

The Opal Express

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



Member

Member



Volume #32 Issue #11 November 2000

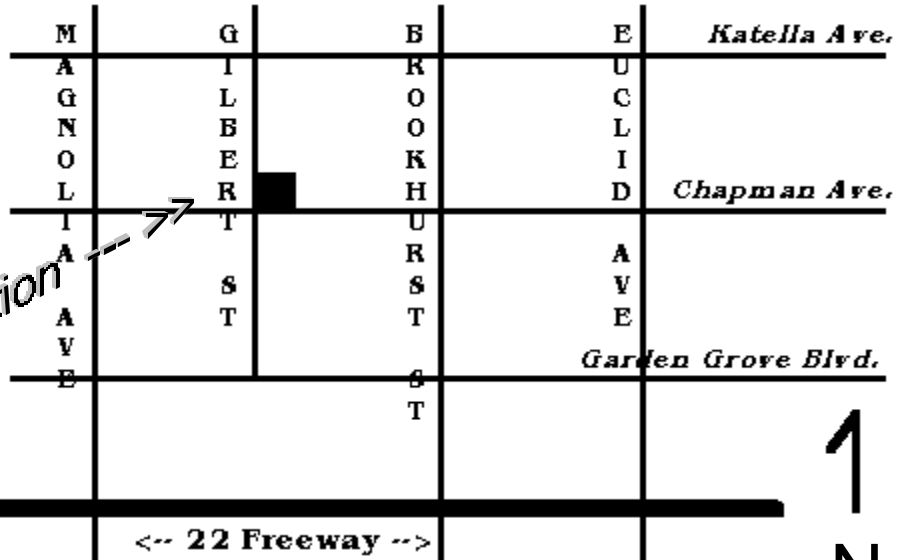
NOTE - NO General meeting in November-
--> AOS Opal & Gem Show Nov 4th-5th <--
- Annual Christmas Potluck will be
Thursday December 14th

TO:

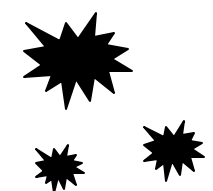
GENERAL MEETINGS —
2nd Thursday 7:00-9:00 PM
Garden Grove Civic Women's Club
9501 Chapman Ave.
(NE corner of Gilbert & Chapman)
Garden Grove, CA

MEETING ACTIVITIES
Opal Cutting Advice Guest Speakers
Slide Shows Videos Other Activities

Meeting Location →



!!! IT'S OPAL & GEM SHOW TIME !!!



American Opal Society Officers

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American Opal Society website <http://www.opalsociety.org>

2001 ELECTION BALLOT

ELECTION OF OFFICERS

MEMBERS: Please mark your votes and mail this ballot to:

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

Ballots will be counted at the January 11th General Meeting.

Those in attendance will be able to vote at the meeting before the ballots are tallied.

PRESIDENT MIKE KOWALSKY _____
PRESIDENT (WRITE IN CHOICE) _____

VICE PRESIDENT BOB DIXON _____
VICE PRES (WRITE IN CHOICE) _____

TREASURER BOB OLINSKAS _____
T R E A S (W R I T E I N C H O I C E)

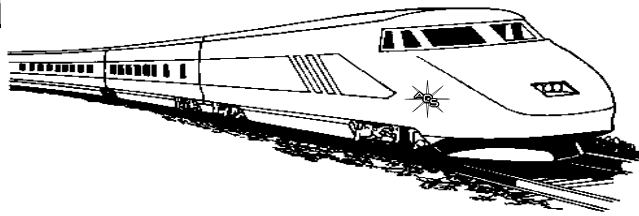


The Opal Express

JANUARY 2001

Published monthly by the American Opal Society

Issue 01



President's Message from Carol Bova

Dear Friends,

This is my final message as President of the American Opal Society. I've spent the past few days in reflection, considering all that's been successful, and all that still needs to be done. I feel a bit like the cartoon of the old year that's exiting as the new comes in. We've done a lot, but there's so much more still to do...

I want to thank the current officers, **Mike Kowalsky, Jim Pisani, Allen Farquer**, and the board members **Jay Carey, Bob Dixon, Pete Goetz, Russ Madsen, Stan McCall, and Wes Roth**. And a special thank you to **Frann Roth** for her work and assistance to the board.

Among our successes, we can count the establishment of our website, and the new members it has brought to us. Among the things we need to do is recruit more local members. The existing local pool of workers and doers is getting down to a critical level again. Consider adding this to your list of New Year's resolutions: to bring in two new members this year. It's really not that hard.. just talk about what you already enjoy about being a member of the Society, and your enthusiasm will draw others in.

