

The Opal Express

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

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June 2003

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TO:

Important Dates:

Board Meeting: June 5
7:00 PM at Ball Jr. High School

General Meeting: June 12
Presentation:
"Jewel of the Desert" a video on
Kartchner Caverns newly
discovered near Bensen, Arizona

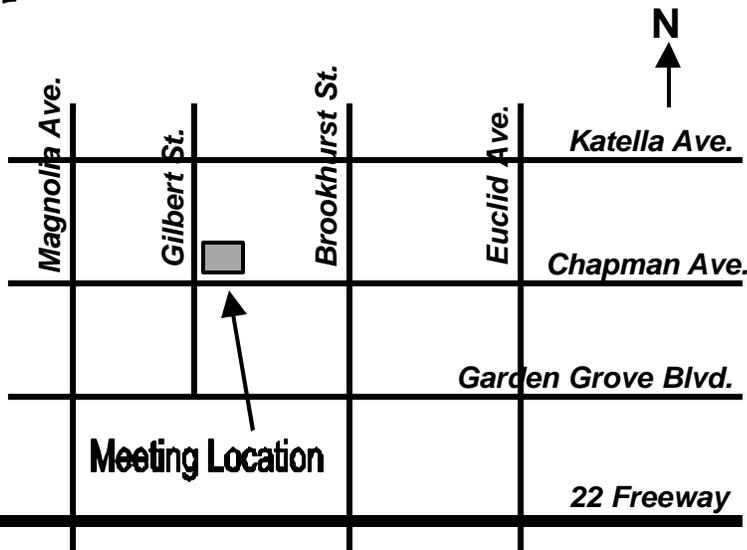
General Meeting: June 12th

— 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



The American Opal Society
<http://opalsociety.org>



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American Opal Society Membership Renewal

Thank you for continuing to support your American Opal Society!

TYPES OF MEMBERSHIP		DUES / FEES)	AMOUNT PAID
DUES: <u>SELECT ONE</u>	All <u>US</u> Addresses including Alaska and Hawaii	\$25.00	
	<u>International Members</u> = All addresses <u>outside</u> of US Addresses	\$30.00	
<u>ADDITIONAL BADGES</u> = \$5.00 each (First Badge <u>free</u> when joining)		\$5.00	
<u>ONE TIME INITIATION FEE</u> = All <u>New</u> members		\$10.00	
<u>SENIOR DISCOUNT</u> = Age 65 or over deduct \$5.00		-\$5.00	
TOTAL PAID – DUES, less Senior Discount plus Badge plus Initiation Fee (if Applicable)			

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NAME BADGE ORDER FORM:
PLEASE PRINT NAME AS YOU WISH IT TO APPEAR ON YOUR BADGE using up to two (2) lines of text for your name, nickname, or name of your opal related business.

MEMBERSHIP ROSTER & DEALERS LIST: The AOS publishes a membership directory once per year in its Newsletter, the *Opal Express*. Your name will be included. Please check what additional personal information that you want listed for other members. If it is different from the information above, please note that on the application.

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Editor-Jim Pisani

Please address all inquiries and exchange newsletters to:

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Email: webmaster@opalsociety.org
Article Deadline is the 20th of the month prior to each issue

Are Your Dues Due Now?

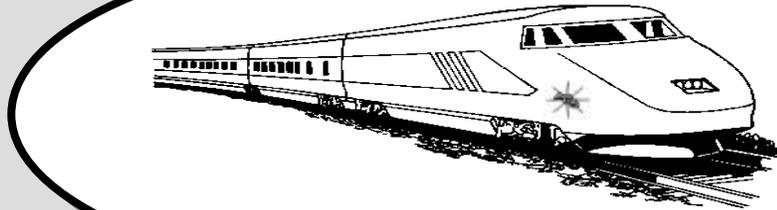
PLEASE CHECK YOUR ADDRESS LABEL. If your label shows the current month/year your dues are DUE NOW. If the date is older, your dues are overdue.

A Renewal Grace Period 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 AUTOMATICALLY dropped from membership thereafter. It is your responsibility to assure your dues are current.

Thank you,
The Editor

The Opal Express

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Opal
Society



June 2003

Volume 36 Issue 6

PRESIDENT'S MESSAGE

By *Pete Goetz*

Hi Folks,

I was glad to see our attendance improved at the last general meeting. We are on the right track. I would like to encourage all our members that live within – say 50 miles – to join us every second Thursday for an opal-good time.

Our opal display case was on display at the Searchers Show last month. It drew many favorable comments. Again, our case will be on display at the Culver City Show on June 28th and 29th. The theme for their show this year is "Opal of the World". We will be displaying two cases, one with Australian Opal and one case with opal from other parts of the world. Our own Mike Kowalsky will be giving a seminar on opal.

November 8th and 9th is drawing near. What November 8th and 9th? The 2003 Opal & Gem show! We will be needing volunteers for various tasks at the show and for preparation in the months beforehand. Please let a board member know if you can help out.

THE OPAL WORKSHOP IS COMING BACK!!!

The AOS opal workshop will be started again at **Ball Jr. High School** on 1500 W. Ball Road, Anaheim, CA. It will be available for AOS members on Wednesday nights starting the first week in June. **Stan McCall** will again be running the workshop. Contact Stan for details at **(714) 220-9282** if you plan to attend a session.

Donation to AOS

The AOS wishes a big thank you to **Murray Willis**, who donated to the AOS via Wes Roth a very nice Boulder Opal Specimen for the Opal & Gem Show in November.

Last Month's Speaker, Barbara McCondra

We'd like to thank Barbara McCondra for speaking at May's General meeting. Barbara spoke about Yowah opal – what it is, how to buy it, cut it, etc. Barbara also gave the AOS permission to reprint a mini-seminar on Yowah opal. See it later in the issue.

