerky motions. Use knives with retractable blades whenever possible. If the item to be cut is held in the other hand, wear cut resistant gloves. Always wear a sheathed knife at the hip towards the back, never on the front part of a belt. This prevents severing an artery or vein in a leg as the result of a fall. Wipe knives with the sharp part of the blade turned away with a separate cloth, not on clothes or with fingers. Wash knives separate from other utensils. When not in use keep knives in sheaths or knife racks to guard their edges and to protect people. For long term storage, apply a rust preventative compound on all metal parts and store in a dry spot out of reach of small children. Avoid horseplay, such as "fencing", when using knives and allow plenty of room so you won't bump into anything. The 18" machete is used to cut tall grass, vines, and small brush. It is heaviest and widest near the pointed end with a handle shaped to fit the hand on the opposite end. When using a machete, always make sure no one is close enough to be injured before swinging the tool. Always clear the swing path so as not to deflect the blade. Do not use a dull or defective tool. Store properly in a

sheath when not in use. For prolonged storage, coat metal parts with light oil.

### Axes

Axes are designed for cutting, felling, trimming, notching, and splitting wood and soft material. A narrow blade is for hard wood and a wide blade for soft wood. A single bit ax may also be used for driving wooden stakes, NOT CHISELS and BITS! Never strike an ax against metal, stone, or concrete. Never use an ax with a worn or damaged handle. Use steel wedges with a maul or sledge hammer when splitting wood, never a single bit ax. Keep ax blades sharp. A dull blade may glance back and cut the user. Always wear safety shoes, eye protection, and long pants when using axes. Before swinging an ax, ensure you have a path clear of vines, brush, etc., and that no one is standing nearby. During the swing, let your hand slide down the handle towards the other hand near the end. Have your weight distributed evenly with your knees set, but not tense. The body should be relaxed and free to swing and bend at the waist. For a right handed person, the left foot should be closer to the work. Protect the ax blade(s) with a sheath or metal guard when not in use. Carry axes at your side-single blades pointed down. Axes, like knives, should be kept sharp by honing.

### Mattlocks

Double bedded mattlock and pick mattlocks are designed for digging and cutting. The use and safe practices are similar to those for axes.

### Shovels And Spades

Long handles shovels are used for digging in open areas and "D" handled shovels are for light digging in confined areas. The spade is for heavy digging in confined areas. The post hole digger is used to bore holes for posts, explosive charges, etc.. Shovel blades should be kept well trimmed and the handles in good shape and free of splinters. Wear heavy safety boots with sturdy soles and use the ball of the foot, not the arch, to press the shovel into the ground. If the instep is used and the foot slips off the shovel, the sharp corner of the shovel may cut the shoe and the foot. Keep legs well separated with spring in the knees-the leg muscles should take much of the load while shoveling. Dip the blade in water often or coat the blade with wax or grease to keep the shovel free of sticky material and caking. Treat the handle with linseed oil occasionally to avoid cracking and splinters. Store shovels against or hanging on the wall in a rack or shovel box. *Reprinted from April 2005 AFMS Newsletter, via the Breccia, 7/05*

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## October 2005 Gem & Mineral Shows

**28-2 — JOSHUA TREE, CA:** 29th annual show; Joshua Tree Sportsman's Club, 6225 Sunburst St.; Wed. 8-5, Thu. 8-5, Fri. 8-5, Sat. 8-5, Sun. 8-3; free admission; more than 50 dealers, rocks, minerals, fossils, jewelry, new and used rock equipment; contact Joshua Tree Sportsman's Club, (760) 366-2915 or (760) 366-2010.

**1-2 — SAN FRANCISCO, CA:** Show; Crystal Fair; Laguna Ave. and Marina Blvd.; Sat. 10-6, Sun. 10-4; contact Jerry Tomlinson, (415) 383-7837; e-mail: sfxtl@earthlink.net, Web site: www.crystalfair.com.

**2 — FALLBROOK, CA:** Annual fall festival; Fallbrook Gem & Mineral Society; 123 W. Alvarado St.; Sun. 10-4; educational displays, vendors, museum tours, children's activities; contact Janice Bricker, (760) 728-1333; e-mail: fgms@tfb.com.

**7-9 — COSTA MESA, CA:** Show; Gem Faire; Orange County Fairgrounds/Bldg. 14, 88 Fair Dr.; Fri. 12-7, Sat. 10-7, Sun. 10-5; \$5 weekend pass; gem show; contact Gem Faire, (503) 252-8300; e-mail:

**8-9 — GRASS VALLEY, CA:** Show, "Earth's Treasures 2005" NV County Gem & Mineral Society; NV County Fairgrounds, Main Exhibit Hall, 11228 McCourtney Rd.; Sat. 10-5, Sun. 10-5; adults \$1, ages 16 and under free; mineral identification, exhibits, door prizes, jewelry sales, children's activities, silent auctions, mineral, fossil, and lapidary equipment sales; contact Cliff Swenson, (530) 272-3752.