Long distance members are certainly needed and welcome. They bring a diversity of information that adds to the overall energy of the organization. **Our new Australian, Indonesian and Mexican members and contacts** have opened doors to future exchanges of information and help. And the website will continue to bring our message to the world at large.

I will leave the emphasis on the other areas to be addressed to our incoming officers and board. There are a number of issues on the table, and it will be theirs to decide the priorities, but I will say the future is very promising.

As much as I feel like the old year as I leave the office of president, I feel like the eager young-ster of the new year as I take on a new role. First, I want to thank **Russ Madsen** for the years of outstanding service to the American Opal Society as our *Opal Express* editor. Russ has done an incredible job, but needs to step down as editor due to other demands on his time. I will learn more about all that Russ has done very soon, because I will be stepping into his shoes as editor. They are too big for me now, but I hope to grow into them with his help and yours.

May 2001 bring only good things to you and your families, and to the American Opal Society.

Opally yours,

Carol

Best Wishes....

to **Cliff Coan** and **Pete Goetz**. It was good to see them both at the holiday dinner, and we wish them a full re-



DATES TO REMEMBER

General Mtg
Thurs Jan 11 7PM

Board of Directors Mtg
Mon Jan 8 7PM

Work Shop Information...

The LOCATION for the Opal Society workshop is the lapidary classroom at Walker Jr High School, 8132 Walker St., La Palma, CA 90623

Directions: (Choice of 3 Freeway approaches)

[1] Exit the 605 at Carson St and proceed east, or **[2]** exit the 5 or 91 Fwy at Valley View and proceed south, or

[3] exit the 22/405 Freeways at Valley View and proceed north.

Walker Jr HS is on Walker St north of Lincoln Ave. It is on the east side of Walker between Crescent Ave. and La Palma Ave. Drive to the far back of the school to the Lapidary Arts classroom.

Only AOS members may use the equipment and workshop. You will be required to sign a release form as well.

Workshop Schedule on Page 5 shows dates/times and appointment instructions. ☼

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Adhesive for Doublets and Triplets

(here's another item on the subject of adhesives for doublets and triplets from Lapidary Digest)

I also normally use epoxy 330 because of its clear drying. But it's a little thick when you mix it, which means that bubbles are a constant worry. Someone, either on this list or on another one, recently recommended an adhesive by the name of Araldite because it is very thin and runny. I believe it's also a 2-part epoxy.

Does anyone on the Digest have any experiences with Araldite, and any idea where I can get this stuff? Or are there any other recommended doublet/triplet adhesives? What do the professional opal cutters in Australia and elsewhere use? How about Canada Balsam? Was that not at one time the adhesive of choice? What factors speak for and against Canada Balsam?

Cheers & thanks
Hans Durstling sinico@nbnet.nb.ca, Moncton, Canada

(Hale Sweeney replies...)

Hans: A quick search of the 'Net gave the following info. I know it is not enough and hope someone on the list has used it and will chime in.

ARALDITE RAPID - a Quick setting 2 part epoxy resin. Bonds: ceramics, wood, chipboard, glass, metal & most hard plastics. Solvent free. Water resistant. Good chemical Resistance. Sandable. Can be painted. Strong & long lasting. Made by Ceba-Geigy. Call 800-875-1363 for location of distributors, and technical questions.

There is another service everyone should know about: You can refer any technical questions about epoxy to the GluGuy at help@adhesiveworld.com. I asked if I could decrease viscosity by adding a solvent. He said it depended on the epoxy, and the solvent, and to ask the maker of the epoxy. ✨

(from Lapidary digest #270 04/05/00)



Name Badges...

Price per badge is \$5 which includes the badge itself and engraving of up to two lines of text: one line for your first and last name and, if you wish, a second line for nickname or if applicable, your opal related business name. These engraving options give members flexibility to include many types of identification.

Please allow 3 to 4 weeks for completion of engraving. ✨

Advertisement

Rough Australian Opal

We have recently returned, with suitcases full of opal, from a buying trip to the Australian opal fields. Write or call for a free Price List/Newsletter. With inventory from Coobery Pedy, Lambina, Mintabie and Lightning Ridge we can supply you with rough opal from \$5.00/oz to \$9,000/oz.

Satisfaction guaranteed. You may return any unaltered parcel for a full refund.

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doubt is a pain too lonely to
know that faith is his twin brother

- Kahlil Gibran



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Editor---Russ Madsen

Please address all inquiries to:

The Opal Express,

P.O. Box 4875, Garden Grove, CA 92842-4875

E-mail 76550.1366@compuserve.com

(Deadline for items: 15th of the month prior to each issue)

ITEMIZATION

ITEM: REMEMBER TO VOTE (PAGE 1) – IT MATTERS!

