

The Opal Express

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Table of Contents

President's Message	1
Members Only Website Password	1
Did You Know?	1
Introduction to Smoke Treated Welo Ethiopian Opal	2
Auctioneer Shows Off 118-Carat White Diamond	3
Opal Offers Fast, Lasting Remedy for Uranium	4
Uncovered: The Truth About Opal Formation	6
Bench Tips	7
Upcoming Events	8

President's Message

Greetings Opalholics!

Happy Valentine's Day!

Don't forget your special sweetheart this month! Opal jewelry is a great Valentine's Day gift – also great any other time of the year too!

As you all are probably wondering, we are working on plans for in-person meetings and we are working on plans to have an opal show this year. Details are still being worked out, so stay tuned!

In the meantime, I hope everyone has lots of creative plans for the coming months. If you have a project or story you'd like us to feature in a future newsletter, please let our editor, Kathleen James, know. We would love to start including reader-submitted articles in future issues.

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: RedflaSH79 (case sensitive).



Let's extend a hearty AOS welcome to our newest member!

Mark Dana

Thank you Mark for joining the American Opal Society!



Did You Know?



Valentine's Day started with the Romans

There are two theories about the origin of Valentine's Day. Some believe the day derives from Lupercalia, a raucous Roman festival on February 15th where men stripped naked and spanked young maidens in the hopes of increasing their fertility.

The second theory is that while the Roman Emperor Claudius II was trying to bolster his army, he forbade young men to marry. In the spirit of love, St. Valentine defied the ban and performed secret marriages, and for his disobedience, Valentine was executed on February 14 around the year 270 A.D.



Introduction to Smoke Treated Welo Ethiopian Opals



Smoke treatment for Welo Ethiopian opals begins when the preformed opals are placed into a box with a small wood chip fire underneath. This set up allows only the smoke to pass through the opals and not the heat. Setting up the perfect smoking box system took us a long time to figure out the right distance to keep the opals from the fire to ensure the best yield of finished smoke treated opals without cracks from the heat of the fire. We lost many opals to heat cracks fine tuning this treatment.

Since Welo Ethiopian Opals are hydrophane, this making them very porous, allowing for them to deeply soak in the smoke. The time frame for the treatment process normally takes around 2 hours sometimes longer and is a permanent treatment.

It is amazing to see this treatment done because you can start out with Welo opal performs that all look to be the same base color and after the treatment will end up with all the pictured mixture of base colors mixture from green, tan/brown, yellow, dark black. Normally there is only around 25% that turn yellow or green base color. Majority turn tan/black base after treatment.

After the treatment process the fire color play is very much enhanced. Most all smoked Welo opals end up with fire play brightness of at least 4/5-5/5

A lot of people have never seen or heard of smoke treated Welo opals. Some people that do know of this treatment think it is horrible for the Welo opal business because of people not disclosing whether a opal has been treated.

The major concern is the mixing up of the natural base color Welo Opals with the treated. Natural Untreated Welo opals are found in a variety of natural base colors. Some of which include clear / silk / brown / tan / green / dark crystal / white/ grey / purple / red / yellow / lavender / blue crystal / pinkish white.



Konjo Opals wants you to be aware of this treatment process. We will always label any smoke treated opal that we offer for sale with full disclosure of treatment. We also offer Lab certification from a choice of labs if you would like on any of our opals. Send a message for more details on lab certifications. If you would like to buy any smoked treated Welo opals send a message for pricing.

From:

<http://www.opalauctions.com/auctions/ethiopian-opals/item-317852>

Auctioneer Shows Off 118-Carat World's Greatest White Diamond in NYC

Associated Press, September 04, 2013

NEW YORK – A New York auction house is showing off what it calls the world's greatest white diamond on the block -- a 118-carat stone from Africa the size of a small egg.

The oval diamond glistened in its glass case Wednesday at Sotheby's Manhattan headquarters, not yet mounted after it was mined and cut two years ago. It will be auctioned in Hong Kong on Oct. 7 and has a pre-sale estimate of \$28 million to \$35 million.