Archived Newsletters Available on Website

The Opal Express Archives are up and running again. These archives go back from the present to 1998 and in PDF file format. A account name and password and required to get into the protected area. This password will change monthly and will be in the Opal Express.

The link for the archives is:

http://www.opalsociety.org/aos_member_login.htm

To login into the protected area, type the following on the Login page:

Name: member

Password: 3opals

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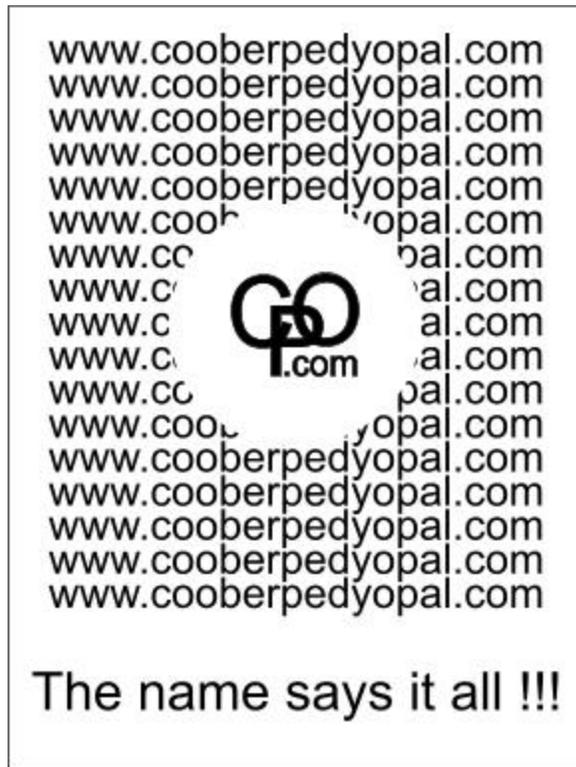
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Dopping Opals

From the LapDigest News, -- 2/1998, Issues 118-122

Web Site: <http://www.lapidarydigest.com>

Administered by Hale Sweeny (hale2@mindspring.com)

Recently, there was an exchange on Rockhounds about dopping for Opals. I have copied most of the messages and have received permission to publish them here. And have added some comments, which I denote by starting with 'Hale:' If you have any comments, please send them in to be added to this thread. - Hale

Hale: It all started with a note from Mel Albright:

How do you dop pure opal for cabbing? I normally use dop wax and wooden dops. But, that requires heating the stone, which I don't think, should be done with opal. So I don't know what to do? HHHEEEEEELLLLPPP!

"Mel Albright" <mela@galstar.com>

USING WAX AND GENERAL TECHNIQUES

Hale: Several types of responses were printed; I have collected them and arranged them according to the recommendations. The first category suggests using waxes and gives tips for using them:

I assumed (bad idea) that you're dopping Australian opal. Suggest you look into the lower temp waxes. Check with your local supplier to see what's available.

FWIsW: Have done a bit of faceting and cabbing of Opal, Virgin Valley, Australian, Mexican, and Oregon. The last one mentioned was the only one that'd ever given problems due to it's water content. This does not suggest that all of this type of gem will fail, just an example of a bad episode.

If you'd allow the stone to rest out of water for a couple of months, it will allow you determine its stability. Any sign of crazing suggests potential failure, which means that at any moment it could go. The last alternative would be to use epoxy.

Vincent King Vybtl@aol.com

Mel, Don't panic. gently warm the opal sloooowly, might try a little facetors trick and paint thinned shellac on side to be dopped. The real trick is cutting & polishing without cutting out all of the color. To remove the stone put it and 3 ice cubes in small glass with a little water. Wait a few minutes and the stone should pop off.

Earl "Earl English" <ewenglish@blueridge.net>

CYANOACRYLATE or SUPER GLUE

Hale: Most responders suggested super glues; I have deleted all but those, which also give tips for how to use super glue:

Crazy glue works well. However there are a few tricks.

1st, use one of the cheaper glues. I use "crazy glue" the brand, the original formula. I've glued a washer onto the bottom of the base so that I can keep the tube in the base and cover it after each application.

2nd I use a dowel for a dop. It needs to be prepared, however. I find the best prep is to flatten it out on a high speed sanding disk because this burns the wood a little. That keeps the glue from soaking in and requiring repeated applications.

3rd When you're finished cutting and polishing, cut the dop off with a jeweler's saw and then drop the opal in a covered container of acetone to remove the glue. The one drawback to crazy glue is that left on too long, i.e. days it can remove a hole from the back of the opal.

"Derek Levin" <stoneage@vermontel.com>

For what it's worth- I have had good results with this procedure dopping opal.

Use a flat well polished agate slab and use hot wax to make up dops in the size you need. Freeze them off. You can hand sand them to suit your need.

I use one small spot of super glue to fasten the opal. To remove be sure the stone is cool. I hold them under cold tap water and then place in cooler a few minutes, they should release on returning to room temperature leaving only a small residue of the super glue which is east to remove.

I have damaged opal from HEAT but never from cooling stone.

Thomas W White <agatehead-kc@worldnet.att.net>

I usually use cyanoacrylate (Crazy Glue) & dissolve it off with acetone overnight. The pieces of opal I work are generally small, say the size of a pencil eraser & smaller. I dop 'em onto flat headed wood screws. Usually the heads of these mass-produced screws are not as flat as I'd like 'em to be to get good contact, so they should be just touched up lightly with a file. I prefer slot heads because the slot gives the acetone better access afterward. If you're dopping large opals (lucky you!!) you might try filing crisscross grooves into the screw head, again for better acetone access.