ITEM: Pickle Pot tips A small covered crock pot works well. Be sure to keep it clean and avoid splashing as the acid will corrode the outside. Caulking the seams with silicone and caulking the heat control setting on low will help.

Sparex® is almost the same as sodium bisulfate which is sold as swimming pool acid used to change the pH of pools and hot tubs. It is less expensive than buying it from a jewelry outlet. Another user of this product is the cleaning industry—drums of this stuff is apparently used by them to clean toilets!

If you ever get copper flashing on your metal from steel contamination in the pickle or (while) working with brass, it can be removed by mixing a scoop full of pickle from the pickle pot with an equal amount of hydrogen peroxide from the drug store.

From a wonderful book: "Cheap Thrills in the Tool Shop" by Charles Lewton-Brain. Thanks to Cindi Kerr for recommending it! ❁

(from The Opal Flash 07/00)

ITEM: December Christmas Party We all enjoyed a wonderful visit and the now-to-be-expected annual spread of terrific pot luck dishes. Yum! On hand for the party this year were 22 folks. Here's hoping we haven't missed anyone.

Bob Dixon – thank you Bob for the great raffle drawings!

Pete Goetz – congratulations Pete on winning the grand prize for the year— a complete diamond saw!

In attendance were:

**Murray Schiff
Carol Bova
Chuck Williams
Mike Kowalsky
Frann Roth
Wes Roth
Hisako Schlatter
Bob Olinskas
Debbie Dixon
Pam Strong
Dan Dixon
Faye McDowell
Jim Pisani
Carole Braun
Cliff Coan
Eva Coan
Gerry Crisler
Russ Madsen
Jane Madsen
Jay Carey**

A big AOS thank you to all those who helped with preparations, set up, cooking and supplying good cheer! ❁

What's happening???

Calendar of Upcoming Events Dates and Locations of Shows

Feb 16 – 25 10AM-10PM San Geronio Min & Gem Society, Riverside County National Date Festival, Gem & Mineral Bldg, 46-350 Arabia, Indio, CA

Feb 24 – 25 10AM-5PM Del Air Rockhounds, Sierra Pelona Rock Club, Woodland Hills Rockchippers San Fernando Valley Gem Fair, Plaza Recreation Center, 12240 Archwood, North

Mar 3 – 4 9AM-4:30PM Monrovia Rockhounds, Arboretum, Ayers Hall, 301 N. Baldwin Ave., Arcadia, CA

Mar 3 9AM-5PM Mar 4 9AM-4PM Ventura Gem & Min Society, Seaside Park, Ventura County Fairgrounds), 10 W. Harbor Blvd, Ventura, CA

March 10 10AM-6PM March 11 10AM-5PM Pasadena Lapidary Society, San Marino Masonic



Did you know?

(excerpt from an article titled "Our Underground Science Adventures" the following quote defines a cave)

"A naturally formed hole in a rock is called a vug," explained Gary Emerson, head guide at Cave of the Mounds. "If it's big enough for a person to fit inside, it's called a cave."

(Scientific American explorations – winter 2001)



Advertisement

**Carol J. Bova
Lapidary Rough for Cabbing
Cat's Eye Tourmaline
Whitesail Alpine Opal
Hawkeye & Tigereye
(818) 951-1402 bova@bovagems.com**

Editorial License (farewell)

by Russ Madsen

Hello, my name is Russ and I am an opalcoholic.

This is one of those times when words get tough to find. To get straight to the point, I'm retiring as editor of *The Opal Express* as of this issue. Adding 40+ hours a week to an otherwise somewhat 'normal' but full schedule caused a severe time crunch that began last July, and peering deeply into a broadflash crystal opal unveils there is no end in sight. Therefore, I must step aside.

I am quite grateful for all the assistance from so many folks over the years. You are all a credit both to opal and to the quality of our club's newsletter. I know I'll miss a bunch of names here and for that I apologize, several of you come to mind: **Annette Bryant** for folding stapling and mutilating each issue (and non-member Christina Sanders) before her; **Frann Roth** and now **Jim Pisani** for handling the database; **Jane** – my better half – for being there every month, felt pen in hand, ready to comb all the pages for typos; three, no – make that four, AOS presidents – **Carla McCague**, **David Burton**, **Wes Roth** and **Carol Bova** have all contributed to the pages of *The Opal Express* through their president's messages; **Barbara McCondra** for her many articles; **Ross Stambler** for taking time to sit for hours and talk about opal valuation issues and methods; likewise **John Hall** who continues to be in touch via email from Ruidoso, New Mexico; **Lyle Bachus** in Chicago for the several discussions about opal rarities and other topics; **Edith Ostrander** for sharing techniques of carving opal; **Cathy Gaber** for stepping up on the east coast to help us all with important Safety articles; **Jake Schmidt** – certainly the *oldest* timer we continue to enjoy as a member (for those who don't know, Jake - one of the Society's original members – is now approaching 100 years of age and made a major contribution to *The Opal Express* archives by donating a nearly complete set of back issues!), **Phil Pearl** has been kind of quiet for a few years, but those who have been around a while remember a guy with a lot to offer the AOS and opal lovers everywhere. What does one say about **Len Cram**'s contributions? The list goes on - **Harry Condo**, **Bill Judd**, **Walt Lentz**.