In terms of size, quality, polish and color, "this is the greatest white diamond we've ever had the privilege to sell," said Quek Chin Yeow, deputy chairman of Sotheby's Asia and an international diamond expert.

The stone was discovered in 2011 as a 299-carat rough diamond in a southern African country whose name Sotheby's declined to disclose.

The stone was discovered in 2011 as a 299-carat rough diamond in a southern African country whose name Sotheby's declined to disclose.

When asked why they could not give the exact source, auction house officials said the owner wishes to remain anonymous and that was the agreement.

The current record for any white diamond is \$26.7 million. That pear-shaped stone was over 101 carats. It was sold at Christie's in Geneva last spring.

Three other white diamonds over 100 carats were auctioned by Sotheby's -- in 1990, 1993 and 1995.

The white stone is part of a lineup of jewels up for auction that also includes a flawless, round, vivid blue diamond, worth an estimated \$19 million at 7.6 carats.

It's the largest, most significant such diamond graded by the Gemological Institute of America.



The reason these stones are going on the block in Hong Kong, Quek said, is that it has become a center for jewelry sales and it's there that the \$1.7 million record price per carat for vivid blue diamonds was set -- with the sale of a 6-carat blue diamond for \$10.2 million in 2011.

Blue diamonds -- more rare than white ones -- are from the same color family as the famed Hope Diamond, though a different hue. The Hope Diamond, which belongs to the Smithsonian Institution in Washington, is not for sale.

Read more:
<http://www.foxnews.com/us/2013/09/04/auctioneer-shows-off-118-carat-world-greatest-white-diamond-in-nyc/#ixzz2dzvoSq2P>

Five Fun Facts About Diamonds

1. The diamond is more than a billion years old.
2. Diamonds are the hardest natural substance on earth.
3. Diamonds are made of only one element: carbon.
4. Diamonds come in every color.
5. Scientists have discovered a planet that they believe is composed mostly of carbon, and is one-third pure diamond.

Opal Offers Fast, Lasting Remedy for Uranium Contamination at Nuclear Sites, Say Stanford Researchers

*Stanford Report, December 1, 2011
by Louis Bergeron*

Across the United States there are more than a dozen major sites where soil and groundwater are contaminated with substantial amounts of uranium – a highly mobile, radioactive element. Most of the contamination is from poor disposal practices at mines or plants that processed uranium-rich ore for power plants or nuclear weapons, or reprocessed spent or decommissioned uranium.

Cleaning up such sites is a problem that has bedeviled remediation efforts for decades. There has been no simple, reliable, cost effective way to do it. Now a team of researchers led by Stanford geochemist Kate Maher is proposing to imitate nature by using amorphous silica – also known as the precious gemstone opal – to sequester the uranium. Once ensconced inside opal, the uranium molecules would be rendered immobile and chemically inert.

"We have looked at opaline silica in deposits across the western U.S. and almost universally we find very high uranium concentrations," said Maher. "From dating these deposits, we have found that they have been stable, closed systems for hundreds of thousands – and in some cases millions – of years."

Whether in soils, hydrothermal deposits, hot spring or cold spring deposits, when enfolded in an opaline embrace, uranium seems about as active as a bug trapped in amber.

According to computer modeling studies that the researchers have done using their data from natural opal deposits, opaline silica may offer a faster, cheaper, more enduring way to sequester uranium than other current or proposed methods.

Maher, an assistant professor of geological and environmental sciences at Stanford, is presenting the team's research at the 2011 annual meeting of the American Geophysical Union in San Francisco on Dec. 6.

The sequestering process would involve pumping a solution rich in dissolved silica into the subsurface through injection wells, effectively flooding the contaminated areas with it. As the solution moved through the soil or rock, chemically interacting with its surroundings, amorphous silica would precipitate out and latch on to dissolved uranium.



More than a dozen major sites around the U.S. have uranium-contaminated soil and groundwater. Stanford researchers propose using opal to sequester the uranium for long-term storage.

Various methods for remediating uranium-contaminated zones have been tried. Excavating and hauling contaminated soil elsewhere for treatment and permanent disposal is an expensive way to go, so cheaper on-site, or *in situ*, remediation is preferable. The most common approach has been "pump and treat," which is exactly what the name implies – clean water is flushed through the system to displace the uranium-contaminated water, which is pumped out for treatment.

