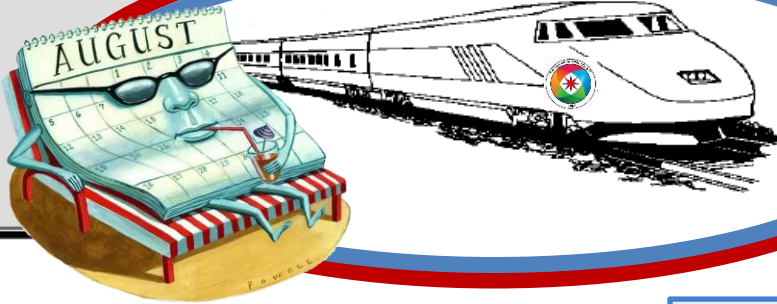


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President's Message

Greetings Opalholics!

Is it really possible that it's August already! Where has the time gone? I hope everyone is enjoying the summer. Have you been going to some of the local gem and mineral shows that have opened? Check out the Upcoming Events page for details of current shows.

It seems we've taken a step backwards in regard to the pandemic. Mask mandates are back in place in L.A. County and parts of Orange County. Please stay safe and get vaccinated if you can, and if you can't, please remember to wear your mask and social distance. We want to see everyone when we start having meetings again and future shows!

Stan McCall
AOS President
Custom Creative Gem Cutting

Member area access is available only to members in good standing. Any other entry is unauthorized.

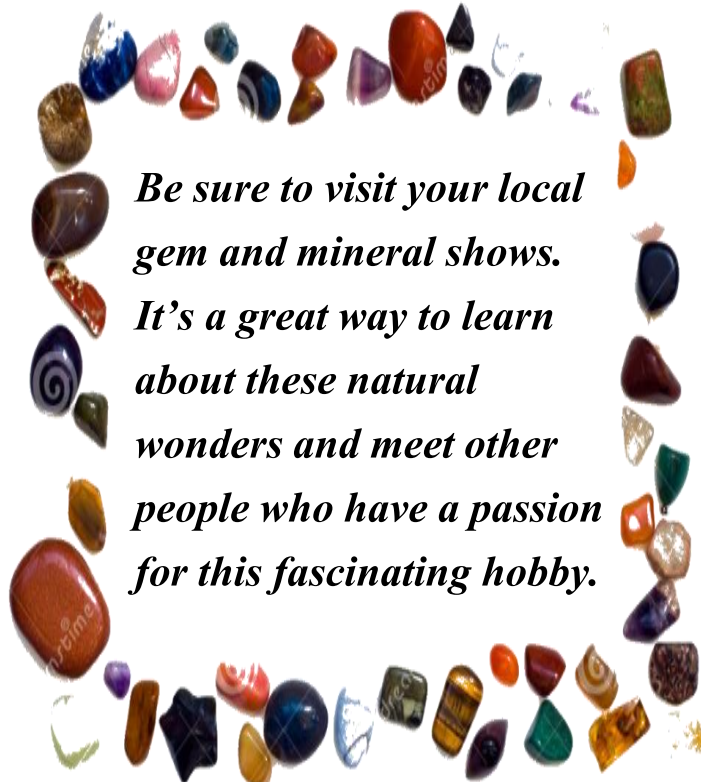
**USER NAME: member
PASSWORD: 4BLuefiRE3 (case sensitive).**

Have you heard?

We have new AOS badges!

- ❖ One free badge for each new member
- ❖ Badges are \$15.00 for existing members

If you would like a new badge, please contact
Treasurer, Russ Madsen.



***Be sure to visit your local
gem and mineral shows.***

***It's a great way to learn
about these natural
wonders and meet other
people who have a passion
for this fascinating hobby.***

CARVING GEM-QUALITY OPAL

by Theodore Grussing

Part 1 of 2



Figure 1. One side of the Royal Peacocks. The carving weighs 504 ct and measures 86 x 34 x 57 mm. Photo by Tino Hammid.