As I wrote in the May 1994 issue of *The Opal Express* (the inaugural issue of my tenure as editor), I joined the AOS for two main purposes: to learn how to cut and polish opal, and to explore opal valuation. I look forward to continued exploration and growth in both of these arenas.

David Burton once commented there are over 150 different distinct types of opal. I figure I understand 10 or 12 by now (smile).

It has been a great pleasure to interact with and learn from so many fellow opalholics. Thank you, all of you!

I would like to especially mention one other person...someone who willingly shared a great deal of time discussing both simple and intricate details of opal with this beginner opal lover several years ago, thank you many times over **Tim Thomas**.

Carol Bova has mentioned in her final president's message (page 2 of this issue) that she will be taking over as editor of the newsletter. Carol brings a wealth of opal and publication background to the position and as we move into a new decade, century, millennium I am extremely excited that *The Opal Express* will be in her capable hands. Good luck Carol!!! ✨

Workshop schedule

Be sure to check here for workshop schedule updates. The dates listed below are those available to the AOS in our WORKSHOP AT WALKER Jr HIGH SCHOOL. The shop can be opened to members on Wednesday nights. **Please continue to contact Stan McCall by calling him at Gems & Opals (714) 827-5680 if you plan to attend a shop session.**

January 2001

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2		4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

February 2001

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

= Available Workshop dates  = General Meeting date

= Board Meeting date

WORKSHOP RULES

Please see calendar above for monthly shop schedule.

- ⇒ 1) Shop may only be used by AOS members.
- ⇒ 2) Shop users must sign liability waiver.
- ⇒ 3) Shop users must sign in. Shop supervisor will maintain sign-in list and collect usage fees.
- ⇒ 4) Shop usage fees: effective immediately...SHOP USAGE FEE IS \$3 PER SESSION.
- ⇒ 5) To assist us in scheduling, shop sessions need to be reserved in advance. Please contact Stan McCall or any member of the board of directors to reserve shop time.

Diamond Compounds for Polishing Agates

by George Butts

(responding to the following question posed in Lapidary Digest, George Butts prepared a very nice description of his effective method of using diamond belts and paste)

<<Has anyone out there had any experience using diamond compounds for pre polishing and finishing? How about cabling? What should I use to mix with the diamond powder for an optimal viscosity?>>

By coincidence in the same issue I wrote <msg8> about the "tight belt" problem I was having with the use of diamond compound on chargeable belts. I will share my methods here in hopes of being helpful. I would ask anyone doing parallel work to please chime in with their views and techniques. Refer also to LD#250-5 and LD#252-8.

What this is all about is getting a high polish for low cost investment. The materials I use are: Crystalite 3x8 inch "Crystalbelts" at \$14.25 for a pkg. of three and Crystalite diamond compound at \$11.25 for 5 gm. For each polishing belt I use 1.5 gm to make a cost of just over \$8 per grit + belt. These costs may vary with dealer markup and could be even lower, unbeknownst to me. There are other brands, equal in quality, I'm sure...I just haven't gotten around to them yet. Anyway, compared with \$150-\$200 per wheel for fixed diamond impregnated wheels, they're "throw away"! For the record, I buy Crystalite products at retail through Mark Abbott Designs in Columbus, Ohio (markabbottdesign@aol.com 1-877-844-6234).

Many wheels are too large and the belts are very difficult to mount and remove! That problem seems to be solved as I report in LD#261-8: "Expanding Wheel, Belt Too Tight". Dick Friesen, in LD#251-7, mentioned his problem with belts on Raytech drums as being too loose. I agree they are "somewhat" loose but not so much to be a hindrance for me. How loose? A pencil can fit snugly between the belt and drum at rest. On startup, yes, there is a tendency for the belt to "walk". I have a twin wheel setup and made two guides from a section of 2x4 with nylon tabs that keep the belts centered for a few turns as it starts. At our club shop, folks nudge at the side of the belt with the dop stick handle as it starts to turn. Around 400 rpm the belt is locked on and the wheel gives a soft, easily depressed fit to the pressing cab. By 1725 rpm, the wheel is quite firm. I like to run about 1500 rpm...more firm than soft. I never have had a belt walk under pressure, even at speeds as low as 400 rpm.