Approaches for *in situ* remediation generally involve reducing the electrical charge of the uranium atoms – and thus their chemical reactivity – by means of various biological or chemical agents. Certain microbes have had some success in reducing uranium to a stable state, and some chemical additives, such as certain forms of iron and sulfur, also have demonstrated some promise. Introducing phosphate into contaminated soil or sediment, where it would chemically bond with uranium to form a new mineral, also has been proposed.

Continued on Page 5

But all of those methods rely on creating and maintaining an environment in which the agents of reduction are always present. If conditions change and those agents diminish in abundance, either through biodegradation or physically washing out of the contaminated area, the uranium could return to a more mobile – and dangerous – state.

Opaline silica, on the other hand, is not only a demonstrably long lasting host, it is also much more welcoming than other potential mineral hosts such as the calcite that is often precipitated along with the opal. Maher said that, on average, the enrichment of the uranium into the opaline silica tends to be "many orders of magnitude greater" than what the researchers found in the calcite.

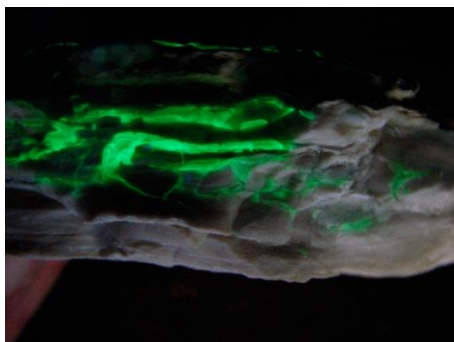
"We see up to 1,000 parts per million of uranium in some natural opal deposits compared with a few parts per billion levels in calcite that often precipitates along with the opal," she said.

Opaline silica is also stable over a wider range of pH conditions than calcite and other minerals that often precipitate with opal, further enhancing opal's relative durability.

On top of its striking capacity and stability, opal also incorporates uranium into its amorphous form at a relatively rapid rate, according to the researchers' modeling of different sequestration scenarios.

"From our modeling analysis, within 10 years of flooding a contaminated area with sodium silicate, nearly the whole aquifer has been decontaminated," Maher said.

"The uranium has been sequestered to levels far below the maximum contaminant level allowed by federal law, while with the traditional pump and treat approach, less than half of the aquifer is beneath that level."



Radioactive uranium in a piece of natural opal glows bright green under ultraviolet light.

Once uranium has been incorporated into opal, about the only way for it to get back out would be if fluids that contained very low amounts of silica began circulating through the zone in which the uranium was sequestered. If the silica content of the fluid was low enough, the amorphous silica could start dissolving and set the uranium free to roam and contaminate its surroundings.

But silicate minerals are the most abundant class of rock-forming minerals in the crust of the Earth, composing about 90 percent of the crust, and in many geologic environments most of the waters are close to saturation with silica. Maher said that makes the researchers confident that opaline silica will be stable over long time scales.

Silica is also relatively inexpensive, making it an affordable method for storing uranium *in situ* in the subsurface.

So far the researchers' work has been focused on sampling and analyzing naturally occurring deposits of opal and using that data to model the reactivity and transport of uranium under different scenarios. They are particularly interested in how iron oxides, which are commonly present in soil and sediment, might affect the incorporation of uranium into opal.

But Maher said they hope to try the method at the experimental scale in the laboratory within the next few months and then run a trial at a contaminated site.

"Our initial feasibility study suggests that this is a potentially more reliable and more effective strategy than trying to create reducing conditions in the subsurface environment," Maher said.

Michael Massey and Joseph Nelson, graduate students in the departments of Environmental Earth System Science and Geological and Environmental Sciences, respectively, contributed to this research, as did Craig Bethke, a visiting professor from the University of Illinois, and Scott Fendorf, a professor of environmental Earth system science.