Gem-quality opal poses special problems for the carver that are not encountered when working with low-quality material. Herein the author uses three examples to explore these differences and the implications for success or failure in the final piece.

Traditionally, opal carvings have been created from low-quality, commercial-grade opal that has little or no play of color and is relatively inexpensive. Consequently, neither orientation to maximize the play of color nor weight loss is a source of concern.

In the carving of low-grade opal, the primary objective is to display the artist's skill; all other considerations are secondary. Indeed, some carvers prefer to work on low-grade opal because they feel that a substantial play of color tends to obscure the details of the carving, which is a hallmark of their skill.

Opal dealers also have generally shied away from having their gem-quality rough carved. To begin with, gem-quality opal represents a very small percentage of all opal mined, and large pieces (generally 30 grams and up) are rare. The gem stone market usually snaps these pieces up quickly because they yield large stones and matching sets of gemstones for jewelry. Few gem materials are as difficult to match stones in as opal because of the highly distinctive colors, which vary in intensity and pattern from stone to stone. The larger piece of gem rough will usually yield matching stones, and will frequently give a higher percentage of recovery than small pieces. By contrast, there is often no ready market for large pieces of low-grade opal, and carvings have been one of the best utilizations of this type of material.

In recent years, a number of collectors have begun to seek gem-quality opal carvings in their desire to have a prized work of art that is also a fine gemstone. The carving of gem-quality opal, however, has special problems that are usually not encountered with the lower-quality material. Several of these are examined below together with a description of three examples of success - and failure - in sculpting this material.

Continued on Page 3

KEY CONSIDERATIONS BEFORE CARVING BEGINS

Once the decision has been reached to carve a large piece of gem-quality opal, several problems not normally associated with the carving of opal arise. First, the subject matter must be oriented in the material to maximize the play of color and yet not unduly detract from the detail of the carving. Second, the carving should be designed in such a way that it will retain the maximum amount of this valuable material. Selection of a highly skilled gem carver is also of paramount importance, particularly one with whom you can effectively communicate, given the seriousness of the project. The author has worked closely with carver Shan Ginn Wang on a number of pieces; Mr. Wang shared many of the details of carving opal described below.

THE CARVING PROCESS

In carving opal, most carvers, including Mr. Wang, employ a variety of sintered and plated diamond tools in a flex shaft or permanently mounted arbor to rough out the shape of the carving. The piece is kept cool with water, as overheating of opal at any stage can be disastrous given the risk of vaporizing the natural water content of the material, causing it to crack or pop. After the carving has been roughed out, with particular attention paid to the orientation of the color in the subject matter, the carver begins the polishing process. Some carvers prefer to use diamond paste for the entire procedure;

others use a variety of Cratex wheels and water for coolant, and then finish with a slurry of cerium oxide on felt and loose cloth wheels. Fine results may be obtained with either method, but more care must be taken when diamond paste is used, again because of the risk of overheating the material. Cerium oxide tends to erode detail in the carving, so not infrequently the carver must go back and redo small detail areas when cerium oxide is used as the polishing agent.

Generally speaking, the greatest amount of time spent on a gem-opal carving is in preliminary study of the material and in roughing out the carving. In the first instance, the carver must attempt to “read” the rough material to determine where the color bars go, whether the material is clean, and, if not, where faults and/or imperfections in the stone are located. After the stone has been charted, a subject must be chosen that will best fit the material, take optimum advantage of the play of color anticipated, and remove flawed areas. After an acceptable subject is sketched both on paper and on the opal rough, the diamond bits are used to begin the carving. As the stone is opened up, the carver must be prepared to alter design and orientation depending on what he actually finds inside. Once the actual carving is completed, the final step is simply a matter of polishing. In a carving like “The Royal Peacocks” (figure 1), fully 75% of the approximately 100 hours that went into this piece was spent on charting the stone and roughing out the subject.