Another thing I do (and I know this sounds heretical) to loosen the crazy glue, notably in triplets, is to heat the screw shank with a mini torch about 1 inch below the stone, obviously taking care to direct the flame away from the stone. The screw with the stone on should be clamped in a vise or something, then while you're heating it keep pressing against the bottom of the stone with a screwdriver or something similar. The crazy glue will soften, and the stone pop off, without too much heat getting into it. But I do that mainly for triplets.

Cheers Hans Durstling Moncton, Canada sinico@nbnet.nb.ca (H.Durstling)

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I use a thick form of super glue it works very well. Use a wooden dowel and just cut it off when you are done and sand the residue off the back of the opal.
Mike Mijo730@aol.com

WHITE (WATER SOLUBLE) GLUE

Hale: A third set of recommendations suggested using water soluble glues, commonly called white glues (like Elmer's):

I was taught to use Carpenters' Glue - a yellow stronger version of white glue. Try the hardware store. You work with several stones at a time, rotating them so they get a chance to dry out between sessions. It works quite well.
Karen Lechner <Lechners@compuserve.com>

I've used Elmer's glue to dop them to either sticks or roofing nails. The glue is soluble in water but the lag time is enough to get the opal shaped and polished. Remove from dop stick by soaking in water.
Roger K. Pabian <rpabian@unlinfo.unl.edu>

EPOXY

Hale: There was only one suggestion involving epoxy:

I use 2-part epoxy mix with dry cream of wheat for faceting opals. Should work for cabbing too!
Debra DMNajera@aol.com

CREAM OF WHEAT

Hale: Cream of wheat? I was so fascinated by this response that I wrote to Debra and asked her to amplify on it, and this is what she said:

"This came from the October 1995 issue of Columbia-Willamette Faceter's Guild newsletter - Facets. It was an article writing about cold-dopping for faceting -- "Adhesives and Techniques for Cold Dopping" by Charles Covill. ..(snip)... Here's the info:

"Because the Epoxy goes through some pretty severe thermal changes as well as contractions and expansion while it is setting up, I have been experimenting with several different additives to try to keep the shock to the gemstone at a minimum and to keep the culet intact. Currently I am using NABISCO INSTANT CREAM OF WHEAT with good results."

"With a clean piece of paper I lay down a bead of Epoxy and hardener side by side, then sprinkle on my cream of wheat. Just shake off all that doesn't stick to the beads into the waste basket. Next stir the mixture with a flat blade so that you move all of it.

Using a pointed instrument (tooth pick) will result in an incomplete bonding because it is not mixed thoroughly and can cause the stone to shift."

"I've used a tooth pick to mix with no problems at all. You could probably use a popsicle stick! To get the stone off, soak in nail polisher remover. I soaked a topaz for 3 hours last night and that was enough time to dissolve the epoxy mix. Hope that helps!"

Hale: I contacted Charles and asked him for a copy of the paper, and permission to reprint it here. He agreed, and is sending a copy.

NEW GLUE

Hale: Another respondent said that he had been using a new glue from the Permatex Corp called Quick-Gel. He said that he sanded a nail head flat, and applied a small amount of the glue. He adds the stone and then adds a small bead of glue around the edges after it's set up a bit; then let alone for 10 minutes. Soaking in acetone for a couple of minutes will release the stone.

MEL'S RESPONSE:

Thanks all for the recommendations on dopping opal.

In summary, the consensus seems to be:

1. Use super glue (or elmer's glue with water removal).
2. It requires a hard, smooth surface on the dop - i.e. burnished wood, smoothed nail head, screw with slots (slots for easier acetone penetration), etc.
3. Acetone removes it without harming the opal.
4. If you leave it on too long, it can cause damage to the opal.

Mel Albright

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June Snippets (from Lightning Ridge)

by Barb Whyre

The Gooraway Hotel, a changeover for the mail coach horses, was located approx. 23 km. south of the Lightning Ridge turnoff. This outpost operated from 1879 until 1920.

Supported by Dungelear, a huge property, the Gooraway had a sawmill, probably the source of timber for any pre-1920s buildings still standing in the Ridge. The original Lightning Ridge schoolhouse, built in 1912 when the two settlements on the opal fields consolidated, is much loved and still in use.

Artie Dawson Sr. was in charge of the Gooraway in 1911, when three Lightning Ridge miners were married in the famous "Triple Alliance"!

Artie Jr. of Dawson's Store fame, 1947-1980 in the Ridge, and his siblings were born at Gooraway. Two of Artie Jr's children, Gloria and Kevin, still live here. Their cousin Elma, daughter of Auntie Vera, arrived recently from Melbourne on the trail of family history. She visited the ruins at Gooraway, her mother's birthplace, and drove to see her grandfather's grave near Dirranbandi in Queensland.

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Len Cram: *Len Cram is an Australian opal miner that decided to try and "Grow" his own opal. He did a lot of research and through trial and error, was able to grow opal in opal dirt and a solution of chemicals that he came up with. He later got into the photographing and the writing of the stories behind the opals and the miners. He published a lot of beautiful opal books. He came to the states in 1994 and we got together and went on an adventurous trip. Here is the story. – B. Halahan.*

The Elusive Search For The Common Opal Deposit

By Bob Halahan (1994)

During Len Cram's stay here in the states, I was fortunate to be able to take him on two trips. One was to the local opal mines

just outside of Mojave, California. They were the Nowak and Barnett opal mines. There we filmed the mines and the beautiful opals that came from the mines.

The other trip was the "Elusive Search For The Common Opal Deposit." It was Tuesday morning when I picked him up at 7 AM to leave. We headed to Mojave and then turned east toward Barstow and then went another 60 miles. Just before Barstow, we took a dirt road heading toward Opal Mountain. He wanted to photograph the common opal deposit, because it was supposed to be a very large one.

