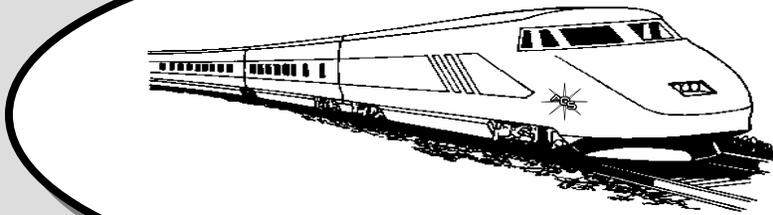


# The Opal Express

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## President's Message

*By Gene LeVan*

**Come and share your OPAL!** Bring one the opal stones you like to share with other members. If you missed last month's meeting with Barbara telling the story about how hard it is to find opals, living conditions, heat of 120 degrees and a lot of hard work with danger. The current opal mining is harder with many miners quitting to mine gold and other money making products. Your better opals have more value if they have high brightness at least 15% more than last year; lower stones are not changing in value. Please come to the meeting and share your stones and idea's!

## Members Only Website Password

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

## Opal Society Workshop

The American Opal Society's workshop is open at Ball Jr. High School every Monday from 7:00 to 9:30 p.m. The school is located at 1500 W. Ball Road in Anaheim. This is between Euclid Ave. and Harbor Blvd. If you are traveling east on Ball Rd. the parking lot entrance you need to use is just before the railroad tracks. If you are traveling west, the lot is just after the railroad tracks. Room 37 is in the center of the campus.

Instruction will be given in cutting opal, wax models, lost-wax casting, fabrication, and setting stones. The workshop will furnish machines to cut and polish stones as well as a centrifuge for casting and a kiln for burnout. You will need to furnish other equipment you wish to use. Please bring a roll of PAPER TOWELS with you for clean-up as the room is a science lab and needs to be kept spotless.

To attend, membership in the American Opal Society is a must due to insurance. A nightly fee of \$2 is asked to help keep the equipment in good running condition.

Our thanks to Pete Goetz and the Anaheim Union High School District for the use of this classroom for our workshop!

## The Cat's-Eyes Have It

*September 16, 2001, <http://NationalJeweler.com>*

New York - Like a dashing thief momentarily trapped beneath a sweeping searchlight, cat's-eye gems are oh-so beguiling. Their charm lies in their elusiveness. Exactly what, in that twinkling band of light, gives?

Gemologically speaking (because, let's face it, the burglar has his own explaining to do), short, parallel inclusions give cat's-eye gems that skinny-eyed sliver. Known as chatoyancy, the cat's-eye effect is most prominent in chrysoberyl, the only gem that has appropriated the name cat's-eye for itself. But a host of other stone species exhibit the same sleek, feline look.

The "eye" is found in alexandrite, tourmaline, opal, moonstone, apatite, aquamarine, diopside and, of course, tiger eye, a type of quartz that shows an undulating light when polished.

And even though it sounds like a psychic phenomenon, chatoyancy is, in fact, a gem-specific phenomenon, an optical effect of visible light occurring in certain specimens of a species.

Cat's-eyes are formed "if a sufficient volume and concentration of acicular (needle-like) inclusions line up parallel to one another within a gem material, and the gem material then is cut into a properly oriented cabochon," wrote Shane McClure and John Koivula in "A New Method for Imitating Asterism," an article appearing in the summer 2001 issue of *Gems & Gemology*.