Our club has several wheels that are too big and Steve Ramsdell in LD#251, msg-8 filed an oversize wheel down. I haven't tried that because of the warnings about running an expandable wheel without a belt. At \$55 each for expandable drums, I sure don't like the idea of throwing these oversized ones away!

To load diamond compound on the belt you will need for each mesh: a small mixing cup, a disposable dauber, some "official" silicone extender oil or pure baby oil and a small amount of lacquer thinner (or Acetone or MEK). Don't work on a varnished or painted table top with this solvent mixture.

For the dauber, a 3" piece of pipe cleaner (fat, fuzzy, craft store variety) will do. Make a half-inch bend at one end. A

cheapo water color brush works but must be dedicated forever to a single mesh. Don't use a Q-tip because it soaks up and retains the diamond mix. Some means is needed to suspend the belt a couple of inches from the table top while being "painted". A wire coat hanger can be shaped easily.

Extrude 1.5 grams of compound into the dish. Cover with (about) an equal volume of oil. A bit more oil than less is best but not too much more. Mix with the dauber. Dilute this mixture with about a tablespoon of Lacquer Thinner (not paint thinner) or MEK or Acetone. Blend well. This uses just a small amount of flammable solvent but keep any open flame out of the area!

Paint the belt as completely as possible. Don't try to be neat and precise. Just smear the material over "all" the belt. Pay attention to the belt edges where Much polishing will be done. Just let it be an easy job without too much fuss, zigzagging around the belt, covering where you miss. The diamond grit settles out rapidly in the cup so keep it stirred. Continue until the mixture is used up then let the belt hang to dry out until there's no more solvent smell left. Next, the oily diamond coating must be embedded into the belt composition.

When dry, put the belt on the wheel and crank it up. If there is a speed control, set at a lower setting. Using a smooth, fist size, stone press on the turning belt. You want to "marry" (embed) the diamond into the composition as it runs. The burnishing stone should be hard and rounded. After a bit, you can let it build up some heat and work it back and forth across the moving belt face to even out the coverage as much as you can. When you get bored doing this, you are done.

The six polishing grades I use are: 600, 1200, 3000, 8000, 14000 and 100000. In general, the very best polish will be to use them all...but it also depends on the type of stone you are working. Flint and Jasper are examples which respond well to ALL grades in succession. The agate "family" is more variable and it just depends. More is better. Unlike cerium on leather which tears the face out of jade, I haven't found anything bad about using any of the diamond grades. Some things seem to polish out as well as they are going to at, typically, 8000 mesh and don't seem to get brighter with finer mesh. These rocks tend to be on the softer side. Don't expect to "see" a physical change from mesh to mesh. Look for the cleaned cab reflections to become more like the oily surface.

I haven't found the "sanding grade" diamond compounds, those below 600 mesh, to be worthwhile. Even the SiC cheapo belts with their "walking" mesh size work very well for sanding. Also, there are some really great, non-SiC, grits available at 220, 320, 400 and 600 mesh. The break is at 600 and finer mesh.

Actually, I use a 600 mesh plated "sanding" belt as the last forming stage before shifting to 600 mesh diamond polishing. Don't be fooled by thinking "600" mesh works equally in all places - a metal plated 600 can sand a flat on a flint cab real fast while neither the 600 diamond polyester belt nor the 600 mesh compound described here will do so.

Since no water is used, heat is quickly generated. At the higher rpm, especially under a heavy hand, the stone gets