We had the craziest adventure that you can imagine. When we came to the spot where we were to turn, we did, and ended up on the wrong road. Not only that, we got bogged down in two feet of sand. After about a half hour, we were able to dig our way out. Then we headed on this other road that was heading in the same direction. We got a pleasant surprise about a mile down the road. It was heading up hill and the road was getting narrower and narrower. It finally got to a point where my van was wider than the road. Not only that, it had a 75 ft. drop on both sides. I casually said to Len, "I think we are on the wrong road." "Yep, lets try another."

The third attempt lead us on another wild goose chase. It is what I called, "The road to nowhere." This was a good road that eventually led to a dead end. Now comes the problem. If you have ever been on the desert, you know that you need a place to turn around. (Most of the roads have one lane). No place to turn around and I wasn't about to dig myself out again. Well you guessed it. I had to back up about a mile because there was no place to turn around. Soft sand everywhere. I still didn't give up. Then we finally found the right road and the adventure was just beginning. O.K., now we are finally on the _____ right road. We drove for about 5 miles and guess what? We had come to the crest of a mountain that had a radical drop that would scare a mountain goat. The sign says, "Not recommended for campers or trailers." Len looked at me and kind of smiled. Then he said. "It would take a parachute to get down and a jet engine to get back up." I thought that that was pretty good dialogue for a guy that came from "down under." At this point I said to Len: "There is a road at the bottom of the other side of the mountain that seems to be heading in the direction that we want to go." "O.K., lets go," was Lens reply. We drove for about another mile, made a left turn, and seemed to be heading in the right direction. Since everything seemed to be going right, I was just waiting for something funny to happen. Did you ever have one of those days that after so many things go wrong, you sort of anticipate that something else will happen before it's over? Well it did!!! After rounding a bend, nature was about to give us a pleasant surprise. There, right before my eyes, was the huge lava flow. I asked Len. "Do you want to go for it??" Len said, "we have come this far and endured all the other hardships, so why quit now." I could see the Aussie spirit of adventure coming out. Sometimes I am a little bit curious to where people are coming from and their fortitude. He could have walked across the lava fields, but chose to ride. "This made him an O.K. guy in my book of fortitude." We had one lane to go on that "looked" like we could make it. I started to negotiate this lane slowly dropping down from one boulder to the next. The van was "moaning and groaning" as it descends the lava bed. Then Len said to me. " MY stomach has knots in it." I said, we will make it O.K. I have a lot of faith in this 24-year-old van. I don't think that last statement helped out Len's knots in his stomach. (Now we are about 20 miles out in the middle of nowhere where a vehicle may come buy once a year). We have five gallons of water, two packages of tortilla chips and two sandwiches. As you can see, we are ready for any type of an emergency. As we descend the lava flow, I see a different expression that appeared on Len's face as the van moved from side to side down the treacherous slope. (I forgot to mention that

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we were going down hill also). I never did ask Len what he was thing as we descended the lave flow. I am sure that there were a few prayers in his thoughts and maybe the question "What am I doing here." Then we finally made it to the bottom. I could see the look of relief come over Len's face and even a little smile.

After the lava flow, it was a short ways to where the "the lost common opal deposit" was supposed to be. When we arrived in the area, it wasn't there. We looked all over the place, but nothing. However as we were looking, Len came upon a surface deposit of white common opal. I think we will call this spot "Opal Knob." We both were very excited for the moment. Then the troubled thought that was in both our minds emerged. In his Aussie accent, "You know mate the way to survive on the desert is to find a cool place during the day, and travel by night." From that statement, I felt that he still had that crazy knot in his stomach. He honestly said to me, "I think we are going to have a hard time making it back up the lava flow." I was full of confidence at the time and merrily relieved him from his duties of riding shotgun in the van. Then I said to him. "Why don't you go to the top of the formation and take some pictures of this crazy adventure? O.K., you talked me into it. I thought to myself, that was a quick agreement on his part. As the van ascended up the lava flow from boulder to boulder, the moans and groans returned. Len felt that the slope being so steep would make the wheels slip and slide on the rocks. It did that, but with my desert knowledge of being in tough places, I was able to make it to the top and save our Australian visitor.

We hit the main road just about the time it was getting dark and made it home at about 11 PM that night. The entire adventure lasted about 16 hours. It is only about 5 hours round trip. So you can see the other 11 hours were spent trying to get out of trouble. Len had documented all the trials and tribulations of the trip with his camera. He will not only have pictures of this adventure, but I am sure that the experiences that we had will be etched permanently in his thoughts. I think this adventure will be one of the "Highlights" in his book that he is writing on "Opals of the World."

I know in my heart, that after today, he has truly had an "American Outback Experience" that he can take back home to the land "Down Under."

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The Following Article Appeared In A Newspaper In April 1933...

Goats Led The Way To 'Secret' Mine

More than 140 years ago a recluse prospector is believed to have found what could be Australia's richest black opal field.

The miner kept the location of his claim secret. But last week his abandoned mine shafts were re-discovered in rugged

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New South Wales bush country one mile south of the Queensland border. The mine site is about seven miles south of the 12 houses, one pub southwest Queensland township of Hebel, 1458 miles west of Brisbane.

The re-discovery was made by a veteran Australian opal prospector, Hinds Hauxfshild, who has pegged a claim and uncovered several rare black opals. The claim is astride a ridge which extends into Queensland. It is believed to contain a rich vein of opal bearing soil. Black opals are extremely rare and have surpassed top quality diamonds in value.

Hebel publican, Mr. John Porter, said yesterday that strangers were "coming from all over the place." Hundreds of claims were being pegged he said. The claim is only about 27 miles north of Lightning Ridge, the only other area in the world where black opals are mined. Mr. Hauxfshild has named the new claim "Billy Goat Hill Field" because his three-man prospecting party was accidentally led to the claim while chasing goats.