Continued on Page 4

The balance of this article will deal with three carvings: The Royal Peacocks, by Shan Gimn Wang, who carves for Lapidary International, Inc., of Anaheim, California; a black opal snuff bottle, by Hing Wa Lee of Whittier, California; and one that will be referred to here as the “Disaster,” by an unnamed but hopefully wiser carver. Each example illustrates a different aspect of carving gem opal



Figure 2. Gem-quality opal rough from which the Royal Peacocks was carved. Photo by Tino Hammid

THE ROYAL PEACOCKS

This very fine piece, shown in figure 1, weighs 504 ct and measures 86 x 34 x 57 mm. The piece of rough from which it was created weighed slightly more than 700 ct

and is shown in figure 2. The opal was mined in 1978 by Paul “Gopher” Fraser and Ian “Gunna” Fraser from the Black Flag field in Coober Pedy, South Australia. The Black Flag field encompasses an area of approximately 365 m x 914 m (400 yards x 1000 yards) and is bisected by the road to Adelaide. Until about 1972, the field was little more than an auto dump. Because of its close proximity to the city (about 1 km from the saloon) and its location along the major road into town, the city fathers had the area cleaned up. The rough that was eventually transformed into the Royal Peacocks was found in a freak pocket at about the 1.25-m level on top of the Hard Band level (a layer composed of jasper and gypsum that is difficult to penetrate; the opal levels are generally below this layer).

The rough was purchased by the author in the summer of 1981 as a high-risk piece: although the opal showed numerous, potentially beautiful thick red bars, there were indications that the bars might be sandshot (i.e., granules of sand or dirt would be lodged in the silica gel of which opal is comprised). No amount of “candling” with a strong light behind the stone helped, and the only way to know for sure was to cut into the material. Because of the doubt about the cleanliness of the red bars, the author sold the piece to a friend who was willing to take the risk. Shortly thereafter, the decision was made to carve the material.

The story concludes in the September newsletter.

~ Bench Tips ~

This page will be dedicated to bench tips and techniques from our readers. If you have bench tips you'd like to share, let us know! Bench tips can be anything - metal work, lapidary, wirework - anything creative that you would like to share. Send your tips to: aos.editor.02@gmail.com

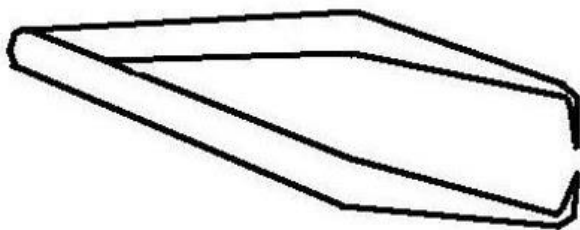
FIND THE BALANCE POINT

by Brad Smith

With odd-shaped pendants or earrings it's often difficult to find the right place to attach a bail or loop so that the piece is balanced and hangs straight.

A quick way to make a tool for this is to modify a set of tweezers. Any set of tweezers will work. Spread the tips, sharpen them with a file, and bend the tips at a right angle to point towards each other.

To use the tool, suspend the pendant or earring between two sharp points to see how it will hang.



DRILL BREAKAGE

by Brad Smith

Using a small drill is difficult for a beginner, especially if it is hand held in a flexshaft or Dremel. They are easily broken if you push too hard or if you tilt the drill while it's in the hole.

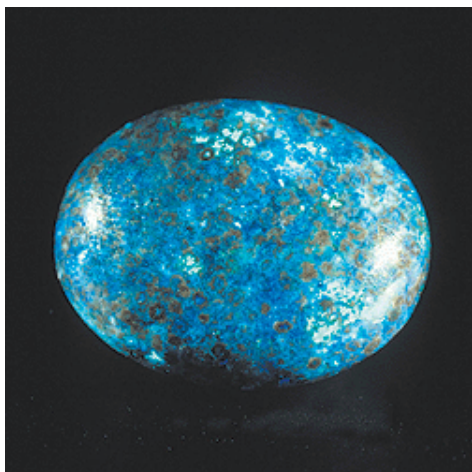
Most problems, however, are the result of buying cheap drills that suffer from poor quality steel and/or inaccurately ground cutting edges. A good drill from jewelry supply companies is well worth the price.