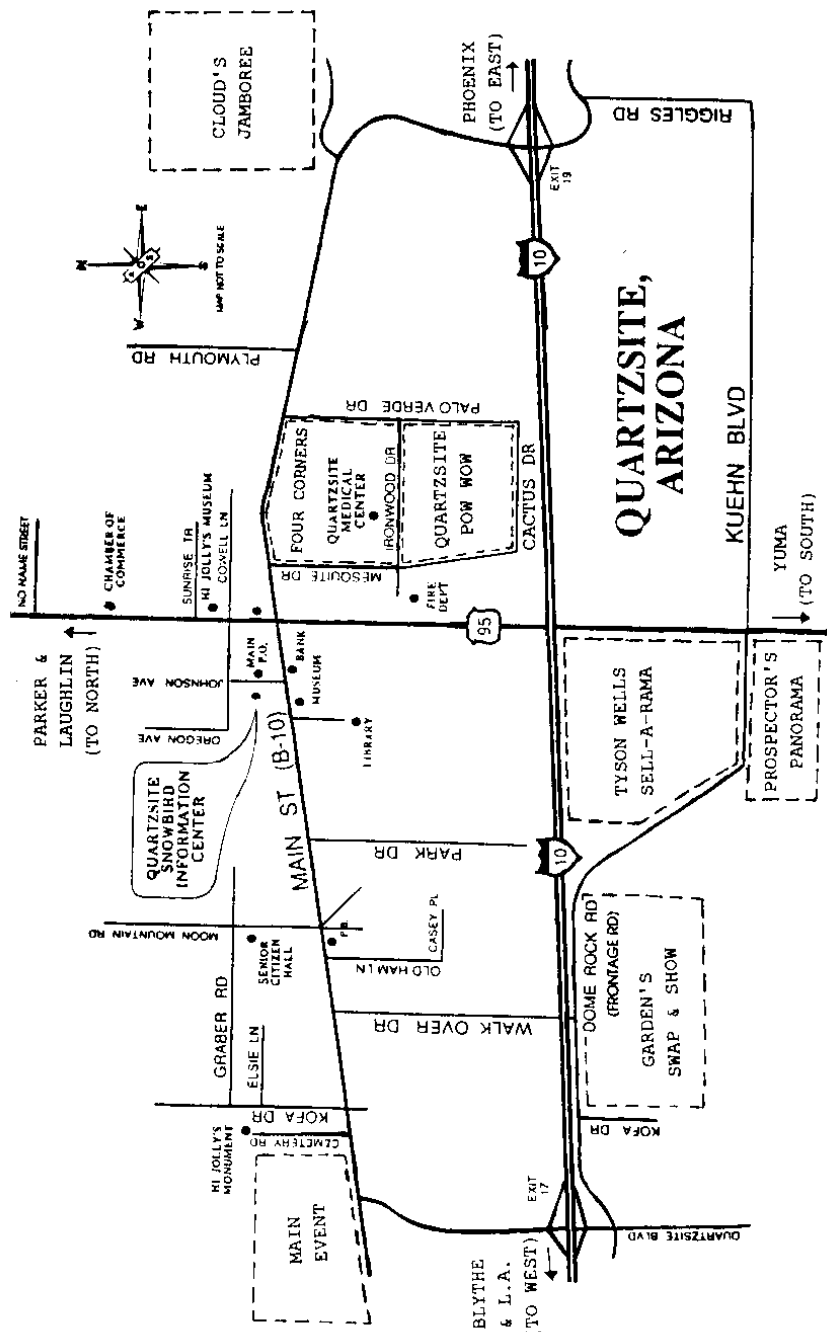
(Continued on page 8)

QUARTZITE NEWS

Quartzite Calendar

Events - Dates and Locations
Please Refer to Locator Map on

- *Jan 6th **Hy Jolly Daze Kick-Off Parade**
Singing, Fiddle Contests, Food
- *Jan 5 - Jan 14 **Tyson Wells Rock, Gem & Mineral Show**
South of I-10 on Hwy 95
- *Jan 5 - Jan 14 **Prospectors' Panorama Gold Show**
South of I-10 on Hwy 95
- *Jan 12 - Jan 16 **Quartzite Hobby Craft & Gem Show**
- *Jan 12 - Jan 16 **Quartzite Rock & Roll Classic Car Show**
- *Jan 13 - Jan 28 **The Main Event**
North of I-10 on west side (Exit 17)
- *Jan 15 - Feb 15 **Cloud's Jamboree**
North of I-10 on east side (Exit 19)
- *Jan 17 - Feb 11 **Four Corners Swap Meet**
North of I-10 on Hwy 95
- *Jan 19 - Feb 4 **Prospectors' Panorama Gem & Min Show**
South of I-10 on Hwy 95
- *Jan 19 - Feb 28 **Tyson Wells Sell-A-Rama**
South of I-10 on Hwy 95
- *Jan 23 - Jan 28 **Quartzite Pow - Wow** (500 spaces)
North of I-10 on Hwy 95
Parking: Cars ~\$2 ; R.V.'s/trailers ~\$3
- *Jan 27 **S.C.R.I.B.E. Symposium**
Senior Citizen's Community Center
Time: 8:30AM (**Mountain Time**)
Moon Mountain Road, Quartzite AZ