Media Contact

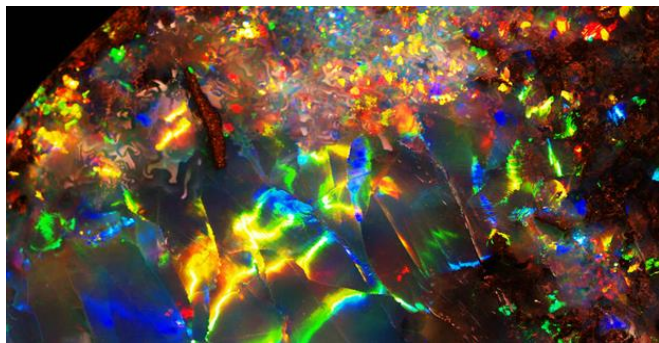
Kate Maher, Department of Geological and Environmental Sciences: (650) 725-0927, kmaher@stanford.edu
Louis Bergeron, Stanford News Service: (650) 725-1944, louisb3@stanford.edu
From <http://news.stanford.edu/news/2011/december/opal-uranium-sequester-120111.html>

Uncovered: The Truth about Opal Formation

by Amy Middleton

3 June 2013

The secret of how opals formed in Australia's Red Centre could shed light on the landscape on Mars.



Researchers say opals formed when Australia's rainforests receded over 90 million years ago. (Credit: Wikipedia)

New research has explained the mysterious formation of opals, found in abundance in Australia's red center, and the information could shed light on the environment on Mars.

Australia produces over 90 per cent of the world's precious opals, but before now scientists have never been able to explain precisely how the gemstones formed.

"Before this we did not know [opal's] origin, why it forms at such shallow depths or why it can be found in central Australia and almost nowhere else on Earth," says lead researcher Professor Patrice Rey, a geologist at the University of Sydney.

Opals formed by acidic weathering

Patrice says the findings, published this week in the [Australian Journal of Earth Sciences](http://www.australiangeographic.com.au/journal/uncovered-the-truth-about-opal-formation.htm), reveal that opals formed during "an extraordinary episode of acidic weathering, during the drying out of the central Australian landscape."

Between 100 million and 97 million years ago, a vast sea that covered 60 per cent of Australia – from Coober Pedy in South Australia to the Gulf of Carpentaria in northern Australia – began retreating.



Mars-like landscape near Coober Pedy, SA.
(Credit: University of Sydney)

This drying out of Australia's center increased the acidity levels at shallow depth, releasing silica through the weathering of sandstone. Further weathering then lowered the acidity to a level at which precious opal can form in the silica-rich gel.

Australia's Red Centre similar to Mars

Central Australia is believed to be the only place on earth where acidic weathering of this scale has ever taken place, although similar conditions have been observed on the surface of Mars. Non-precious opal deposits were discovered on the Red Planet by NASA in 2008.

"If you look at Mars and the Red Centre, they share similar characteristics," says Patrice. "Similar rocks went through similar weathering processes, so potentially precious opals might exist there."

Patrice says central Australia offers a "unique natural laboratory", where researchers can study biological processes that could potentially be present on Mars.

Mike Snow, a minerals expert at the South Australian Museum, says the findings are compelling, and may well provide a glimpse into the landscape on Mars.

"The landscapes of Mars and the [Red] Centre both have large amounts of red oxidized iron," says Mike. "This is part of the opal story."

"Perhaps opal may well occur on Mars if it is similar to the Great Artesian Basin."

From:

<http://www.australiangeographic.com.au/journal/uncovered-the-truth-about-opal-formation.htm>

~ 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

MAGNETIC TOOL BAR

by Brad Smith

An easy way to keep all your files organized at the bench is to use a magnetic tool strip. They're not expensive and help keep a lot of small tools from cluttering the bench top. I got a couple of them from Harbor Freight for about \$5 each. See <http://www.harborfreight.com> and search on-"magnetic-holder"

My only regret was putting some of my small drills on the magnets. The drills got a little magnetized and now stick together when I carry them in a bottle in my tool box.



FOREDOM HAMMER HANDPIECE

by Brad Smith

I've been using a hammer handpiece for 15 years or so and never realized I should be oiling it, so I wanted to be sure you heard about it also. Just an occasional drop in the hole is all you need.