Remember that drilling always goes easier with lubrication. A little wax or oil is all you need. Almost anything will work: 3-in-1 oil, beeswax, mineral oil, injection wax, car oil, olive oil, or one of the commercial cutting waxes. The lubricant helps to move chips out of the hole and reduces friction of the drill against the side of the hole, keeping the drill cooler.

Work Smarter & Be More Productive with Brad's "How To" Jewelry Books on [Amazon.com/author/bradfordsmith](https://www.amazon.com/author/bradfordsmith)



What Are the Sugar and Smoke Treatments of Opal and How Can I Identify Them?

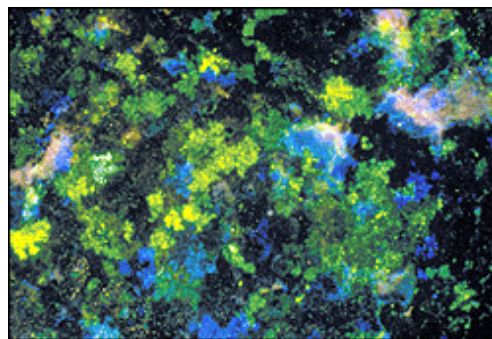


Sugar treatment of opals is used to darken their appearance and bring out the play-of-color.

There are a number of treatments that are used to darken opals and bring out their play-of-color. The two most commonly seen are sugar treatment and smoke treatment. These processes work only with porous opals, as they darken the stones by impregnation of carbon. Before starting either treatment, the opals are preformed into their finished shapes.

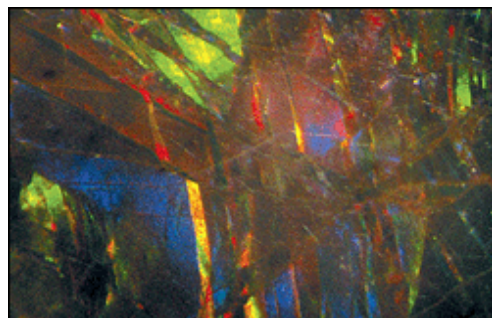
The first step in sugar treatment is to wash and dry the opals. Treaters then place the opals in an acidified glucose-lactose solution – two to three times the opals' volume – with a few drops of sulfuric acid added. This impregnating solution is heated at 105°C for up to 10–12 hours, until it evaporates. The temperature is then raised to 125°C to solidify and then dehydrate the sugars impregnating the matrix opal. After this sugar-impregnated matrix opal is separated from the sugary mass surrounding it, the opal is immersed in a glass vessel filled with concentrated sulfuric acid and heated to 100°C for 4–5 hours, reducing the impregnating sugars to black carbon which darkens the opal's color and dramatically enhances the play-of-color. The carbon impregnated opal is then allowed to cool before being washed in tap water for several hours to remove residual sulfuric acid.

Smoke treatment is not as common as sugar treatment. There are a number of variations. In one, the opals are wrapped in layers of newspaper, and then covered in aluminum foil, or soaked in used motor oil and wrapped in brown paper. Heat is then applied until the paper turns to carbon, which penetrates the opal as with sugar treatment.



With magnification and reflected light, sugar-treated opals have a speckled, "pepper-like" appearance.

With experience, gemologists can identify both treatments using standard gemological equipment. Sugar-treated material has small dark areas that resemble pepper; smoke-treated stones have a darker, patchy-looking appearance. Both of these appearances can be detected with magnification and reflected light. Note, too, that both treatments typically affect only a shallow layer below the surface, so the new color may be removed through wear. To learn more about smoke and sugar treatment of opal, consult the GIA Colored Stone Grading courses.



In smoke-treated opals, the dark areas have an unnatural, patchy appearance.

From the Insider Gemologist 6-11-2004. The [GIA Insider](#) is a Bi-Weekly Electronic Bulletin. Reprinted for educational purposes under the "fair use" provision of the U.S. Copyright Act.