Mr. Peter Prentice, a grazier living near Angledool, New South Wales, about seven miles from the claim said yesterday he had provided Hauxfshild's team with a map setting out roughly the location of the old mine. He said he had come across the old mine shafts some years ago.

"My father used to own a butchers shop in Angledool in the early 1930's and we knew an old prospector was mining in the area. My father told me this man used to always have plenty of money but would never tell anyone where he was mining," Mr. Prentice said.

"We believe this man must have come across the opals and kept it quiet."

It was not known who the man was or if he was still alive. "This could be the most valuable opal field discovered in Australia since 1900 if the vein keeps producing," Mr. Prentice said.

Mr. Prentice said the first opal had been of the rare 'red on black' variety, but had been marred by sandstone flaws. A Brisbane jeweller, Mr. Bruce Robinson, said yesterday, black opals were worth about \$1,000 a carat, according to quality.

From The Lightning Flash Newspaper For The Fortnight 7/28/1988 - 8/10/1988.

How Geodes are Created

Geodes begin as bubbles in volcanic rock or as animal burrows, tree roots or mud balls in sedimentary rock. Over time the outer shell of the spherical shape hardens and water containing silica precipitation forms on the inside walls of the hollow cavity within the geode. The silica precipitation can contain any variety of dissolved minerals, the most common being quartz, but amethyst and calcite are also found. Over a period of thousands of years, layers of silica cool, forming crystals of different minerals within the cavity. Different types of

silica cool at varying temperatures thus creating layers of different types of mineral crystals. Each geode is unique in composition and can truly be discovered when cracked open or cut with a rock saw. The size and formation of crystals and different shades of color within the crystal make a each geode special. The rough exterior of the geode gives no indication of the secrets held within its core. The anticipation never fades for those who curiously collect buckets full of round geodes and eagerly expose these secrets of each individual sphere-shaped rock. The most prized contain rare amethyst crystals or black calcite crystals.

Editors note: The previous article concerning geode formation pertains not to the geodes of Indiana. The Hoosier ones were all at one time animals. The geodization process actually starts inside the animal, grows and eventually splits the animal apart. Sometimes leaving enough shape and/or remains of shell for the original animal to be identified...

Rock Pickings

From the Rockwood Rockhound News For September 1999

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Fiesta of Gems Show

Saturday & Sunday - June 29 & 30. 2002

Culver City, California

The Fiesta of Gems will offer exhibits, demonstrations, children's games, grab bags, door prizes and dealers offering rocks, minerals, fossils, gems, jewelry, gifts and hobby supplies. This year our show will feature [Bonita Chamberlin and the Gemstones of Afghanistan](#). Various craftsmen will be on hand to demonstrate such activities as gem carving, wire wrapping, faceting, cabochon-making, polymer clay art, native American beading, fetish carving and jewelry repair.

The American Opal Society will have a display of Australian and other types of opal at the show. The theme for their show this year is "Opal of the World". Mike Kowalsky, AOS past president, will also present a seminar on opal.

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Test For Topaz

Quartz and topaz are not easy to separate by eye, and are sometimes impossible when the quartz is true topaz color. There is a big difference in price between the two and anyone describing quartz and topaz, however innocently, may well be in trouble.

Topaz is quite a different mineral, which is harder than quartz. Because of this, a drop of water will not spread on topaz, but will spread on quartz. Clean the stone as effectively as possible with a cloth or handkerchief to remove all trace of grease. It must be dry before the test. Then place a spot of clean water on it with a thin glass or metal rod.

On stones with a hardness of less than 7 on the Mohs scale, the water is dispersed. On harder stones it will remain as a globule. The harder the stone, the more rounded will be the globule of water.

From Gem Cutters News, 2/96 Via: Crack 'N Cab, 8/98, via the The Rock Collector Rochester, N.Y., 9/98 via the Flint Gemstones, 11/98, via the Rockwood Rockhound News For January 1999.

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SHOP HINTS

None of the following tips or hints have been tried or tested by your Editor.

Rust, Fight Back!

Rust is the worst enemy your lapidary equipment has. Lots of otherwise functional lapidary equipment gets tossed out every year because of rust damage. Now, finally, there is a product that lets you repair and restore even severe cases of rust-out. It

is a paint called POR-15. (Call 1-800-457-6715 for a free catalog from Rustomotive Laboratories, Inc., in Morristown, NJ <http://www.por15.com/>). POR stands for "paint-over-rust" and that is exactly what you can do. Just get out all the rock dust and make sure there is no oily residue left on your equipment. Clean the metal with a wet SOS pad and rinse clean. Let it dry, and if there are any holes, stick a piece of masking tape on the underside. Paint on the POR-15 with a cheap brush, level the equipment, and let the POR-15 flow out smooth. POR-15 will close up any holes nicely when it cures. This is a permanent fix. Rust will not penetrate POR-15. A pint of POR-15 should be more than enough for most water pans. It cures rock hard and shiny, but is meant to be an undercoat. Ultraviolet light (a.k.a. sunlight) will cause it to deteriorate. So scuff the surface of the POR-15 slightly with an SOS pad and paint on a coat of enamel, and you are set for a long time. *From Breccia 7/00 via The Pegmatite 11/00, via The Tektite, 1/01*

Sandpaper Tip

As hobbyists, we use a lot of sandpaper. Often, tearing off a piece and wrapping it around the nearest finger leaves something to be desired. Try this:

Save some ice cream sticks. Clean them good and let them dry. Get some sanding disk adhesive. Glue the sandpaper to the ice cream sticks, and trim them with scissors. Instant sanding sticks. *From the Breccia 10/20, via The Tektite, 1/01*

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Collecting Micrometeorites

*Jet Propulsion Laboratory Public Education Office
From the Lithosphere (September 1994); Fallbrook Gem and Mineral Society, Inc.; Fallbrook, CA*

"Shooting stars" are not, of course, really stars. They are actually small bits of rock and metal that collide with Earth's upper atmosphere and, because of friction, burn up. On rare occasions, man made satellites and spacecraft parts fall into the atmosphere and burn up the same way.