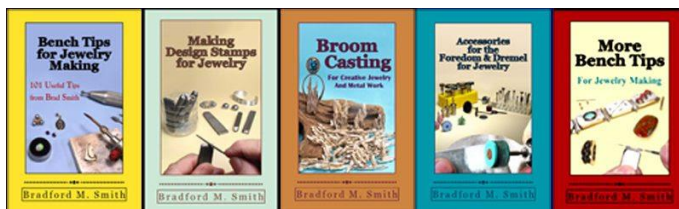
Warron Gray in Florida tipped me off on this. He's been fixing Foredom handpieces for decades. Get in touch if you have a problem. He's got a \$35 flat fee plus parts. Mention you heard it from me.

Warron Gray
145 Waterway Road
Royal Palm Beach, FL 33411
Warrong2@bellsouth.net

And for more info on accessories for the Foredom, see: <http://amzn.to/2fwxuaT>



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



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.

February 12-13, 2022 – Antioch, CA

Antioch Lapidary Club
Jewelry, Gem & Rock Show
1201 West 10th St., Antioch, CA 94509
Hours: 10 AM – 5 PM
Admission: \$6
Contact: edysnyder@gmail.com
Website: <http://www.antiochlapidaryclub.com>

February 26-27, 2022 – Vallejo, CA

Vallejo Gem and Mineral Society
McCormack Hall, Solano County Fairgrounds, Vallejo, CA
900 Fairgrounds Dr., Vallejo, CA
Spring Bling 2022
Hours: 10 AM – 5 PM both days
Contact: (510) 377-4545
Website: <http://vjgems.co/>

March 5-6, 2022 – Ventura, CA

Ventura Gem and Mineral Society
Ventura County Fairgrounds, 10 W. Harbor Blvd., Ventura
Hours: Saturday 10 AM – 5 PM, Sunday 10 AM – 4 PM
Gems and Minerals, fossils, jewelry, healing stones, silent auction, exhibits, dealers, kids activities, lapidary arts demonstrations, raffle, flea market, plant sale. A successful and valued South Coast show since 1963. We are happy to be back again after COVID!
Website: <http://www.vgms.org>

March 5-6, 2022 – Newark, CA

Gem and Mineral Society of Castro Valley
Newark Pavilion, 6530 Thornton Ave., Newark, CA 94560
Hours: Saturday 10 AM – 6 PM, Sunday 10 AM – 5 PM
Contact: info@mgscv.org
Website: <http://mgscv.org>

March 11-13, 2022 – Victorville, CA

Hours: 9 to 5 Daily
Victor Valley Gem and Mineral Club
46th Annual Stoddard Wells Rockhound Tailgate
Dry camping, silent auction, grab bags, spin the wheel, restrooms, handcrafted and faceted jewelry, slabs, cabs, findings, equipment, minerals and fossils. Tons of rough material and more.
Contact: smaquilter12@gmail.com

March 12-13, 2022 – Turlock, CA

Mother Lode Mineral Society
Stanislaus Fairgrounds, 900 N. Broadway in Turlock, CA 95380
Hours: 10 AM – 5 PM daily
55th Annual Rock, Mineral & Jewelry Show! EDUCATIONAL FAMILY EVENT! Rocks, Minerals, Fossils, Jewelry, Beads, Fluorescents, Children's activities, and More! Learn to make beautiful jewelry out of natural rocks and gemstones from our demonstrators.
Children's activities including making your own bracelet, Touch and See Rock cycle, Mineral and fossil display, Treasure Hunt, Geode cutting. Large Fossil Museum including Megalodon courtesy of The Tethy's Ocean Project. HUGE fluorescent walk-through display room.
There are over 45 dealers selling rocks, minerals, fossils, jewelry, beads, tools, & supplies. We have much much more. Visit our website for more info and pictures!
Admission: \$6 adult, children 12 and under free with paid adult.
Contact: Bud & Terry McMillin (209) 484-4416, terry.mcmillin@yahoo.com
Website: <http://www.turlockgemshow.com>