Phenomenal Opal One of America's finest gems comes to light

by Robert Weldon,
G.G. Gemstones & Pearls: News

When Thomas Ames sat down to carve one of the largest and finest opals mined from Opal Butte, OR, you can only speculate about his state of mind. A seasoned glyptic artist, Ames was about to use his particular technique of sand-blasting a gemstone – masking off strategic areas, blasting, remasking and so on – until the opal yielded to the varying depths and contours of the *Cattleya-laelia* orchid design he wanted to create.



272-ct. opal from Opal Butte, OR, was carved by Thomas Ames. Photographed with transmitted light, this opal reveals that it is the contra-luz variety

But this wasn't a normal opal. First, it was huge – over one pound of rough. It also had an unusual quality. "It was unlike Australian material, which is opaque and shows its play of color in reflected light," says Ames. "This piece had a clarity I've never seen in opal before; I could see through it, and the fantastic play of color dazzled me."

The opal also has some interesting rounded orange clouds that some gemologists speculate are concentrations of microscopic iron oxide stains, similar or identical to the colors seen in cherry opals.

Ames says the opal is of the contra-luz variety, the Spanish phrase meaning "against the light." The opal composition (microscopic, tightly packed silica spheres) diffracts reflected and transmitted light, resulting in red, orange, green, blue and violet flashes and pinpoints of color. This composition creates an ebb and flow to the colors as the gem is rotated and angled in relation to light.

Award-Winning Result

In addition to the opal's composition, Ames considered its general outline. "Cut just right," he says, "it has a rainbow-opal effect." (Rainbow opals typically change body color entirely, depending on how light is angled in relation to the gemstones).

What resulted from Ames' tireless efforts was the 272-ct. opal carving shown here. The gem won a first-place honor in the American Gem Trade Association Cutting Edge competition this year (see *Professional Jeweler*, October 1999, p. 62).

"It was the largest piece mined at the Blue Mountain range in Oregon until just last year," says Ames. "Now a 2-pound piece of pure transparent opal has been cut from the matrix, though it remains unfashioned."

Almost 2000 years ago, naturalist and philosopher Pliny the Elder pondered the virtues of opal. He wrote in his epic *Natural History* volumes: "There is in them a softer fire than in the carbuncle [garnet]: there is the brilliant purple of the amethyst; there is the sea-green of the emerald – all shining together in incredible union."

It's an appropriate salute to Pliny two millennia later. A singular opal, from a world unknown to him, that perfectly matches his contemplations.

Thomas Ames, Arvada, CO; (303) 424-3772.
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UPCOMING EVENTS

Reader: If your organization has an opal or rockhound-related event, please email particulars to info@opalsociety.org. Upcoming Event listings will be included at the discretion of The Opal Express editor as space and scheduling permit.

August 21-22, 2021 – Tehachapi, CA

Tehachapi Valley Gem and Mineral Society
TVGMS Annual Gem, Mineral and Jewelry Show
500 East "F" Street, Tehachapi, CA 93561
Saturday and Sunday 9 AM to 5 PM
Contact: (661) 972-1117, travis462@outlook.com
Website: <http://tvgms.org>

Rocks, Gems, Minerals, Beads, Jewelry, kids activities and more plus Tehachapi Mountain Festival 2021.

September 4-5, 2021 – Reno, NV

The Reno Gem & Mineral Society, Inc.
Jackpot of Gems
Reno Convention Center, 4390 S. Virginia St., Reno
Saturday 10 AM-5 PM, Sunday 10 AM – 4 PM
Contact Dan Ellis, sailondan55@aol.com
www.renogms.org

September 18-19, 2021 – Chico, CA

Feather River Lapidary and Mineral Society Silver Dollar Fair-grounds, 2357 Fair St., Chico, CA 95928
Saturday 9 AM – 5 PM, Sunday 9 AM – 4 PM
Contact: 1 530 586-7052; Website: <http://featherriverrocks.org>