The flash of light from this incineration is correctly called a meteor. A meteor is formed when an object, usually the size of a marble or a piece of popcorn, hits the atmosphere at an altitude of 80 to 100 kilometers. The air at that height is very thin but the objects are moving at tens of thousands of kilometers per hour. The friction causes the meteor to heat up and glow.

Larger objects do not burn up completely. Surviving fragments fall through the atmosphere and land on Earth. Once one of these objects lands it is called a meteorite. Most meteorites fall into Earth's oceans.

Meteorites can be either rock, metal (nickel and iron), or a mixture of both. Stony meteorites are difficult to identify. Stones outnumber metals, but metallic meteorites are easier to find. Rarely are chunks of metal found lying about. A metal detector can be used to search for metallic meteorites. Dry barren areas where there is little vegetation to cover up the ground and turn over the soil are the best areas to look. Dry lakebeds are good places to search since wind can blow dust off of the surface leaving the meteorites exposed. Many meteorites are found on the Antarctic ice sheet.

There is an easy way to collect meteorites, but we must be satisfied with finding small metal ones. They are actually microscopic and are known as micrometeorites. Tons of these fall on Earth each day. To collect micrometeorites you need to find a place where they can become concentrated. The drains of a house or building work well since rainwater can wash particles off of an entire roof and collect them at the drain spout. Tile roofs are best since they drain very well and do not produce many other sorts of particles or debris.

To find the metallic micrometeorites, collect and dry some of the material from a deep bowl at the base of the drain spout.

After removing leaves and other debris, place the remaining material on a piece of paper and place a magnet under the paper. Tilt and tap the paper so that all of the non-metallic particles fall off. Many of the remaining metallic particles are pieces of space dust! To examine them, place the paper under a microscope. High power will be required to see them clearly. Although most of the particles are not from space, the micrometeorites will show signs of their fiery trip through the atmosphere. They will be rounded and may have small pits on their surfaces.

Much of what you are observing are particles that date from the formation of the solar system around 4.6 billion years ago! They are the debris remaining from the raw materials that formed into the nine known planets and the asteroids. Most particles have been broken off or ground down from larger objects.

The preceding article was published in the September 1994 issue of *Lithosphere*, the official bulletin of the Fallbrook [California] Gem and Mineral Society, Inc; Richard Busch (Editor).

The material is in the public domain, and may be republished freely. Last updated: 09-8-2002, <http://fgms.home.att.net/micromet.htm>

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Yowah Nuts Mini-Seminar

By Barbara McCondra

The time when everyone wanted only opal fire when they bought ironstone matrix rough has passed. Lapidaries are enjoying working with the colors and patterns of all the silicified iron oxides and assorted colors and patterns of common opal in the less expensive form of rough from both the Yowah and the Koroit opal fields. The pleasures of cutting agates and picture jaspers are similar but with the bonus fun of possibly striking hidden opal fire. Inexpensive pieces of rough such as these give you invaluable experience in checking out how the concentric circle formation of Yowah and Koroit nuts open up when sliced or ground from different directions. You also benefit from experimenting with the polishing of the many different porosities, degree of silicification, and iron content of the varieties of ironstone, clay, and potch (common opal meaning no fire).

The trim saw is a valuable tool in making preforms or blocking the rough in preparation to cut a stone. Where to cut and what to expect the stone in its concentric formations to do is a lesson learned by either sawing on the rough yourself or studying already blocked or preformed shapes. The more you handle, observe, and work with different types of ironstone matrix, the better prepared and confident you will be to cut a finished stone out of more expensive material in the future.

When looking at a piece of ironstone shell covered rough from the side, if you see potch or color next to the shell, either slice close to it and grind down toward the shell or "skin it" by grinding down from the skin through the shell to the potch or color. The patterns and the possible lines and pools of color may surprise you. They cut lovely and interesting stones even without opal fire. The practice you get with grinding and polishing the patterns of potch lines will help you when you work with more expensive rough. Experiment with your shapes by cutting bead shapes and drilling or by cutting three-dimensional drops like a rounded dollop of water that can be hung by gluing a bale onto the tip. Use these seminar specimens to practice drilling holes in the stone to run a leather cord through. A hand held Dremil drill with a diamond drill bit called a triple ripple, when held at a forty-five degree angle to the stone, bites into the stone to start the hole, and makes it easier to then drill straight downward. Do this on a wooden block with running water or held partially under water in a pan.

Some basics for cutting ironstone matrix:

Use diamond wheels whose grits begin at hard wheels 80 or 100, to 220, to cushioned wheels (Nova) 280, to 600, to 1,200 to a worn 14,000 or better yet a 3,000 (3,000 usually gets you a pretty good polish 14,000 tends to undercut) to a polish of 50,000 diamond (cerium and tin oxides tend to pack into the porosity) Lots of water pouring over the top of the wheels works best but keep changing the water if you have a spitter and use a few drops of detergent in the tray.

Grind a little, look a lot, but be bold in your sawing and grinding—do or die cutting. This approach is easier to adopt if you have lots of rough to play with. These less expensive seminar specimens allow you that kind of freedom to experience and learn. You are free to cut boldly and open new lapidary learning possibilities without fear of doing your dough. In these specimens there is always that chance that the opal fire lays hidden for you to discover while experimenting! Have fun.