Quartzite area RV & camping map...
<http://www.agt.net/public/waters/mapc.htm>

Blythe, CA

- Astro Motel 801 E. Hobson Way Blythe, CA (760) 922-6101
- Best Value Inn** 850 W. Hobson Way Blythe, CA (760) 922-5145
- Best Western Inn** 825 W. Hobson Way Blythe, CA (760) 922-7105
- Blue Line Motel & Trailer Park 950 E. Hobson Way Blythe, CA (760) 922-3151
- Blythe Inn 401 E. Hobson Way Blythe, CA (760) 922-2184
- Budget Inn 939 E. Hobson Way Blythe, CA (760) 922-7646
- Comfort Inn** 903 W. Hobson Way Blythe, CA (760) 922-4146
- Comfort Suites** 545 E. Hobson Way Blythe, CA (760) 922-9209
- Desert Winds Motel 9090 E. Hobson Way Blythe, CA (760) 922-0273
- Dunes Motel 9820 E. Hobson Way Blythe, CA (760) 922-4126

- E-Z8 Motel 900 W. Rice St Blythe, CA (760) 922-9191
- Econo Lodge** 1020 W. Hobson Way Blythe, CA (760) 922-3161
- Economy Inn 9230 E. Hobson Way Blythe, CA (760) 922-3334
- Hampton Inn** 900 W. Hobson Way Blythe, CA (760) 922-9000
- Holiday Inn** 600 W. Donlon St Blythe, CA (760) 921-2300
- Motel 6** 500 W. Donlon St Blythe, CA (760) 922-6666
- Oasis Motel 12630 W. Hobson Way Blythe, CA (760) 922-5750
- Seashell Motel 616 E. Hobson Way Blythe, CA (760) 922-2144
- Super 8 Motel 550 W. Donlon St Blythe, CA (760) 922-8881
- Tourest Motel & Apartments 1130 W. Hobson Way Blythe, CA (760) 922-5645

(Continued from page 6)

Hot! in a hurry...enough that the stone may start to shift if dop wax is used to mount the stone. But then, polishing is rapid, needing no more than 15 to 45 seconds or so per mesh.

Cleaning the oil off the cab between grits is CRITICAL to prevent cross contamination! You can't see or feel the diamonds. The oil is the only clue where they are. If you get coarse grit on a finer grit belt, it's cooked! Also, because of the oil, you can't see the polish develop. All rocks look good coated with oil. I work several cabs as a group, say 15 to 25 and give them all a "what for" and then clean them. I wipe with lacquer thinner (on paper towel) but in the club shop, a good soap and water wash alone does the job. I cull the set for any needing more work and cycle this way until all are done for that mesh. Leaving the one belt on that wheel, I shift to the next finer grit on the second wheel. If I discover I goofed and need to back up one grit, it's still on the arbor and I can re polish down a grade.

Lifespan? I wear the belts out before the grit is gone. You can start to see the fabric base showing at the belt joint but it still polishes just fine. I have accidentally scraped diamond off when my attack angle with a sharp top edge got too shallow to the down-moving belt. But, for a couple of bucks in diamond compound the "sinking skiving"* feeling isn't as bad as seeing the resin nubbins fly off a \$120 diamond belt or a \$160 Nova wheel. Just use care and common sense.

Many workers think they have to jump from SiC 600 to cerium (or tin or chromium) oxides on hide or felt or the like. There's an enormous difference when these intermediate polishing stages intervene.

Now, here's for another day - What do the factors swear by that the cabbers can't afford (beside diamond).. how about the classy grades of Alumina like the Reynolds polishes...or how about Linde-A? Will all of these load these belts like the diamond compound? When/where will any of these out-perform diamond. How about the oxides, themselves.

Will they likewise load? ❄

...George Butts gtbuts@infinet.com

* (from the American Heritage Dictionary: **skive** (sk^ov) tr.v. **skived, skiv-ing, skives** To cut thin layers off (leather or rubber, for example); pare. [Of Scandinavian origin. See **skei-** below.]



What is Keystone Pricing?

In another item in Lapidary Digest #263, AOS member Leigh Miller inquired, "What is Keystone pricing?"

Keystone is a term employed in the gem/jewelry trade to describe mark-up to retail. Typically keystone is double to triple wholesale cost and among other things, represents the necessary factors of carrying inventory, time lag before final sale, and (hopefully) profit. Realistically, it means a dealer has some room for discounting to the trade built into their prices. ❄ -rgm

ALL ABOUT OPALS

(our thanks to Peter Brusaschi for his kind permission to reprint articles from his web site <http://opalmine.com/>) by Peter Brusaschi

To help folks better understand the different types of opals available, how opals are graded, and the terms used to describe opals and opal features, I've put together this illustrated, online Opal Encyclopedia.

Ok, this is not an earth science, geology, or chemistry lesson, but since many folks wonder what makes opals glow in a rainbow of colours, here's a quick explanation that's hopefully not too technical. Just in case some of the terms are unfamiliar, there's Glossary of Terms following the text.