September 24, 25, 26, 2021 – Stoddard Wells, CA

Victor Valley Gem and Mineral Club
45th Annual Stoddard Wells Rockhound Tailgate. Location: Dale Evans Parkway and Stoddard Wells Road, Apple Valley, CA. Go straight on Stoddard Wells Road, will turn to dirt. Follow 7 miles to "Tailgate". Signs will mark the road. Cars & RV's can make it with ease, go slow. See our website for additional details and directions.
Hours: 9 AM – 5 PM daily
Free event, everyone is welcome! FREE Vendor Spaces, dry camping, restrooms available. First come, first served. All donations welcomed. Handcrafted jewelry, cabs, slabs, rough, and more. Food served breakfast & lunch. NO saving spaces or competing with VVGMS's fundraising activities – i.e. food, drinks, grab bags, spin the wheel or auctions. Saturday field trip 9 AM – 1 PM.
Contact: (760) 243-2330, dwayna.barron@gmail.com
Website: <http://www.vvgmc.org>

October 1-3, 2021 – Vista, CA

Vista Gem and Mineral Society
Vista Gem and Mineral Open Air Market
Antique Gas and Steam Engine Museum, 2040 N. Santa Fe Ave., Vista CA 92083
Friday and Saturday 10 AM – 5 PM, Sunday 10 AM – 4 PM
Contact: 1 (760) 214-8770
Website: <http://www.vistarocks.org>

October 8, 9, 10 & 11, 2021, Clovis CA

Fresno Gem & Mineral Society
Clovis Rodeo Grounds, 445 Clovis, CA 93613
Time: Friday-Sunday Oct. 8th-10th – 10 AM – 5 PM, Monday Oct. 11th – 10 AM – 4 PM
Central Valley Gem & Mineral Show sponsored by Fresno Gem & Mineral Society. The show will be held outside and indoors where vendors will be displaying and selling their rocks, minerals and fossils. From rough to cabs, from jewelry to wind chimes you will find a great variety! Adults and children will enjoy the fossilized sharks teeth, dinosaur bones, sparkling minerals in all their forms plus beautiful handcrafted jewelry.
Contact: 1 (708) 821-7575, danielbolm096@gmail.com
Website: <http://www.fgms.us/>

October 9, 2021 – Antioch, CA

Antioch Lapidary Club
Antioch Lapidary Club's Annual Artisan Jewelry and Rock Show
Antioch Lapidary Club's clubhouse, 425 Fulton Shipyard Rd., Antioch
Time: 10 AM – 4 PM
Directions: Take Highway 4 to Antioch; exit A Street and go north, towards the water. Turn right on E 18th Street; go approx. 3/4 mile; turn left of Cavallo Road. Follow Cavallo, across Wilbur Avenue. You are now on Fulton Shipyard Road. Cross the railroad tracks and immediately turn right into the parking lot.

October 9-10, 2021 – Los Altos, CA

Peninsula Gem and Geology Society
One No. San Antonio Road, Los Altos, CA 94022
Saturday and Sunday 10 AM – 5 PM
Contact: 1 (408) 834-5384, steve_job@sbcsglobal.net
Website: <http://pggs.org>

October 10, 2021 – Fallbrook, CA

Fallbrook Gem and Mineral Society
Fall Festival of Gems
Location: Across the street from the Fallbrook Gem and Mineral Museum, 123 W. Alvarado St., Fallbrook, CA in the parking lot.
October 10th, 9 AM – 4 PM
Contact (760) 728-1130
Email: info@fgms.org

October 16-17, 2021 – Placerville, CA

El Dorado County Mineral and Gem Society
El Dorado County Fairgrounds, 100 Placerville Dr., Placerville, CA 95667
This show will be held indoors at the El Dorado County Fairgrounds with secure spaces for 25-30 vendors.
Saturday 10 AM-5 PM, Sunday 10 AM – 4 PM
Contact: (530) 676-2472
Website: <https://eldoradomineralandgem.org>