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Yowah Nuts Mini-Seminar, Continued

Editor - This section was accompanied by an assortment of Yowah opal rough for display and observation.

All these Yowah nuts came from an opal bearing level that was producing at time of sorting. No, they are not mine run. Yes, they are a collection of assorted forms of the Yowah Nut. They have been broken with a hatchet, sawn, even rubbed, and sorted. But it is a well-known fact that you can learn more about these marvelous ironstone concretions by sawing them, grinding on them, and studying them. Where there is smoke there is fire and in the case of Queensland, Australia's famous ironstone matrix nuts, the saying is, "Where there is potch, there may be fire!"

Many do not buy parcels of this form of boulder opal because of the expense. This mini-seminar collection of ironstone nuts at a VERY affordable price gives you the opportunity to learn about the formation, search for the opal, and share the wonder of discovering the pleasures of working with this type of matrix .No, it doesn't look like there is a fortune here. You didn't pay the price of really good opal rough. You bought a lapidary experience - an ironstone concretion learning experience.

Certain points to remember when working with any of Queensland's rough:

Wet it and look at it in the bright midday sun never on overcast days. The light of mornings and late afternoons is yellowy with some of the full spectrum filtered out so you can miss some of the color traces that may be there.

1. Observe closely from the side the area under the outside shell to see if there is any fire twinks.
2. Saw the piece in half to open and check the unknown interior.
3. Grind down some of the potch as often the fire can be just under the potch deeper into the stone.
4. Slice a piece from the butt end if the nut is big enough to see what is going on.
5. Grind around the edges to check for fire.
6. Don't forget that often color is under the sandstone rind on the shell or even under the shell on the meat so skin a bit.

7. Think of yourself as a picture framer and shape your slices to capture the fire if any or the pattern of multicolored ironstone and potch.
8. Some cutters tumble their rough for a while to more clearly see before working it.
9. Yowah lends itself to free-formed slightly, humped, flat stones much better than to cabochons.
10. The 14,000 grit tends to undercut unless the diamond wheel is well worn.

This form of ironstone matrix concretion is composed of many iron oxides and silica. It is a ferruginous sandstone, meaning iron bearing sandstone. The concentric circle pattern is typical and the nutlike look gives it its name though it is not truly a nut. It can have a hollow center or filled with ironstone, clay, potch, or gem opal. The nut may have lines and speckles of opal (matrix opal).

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Did You Know There Were Glaciers In The Sahara Desert?

By Joan Emshaw

When geologists started looking in the Sahara for more oil, they found places where rocks showed evidence of ancient glaciers: long parallel scratches and grooves in the rock surface. They also found fossils above and below the glacial layers. They were able to date the fossils to get an idea of the time period in which the glaciers were there. It was concluded that glaciers were present in the Sahara about 450 million years ago.

Now, the Sahara is the world's hottest place. It can reach 137 degrees F. in the shade. So how could glaciers have been there?

Scientists know that the continents drifted after the period of glaciation, which means that the Sahara might have been located near the South Pole during glaciation. This is supported by the fact that the fossils found above and below the glacial layers reflect life that was typically found in cooler water. Also, the magnetic orientation of the rocks shows that at that time, northwest Africa was at or near the pole.

Underneath the fossiliferous sandstone layers were the remains of an ancient mountain range that had weathered away to form a plain. Traces of a clay soil were found in the products of weathering, indicating that the mountains had been worn down under warm tropical conditions. This shows that the climate was tropical before the glaciers.

The bottom layer of the sandstone shows that an arid climate followed the tropical climate. Then there are layers, which show ripple marks such as would be found at the seashore. This layer is associated with tracks of trilobites. Then there is the glaciation layer, and the large boulders. Some of the boulders are ancient granite and quartzite, and were too large to have been rolled along the sea floor by currents. Some of the boulders were polished on one or more sides. Only glaciers do this. The glacial "tracks" in the rocks stretch for hundreds of miles. Only a giant continental glacier could have done this.

Reference: Marvels and Mysteries of the World Around Us, Reader's Digest, 1973. From Rock Buster News 02/02, via Rocket City Rocks and Gems 9/02, Via the Pegmatite, 10/02

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Beaders, Beware!

Know what you are buying. The most common errors are:

- **Sodalite** being identified as lapis: lapis is a richer, more royal blue with metallic veining. sodalite is grayer, steel blue with white veining.
- **Dyed howlite** is neither turquoise nor lapis. Dyed howlite is too uniform in color and does not have the metallic veining of lapis, or the depth of real turquoise.

- **Aventurine** is not jade. Aventurine has little lines of slightly deeper green that are almost iridescent.
- **Plastic** is not amber. Amber holds an electric charge. If you rub it on your arm, the little hairs would stand up from static electricity. Plastic does not hold this charge.
- **Garnets** are dyed on the inside to a deeper, richer color, see if the string has picked up the color
- **Phony pearls**. Real pearls feel gritty on the teeth. Some false pearls are called Laguna Pearls. If you don't like to check out pearls on your teeth, get familiar with the real thing and the differences will become evident.

Reference: Best Little Beading Book by Wendy Simpson Conner via the BRECCIA, 2/99

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June Gem & Mineral Shows

MAY-JUNE 2003

30-1-LAS VEGAS, NV: Show; GeoExpositions, Clark County Gem Collectors; location to be announced; Fri. 10-7, Sat. 10-6, Sun. 10-5; free admission; retail and wholesale dealers, mineral and gem exhibits, wheel of fortune, silent auction, door prizes; in conjunction with seven other gem and jewelry shows; contact GeoExpositions, (303) 278-1218; e-mail: GeoExpo@mineralshow.com; Web site: www.mineralshow.com.