**8-9 — LAKESIDE, CA:** 35th annual show, "Gem & Mineral Roundup and Craft Fair" El Cajon Valley Gem & Mineral Society; Lakeside Rodeo Grounds, Hwy. 67 and Mapleview Rd.; Sat. 10-5, Sun. 10-5; free admission; exhibits, demonstrations, vendors, rocks, gems, jewelry and hand-crafted

items, petting zoo, kids' activities; contact Patrick Smock, (619) 443-8327; e-mail: cprpsm@yahoo.com.

**8-9 — TRONA, CA:** 64th annual show, "Gem-O-Rama 2005" Searles Lake Gem & Mineral Society; Lapidary and Show Bldg.; Sat. 7:30-5, Sun. 7:30-4; displays, dealers, demonstrations, collecting, tours, geode cutting and sales, movies, prizes; contact Bonnie Fairchild, 84830 12th St., Trona, CA 93562, (760) 372-5356.

**14-16 — SANTA ROSA, CA:** Show; Gem Faire; Sonoma County Fairgrounds, 1350 Bennett Valley Rd.; Fri. 12-7, Sat. 10-7, Sun. 10-5; \$5 weekend pass; gem show; contact Gem Faire, (503) 252-8300; e-mail: info@gemfaire.com; Web site: www.gemfaire.com.

**15 — WEST HILLS, CA:** Annual show; Woodland Hills Rock Chippers; First United Methodist Church, 22700 Sherman Way; Sat. 10-5; free admission; vendors, demonstrations, displays, minerals, fossils, gems, jewelry, beads, books, grab bags, spin a wheel, games, silent auction, raffle, door prizes; contact David Dills, (818) 774-0900; Web site: www.RockChippers.org.

**15-16 — LONG BEACH, CA:** 58th annual show, "Southern CA Gem and Mineral Show"; Mineralogical Society of Southern CA; Long Beach Convention and Entertainment Center Hall C, 300 E. Ocean Blvd.; Sat. 10-5, Sun. 10-5; more than 80 retail and wholesale dealers, free minerals for kids, dozens of fine exhibit cases; contact Justin Butt, (520) 207-9958.

**15-16 — PLACERVILLE, CA:** 22nd annual show; El Dorado County Mineral & Gem Society; El Dorado County Fairgrounds, 100 Placerville Dr.; Sat. 10-

5, Sun. 10-5; adults \$2, children 12 and under free; contact Jackie Cerrato (530) 677-2975; e-mail: info@rockandgemshow.org; Web site: www.rockandgemshow.org.

**15-16 — WHITTIER, CA:** 56th annual show, "Treasures of Rockhounding" Whittier Gem & Mineral Society; Whittier Community Center, 7630 WA Ave.; Sat. 10-5, Sun. 10-5; free admission; dealers, demonstrations, displays, hourly drawings; contact Jay Valle, (626) 934-9764; e-mail: jvalle@aqmd.gov.

**21-23 — DEL MAR, CA:** Show; Gem Faire; Del Mar Fairgrounds/Bing Crosby Hall, 2260 Jimmy Durante Blvd.; Fri. 12-7, Sat. 10-7, Sun. 10-5; \$5 weekend pass; gem show; contact Gem Faire, (503) 252-8300; e-mail: info@gemfaire.com; Web site: www.gemfaire.com.

**22-23 — SANTA ROSA, CA:** 29th annual show; Santa Rosa Mineral & Gem Society; Veterans Memorial Bldg., 1351 Maple Ave.; Sat. 10-6, Sun. 10-5; adults \$5, children 12 and under free; contact Shirley Mattson, P.O. Box 1852, Windsor, CA 95492, (707) 795-1730.

**22-23 — STOCKTON, CA:** 54th annual show, "Earth's Treasurers" Stockton Lapidary & Mineral Club; San Joaquin County Fairgrounds, Bldg. 2, Airport Way; Sat. 10-5, Sun. 10-4; adults \$4, children 12 and under or in club uniform free with adult; contact Laurie Haines, (209) 838-0108

**28-30 — PLEASANTON, CA:** Show; Gem Faire; Alameda County Fairgrounds, 4501 Pleasanton Ave.; contact Yooy Nelson, (503) 252-8300; e-mail: info@gemfaire.com; Web site: www.gemfaire.com.

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