October 16-17, 2021 – Santa Rosa

Santa Rosa Mineral & Gem Society
Santa Rosa Veterans Building, 1351 Maple Ave, Santa Rosa
Hours: Saturday 10 AM-6PM, Sunday 10 AM – 5 PM
Contact: Janyce Vickers (707) 217-0636
Email: santarosarockshow@hotmail.com

October 30-31, 2021 – Mariposa CA

Mariposa Gem and Mineral Club
Mountains of Minerals Show
Mariposa County Fairgrounds, 5007 Fairgrounds Rd.
Saturday 10 AM-5 PM, Sunday 10 AM-4 PM
Contact: Meredith Meehan, mgmc@sti.net
Website: <http://mariposagemclub.org>

November 6-7, 2021 – Ridgecrest, CA

Indian Wells Gem & Mineral Society, Inc.
Desert Empire Fairgrounds, 520 S. Richmond Rd., Ridgecrest CA
Time: Saturday & Sunday 9 AM – 5 PM
Fieldtrip November 7th at 9 AM
Free admission!! Vendor spaces available. Geode purchasing and cutting, petroglyph slab paintings, gems and minerals and jewelry.
Contact: (760) 375-7905, fjrocks@dslextre.me

November 13-14, 2021 – Yuba City

Sutter Buttes Gem and Mineral Society
29th Festival of Gems and Minerals
Yuba – Sutter Fairgrounds
442 Franklin Ave., Franklin Hall, Yuba City
Saturday 10 AM – 5 PM, Sunday 10 AM – 4 PM
Contact 916 677-6696, horita@comcast.net
Website: <http://sutterbuttesgemmin.org>

American Opal Society Membership Application

FILL IN APPLICABLE INFORMATION		DUES / FEES	AMOUNT PAID
DUES:	RENEWING MEMBERS	\$35.00	
SELECT ONE	NEW MEMBERS	\$45.00	
INTERNATIONAL MEMBERSHIP FEE (All addresses <u>outside</u> of USA)		\$15.00	
PRINTED NEWSLETTER FEE (Paper copy postal mailed instead of PDF file by e-mail)		\$10.00	
ADDITIONAL BADGES (Your first badge is <u>free</u> when joining)		\$15.00	
TOTAL PAID DUES plus International, Print or Badge Fees if Applicable:			

Please make check or money order payable to "American Opal Society". Mail payment and application to:

American Opal Society: PO Box 4875, Garden Grove, CA 92842-4875

An optional quicker method of payment is via the internet. To pay via PayPal, please visit the membership page on our website at http://opalsociety.org/aos_application_by_web.htm to complete the form and make your PayPal payment. You may pay with a credit card or via PayPal account. The transaction is completely secure and the AOS never sees your credit card number. The AOS PayPal account is membership@opalsociety.org.

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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: The AOS publishes a membership roster once per year in its newsletter, The Opal Express. Your name will be included. Please check what additional personal information you listed for other members. If it is different from the information above, please note that on the application.

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E-mail: aos.editor.02@gmail.com

Are Your Dues Due Now?

PLEASE CHECK YOUR ADDRESS LABEL OR NEWSLETTER E-MAIL.

There will be a date that shows the current month/year of your membership. If the date is older than the current date, your dues are overdue.

A Renewal Grace Period of two months will be provided. Please note, that as the system is 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

(revised 11/27/19)

The Opal Express

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

Volume 54, Issue 8

— GENERAL MEETINGS —

4th Wednesday of the Month
7:00 p.m. - 9:00 p.m.

Anaheim Community Center
250 E. Center Street
Anaheim, CA 92805



TO:



**No General Meeting
for August**



General Meeting Location at:

Anaheim Downtown Community Center

250 E. Center Street
Anaheim, CA 92805

Stayed tuned! We may be starting up meetings again at the Anaheim Community Center. We are currently checking into getting our old room for meetings.

American Opal Society

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Instagram: <https://www.instagram.com/opalsociety>
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Pinterest: <https://www.pinterest.com/opalsociety>
YouTube: https://www.youtube.com/channel/UCegTIH1IEyO7y8wdqvRfyUA?view_as=subscriber

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