March 12-13, 2022 – Arcadia, CA

Pasadena Lapidary Society
"Inspiration Unearthed", 62nd Annual Tournament of Gems
Arcadia Masonic Center, 50 W. Duarte Rd., Arcadia
Hours: 10-5 Daily
Contact: Ellen Ferrell 1-727-512-0381
Email: ellenbf2007@aol.com
Website: <https://www.pasadenalapidary.org>

March 19-20, 2022, Lemoore, CA

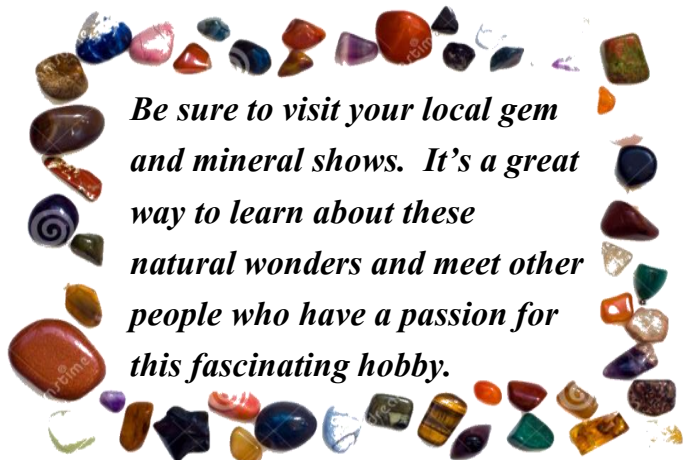
Lemoore Gem & Mineral Club
Lemoore Trinity Association Hall, 470 Champion St., Lemoore, CA 93245
Hours: Saturday, 10 AM – 6 PM; Sunday, 10 AM – 4 PM
Contact: (559) 362-8904, dmorrell321@gmail.com
Website: <http://lemooregemandmineralclub.org>

March 25-27, 2022, Clovis, CA

Fresno Gem & Mineral Society
748 Rodeo Dr., Clovis, CA 93612
The 2nd Annual Central Valley Gem and Mineral, sponsored by the Fresno Gem & Mineral Society, presents a great show for viewing, learning about and purchasing minerals, fossils, gems, beautiful handmade jewelry & much more! FREE ADMITTANCE AND PARKING Friday and Saturday 10 AM – 5 PM; Sunday, March 27th 10 AM – 4 PM
[Central Valley Gem and Mineral Show | Facebook](#)

April 1-3, 2022, Vista CA

Vista Gem and Mineral Society
Vista Gem and Mineral Show
Antique Gas and Steam Engine Museum, 2040 N. Santa Fe Ave., Vista, CA 92083
Hours: April 1 & 2, 10 AM – 5 PM, April 3, 10 AM – 4 PM
Come on out for a fun-filled weekend at the Vista Gem and Mineral Show April 1-3, 2022. Held outdoors at the Antique Gas and Steam Engine Museum, you'll find everything from crystals and gems to rough, slabs, and cabs – and even lapidary tools. Not only can you find all the supplies you are looking for, but we are also known for our raffle held on Sunday afternoon. All prizes are donated by our vendors and VGMS. All proceeds go to support our non-profit school and you do not need to be present to win.
Contact: info@vistarocks.org
Website: <https://vistarocks.org>



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.

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.

NAME	
BUSINESS NAME	
ADDRESS	APT # or PO BOX
CITY	STATE
ZIP OR POSTAL CODE	COUNTRY (IF OUTSIDE USA)
PHONE - Home ()	PHONE - Business ()
E-MAIL	
WEBSITE	
OCCUPATION	HOBBIES and INTERESTS

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.

☐ Address ☐ Phone-landline ☐ Phone-cell ☐ E-mail ☐ Website

Please sign here: _____

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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 55, Issue 2

— 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



**No General Meeting
for February**



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

Website: <http://OpalSociety.org>
Instagram: <https://www.instagram.com/opalsociety>
Facebook: <https://www.facebook.com/AmericanOpalSociety>
Pinterest: <https://www.pinterest.com/opalsociety>
YouTube: https://www.youtube.com/channel/UCegTIH1IEyO7y8wdqvRfyUA?view_as=subscriber

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