How Opal Colour is Produced

It took the development of the electron microscope to work this out. Precious opal



is made up of tiny uniform spheres of transparent hard silica, which fit together in an orderly three dimensional frame, sitting in a "bath" of silica solution. It is the orderliness of the spheres that separates precious opal from common opal.

Light passes through the transparent spheres in a direct line, but when it hits the 'bath' of silica, it is bent and deflected at different angles, thus producing a rainbow effect.

Deflection & Diffraction

Depending on the size of the spheres, varying colours of the spectrum are diffracted. So it is a combination of deflection (bending) and diffraction (breaking up) of light rays that creates the colour in opal. If you move the stone, light hits the spheres from different angles and bring about a change in colour. The name *opal* actually means "to see a change in colour." The way in which colours change within a particular stone as it is rotated and tilted is called the stone's *play of colour*.

How colour is defined.

The size of the spheres has a bearing on the colour produced. Smaller spheres bring out the blues, from one end of the spectrum. Larger spheres produce the reds from the other end. The more uniform the spheres are placed, the more intense, brilliant and defined the colour will be.

Glossary of Terms:

Amorphous

Shapeless. Not consisting of crystals. Non crystalline. Glass is amorphous. Sugar is crystalline.

Deflection

The bending of rays of light from a straight line.

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Diffraction

The Breaking up of a ray of light into either a series of light and dark bands, or into coloured bands of the spectrum.

Diffuse

To spread out so as to cover a larger space or surface. To *scatter*.

Fluorescent

A *light* produced by the *electrical stimulation of a gas or vapour*. Fluorescent lights have a similar effect on opal as a bright cloudy day--they do not properly bring out the colours in opal

Hydrate

A compound produced when certain substances chemically combine with water.

Incandescent

Glowing with heat (red or white hot) as in a light bulb which glows white hot, but produces a light that more closely simulates natural sunlight. Sunlight and incandescent lights bring out the natural colours in opal.

Opal

Opal comes from the Latin word *opalus* which means to see a change in colour. Chemically, opal is hydrated silica, similar to quartz.

Opalescence

A *play of colour*, similar to that of an opal.

Opaque

Not allowing light to pass through. The opposite of transparent.

Play of Colour

The way in which colours change as an opal is tilted in different directions.

Silica

(Silicon Dioxide) A *hard, white or colourless substance*, that in the form of quartz, enters into the composition of many rocks and is contained in sponges and certain plants. The needle in the mouth of a female mosquito is made of silica. Flint, sand, chalcedony, and opal are examples of silica in different forms.

Spectrum

The band of colours formed when a *beam of white light passes through a prism* or by some other means (e.g. mist or spray, in the case of a rainbow) The full range of spectrum colours are: red, orange, yellow, green blue, indigo, and violet.

Sphere

A round three dimensional geometric shape whose *surface* is equally distant at all points from the centre point.

Translucent

Letting light through without being *transparent*.

Transparent

Opal Shapes

Opals can be cut into a wide range of popular shapes. Oval is by far the most popular shape, followed by the circular or round shape. Teardrop, square, rectangle, and triangle are other common shapes.

Some opal cutters prefer to let the opal define its shape rather than imposing a shape on the stone. Opals cut in this manner assume unusual freeform shapes.

Most solid opals and doublets are cut and polished with a convex dome or curved top. This encourages light into the stone so that the opal's iridescent properties are shown at their best. For triplets, the dome is created by a crystal cap that covers the flat slice of opal.

Australian opal is rarely faceted, nearly always domed. A domed stone is stronger and less prone to chipping. However, opal without a play of color (such as cherry red or amber opal from Mexico) is often faceted and can look a lot like ruby.

Opals are a carver's delight. The stone is not too hard to work with and will not wear out your diamond tools as much as such stones as chrysoprase, agate, or the like.

Opal Sizes

Opals are often calibrated to specific sizes to make the stones easier to fit into standard jewelry castings. The most popular calibrations are stated in millimeter (mm) measurements.

Popular sizes are listed below. Sizes in bold type are more commonly available than other sizes.

Round: 5 mm and 6 mm

Oval: 6 x 4, 7 x 5, 8 x 6, 9 x 7, 10 x 8, 12 x 10, 14 x 10, 16 x 12, 18 x 13, 20 x 15, 25 x 18, 30 x 22, 40 x 30.

Opal Settings

Jewelry castings for opals can range from very simple designs to very ornate designs with accent diamonds.

There are some interesting myths associated with opal settings. Some folks believe that doublets and triplets are always put into fully backed settings to hide the potch backing. Others believe that full backings are used to protect the stone. Neither myth is true. A jeweler could just as easily "hide" a doublet in an open backed setting--as the join line between the stone and the potch backing would be covered by the side of the setting, making it difficult to see whether the back of the

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