30-1-LAS VEGAS, NV: Annual retail/wholesale show; The Bead Renaissance Shows; Palace Station Hotel/Casino, 2411 W. Sahara Ave.; Fri. 12-6, Sat. 10-6, Sun. 10-5; free admission; ancient, vintage and contemporary beads, buttons, jewelry, tools and books; contact Glen or

(505) 894-1293; e-mail: info@beadshow.com; Web site: www.beadshow.com.

31-1-COEUR D'ALENE, ID: Annual show; North ID Mineral Club; Kootenai County Fairgrounds, Kathleen and Government Way, just east of Hwy. 95; Sat. 96, Sun. 10-4; admission \$1, free with food bank donation; contact Janet Cutino, 6055 N. Government Way, Coeur d'Alene, ID 83815, (208) 704-5419; e-mail: ID_rockshop@hotmail.com.

31-1-GLENDORA, CA: Show; Glendora Gems; Goddard Middle School, 859 E. Sierra Madre Ave.; Sat. 10-5, Sun. 10-4; contact Mark Thompson, (626) 335-3814.

JUNE 2003

5-8-VENTURA, CA: Show, "Seaside Gemboree"; Del Air Rockhounds Club; Seaside Park, 10 W. Harbor Blvd.; Thu. 10-5, Fri. 10-5, Sat. 10-5, Sun. 10-4:30; adults \$5, juniors (12-17) and seniors \$4, children under 12 free with adult; state show, dealers, demonstrations, exhibits, silent auction, jewelry, gems, crystals, fossils, youth activities, mermaid's grotto; contact Del Air Rockhounds, P.O. Box 7618, Van Nuys, CA 91409, (818) 883-7851; (818) 347-2056; Web site: www.afms-cfmsgemshow.org.

5-8--WESTMINSTER, CO: Mile High Rock & Mineral Society; Westminster Mall, 88th and Sheridan; Thu. 10-9, Fri. 10-9, Sat. 10-9, Sun. 11-5; free admission; contact Jennie Baldwin, 25100 Bromley Ln., Brighton, CA 80603, (303) 659-7630; e-mail: ctunnicliff@msn.com.

7-8--SAN DIEGO, CA: Show; San Diego Lapidary Society; Albahr Shrine Center, 5440 Kearny Mesa Rd.; Sat. 10-5, Sun. 10-4; admission \$4, seniors \$3; contact Cathy Davis, (858) 278-9987.

7-8--SAN FRANCISCO, CA: Show, "Great San Francisco Crystal Fair"; Pacific Crystal Guild; Fort Mason Center, Laguna at Marina Blvd.; Sat. 10-6, Sun. 10-4; contact Jerry Tomlinson, (415) 383-7837; email: sfxtl@earthlink.net; Web site: www.crystalfair.com.

14-15-CAYUCOS, CA: Show; San Luis Obispo Gem & Mineral Club; Vet's Hall at the Pier; Sat. 10-6, Sun. 10-5; free admission; gems, jewelry, minerals; contact Bob Hurlless, 2290 Greenwood, Morro Bay, CA 93442, (805) 772-7160.

20-22-CARLSBAD, NM: Show; Roadrunner Gem & Mineral Club; Living Desert Zoo & Gardens State Park, 1504 Miehs Dr., off Hwy. 285N; day1: Fri. 96, Sat. 96, Sun. 95; free admission; dealers, displays, silent auction, grand prizes, door prizes; contact Mary Nixon, 1801 Solana Rd., Carlsbad, NM 88220, (505) 885-5509; e-mail: marynixon@pvtnetworks.net.

20-22-NEWPORT, OR: 40th annual show; OR Coast Agate Club; Newport Armory, 541 SW Hwy. 101; Fri. 10-6, Sat. 10-6, Sun. 10-5; dealers, demonstrations, raffle, junior activities, grab bags; contact Ed Obermeyer, 218 SE 98th St., South Beach, OR 97366, (541) 867-6903; e-mail: Edndi@peak.org.

20-22-REDMOND, OR: 20th annual show; Jean Miller; Deschutes County Fairgrounds, Yew Ave., off Hwy. 97; free admission; books, tools, equipment, minerals, crystals, gems, jewelry mounting, findings, chains, fossils, demonstrations; contact Jean Miller, P.O. Box 136, Molalla, OR 97038, (503) 829-2680; e-mail: shadow92337@aol.com.

21-22-LA HABRA, CA: Show, "World of Gems"; North Orange County Gem & Mineral Society; La Habra Community Center, 101 W. La Habra Blvd.; Sat. 10-5, Sun. 10-4; gemstone and earth science displays, rock cutting, silversmithing and faceting demonstrations, nine dealers; contact Bill Burns, (626) 288-2896.

28-29-CO SPRINGS, CO: Show; CO Springs Mineralogical Society; Masonic Hall, 1150 Panorama Dr.; Sat. 10-5, Sun. 10-5; admission \$3; contact David Wilson, (719) 635-7891; e-mail: DLWilson@pcisys.net.

28-29-CULVER CITY, CA: Show, "Fiesta of Gems"; Culver City Rock & Mineral Club, Culver City Human Services Department; Culver City Veterans Memorial Complex, 4117 Overland Ave., corner of Overland Ave. and Culver Blvd.; Sat. 10-6, Sun. 10-5; free admission; demonstrations in wire working, gem carving, jewelry repair, glass beadmaking, gourd painting, faceting, polymer clay, flint knapping and beading; exhibits of museum displays, designer jewelry, mineral specimens, fossil collections, petrified wood and dinosaur bone; tools, prizes, special games for children; contact Janice Metz, (310) 314-1203; Web site: www.gembiz.com/ccrnc/fiesta.htm.

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