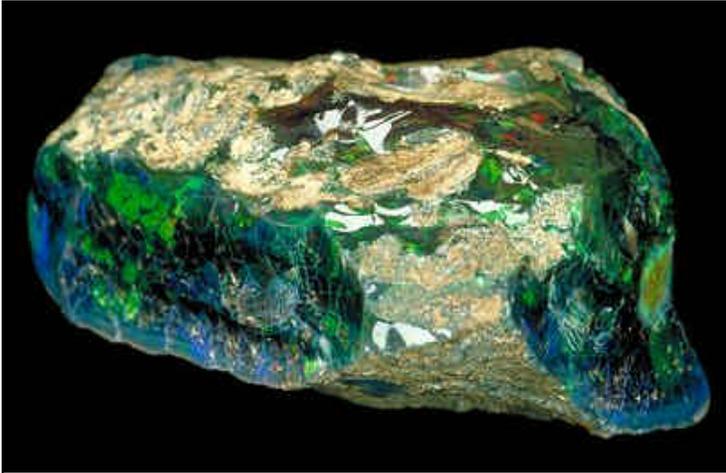
The finest specimens of cat's-eye chrysoberyl showcase the classic milk-and-honey effect, meaning that under a bright light source, one side of the stone is milky white, while the other side is colored a rich honey brown. Popular in men's jewelry, cat's-eyes are found in Brazil, Madagascar, India, Tanzania and Sri Lanka, home to the world's gemmiest specimens.

Cat's-eye alexandrite is an extremely rare gem prized for displaying two independent optical phenomena: its chatoyancy and its green-to-reddish color change. Other cat's-eye gems—yellow tourmaline cat's-eye, for example—are also rare and subsequently coveted.

To the Hindu ancients, cat's-eye was one of the revered stones that composed the naoratna, the "nine-gem" jewel. Placed to the north in the setting of a ring—to represent "the descending node" or the Moon's descent below the earthly plane—the cat's-eye, along with the other eight gems, was believed to channel astrological energy in such a way as to bestow good fortune upon its owner.

According to some legends, cat's-eye also serves as a sure-fire antidote to witchcraft and sorcery. The anti-evil-eye, you might call it.

## Famous Opals: The Roebling



The Roebling Opal

The Roebling Opal is an extraordinary piece of opal rough from Virgin Valley, Nevada. The opal was deposited from silica-rich water in voids that remained after buried tree limbs had rotted away, in some cases resulting in opal casts of the original tree parts. Although extremely beautiful, opal from this locality is not commonly used in jewelry because it tends to craze, or crack. 10.5 x 7.5 x 5.5 cm.

Catalog Number: R00022, Weight: 2,585 carats

Gift of John A. Roebling, 1926, Locality: Virgin Valley, Nevada

From the Smithsonian National Museum of Natural History - <http://www.mnh.si.edu/>

+++++  
*Of course, we had to examine the person who collected this famous opal. It wasn't John Roebling, who donated it to the Smithsonian, but his father, one of the greatest collectors ever! The Editor*

### Washington A. Roebling

(1837-1926)

Washington Augustus Roebling, one of the greatest American mineral collectors of all time, was born May 5, 1837, in Saxonburg, Pennsylvania, the son of Jane and John A. Roebling, a Prussian-born manufacturer of steel cable ("wire rope"). The family moved to Trenton, New Jersey in 1849, where they eventually became involved in the construction of suspension bridges utilizing their steel cable. Washington attended Trenton Academy and Rensselaer Polytechnic Institute, graduating with a degree in Civil Engineering in 1857. He then joined his father's company and assisted in the



Washington Augustus Roebling

construction of several suspension bridges including the so-called "Roebling Bridge" connecting the town of Mapimi in Durango, Mexico with the famous Ojuela Mine. He served with distinction in the Civil War in 1861-1865, and was present at over a dozen major battles as well as the final surrender of Lee at Appomattox.

Roebling resigned his commission (as a Colonel) in 1865 and married Emily Warren, daughter of General Warren (a Mayflower descendant, with whom he had served at the battle of Little Round

Top). Resuming work with his father's company, he went to Europe for year to learn about the construction of pneumatic caissons for use in building bridge foundations underwater. His father had taken on the job of building the famous Brooklyn Bridge, but died in a ferry accident during the planning stage, so Washington and his two brothers formed the new company of John A. Roebling Sons and resumed work on the bridge. Washington was permanently disabled in 1872, having remained too long in a caisson and developed "The Bends." Despite being an invalid for the rest of his life, he continued to supervise the construction of the great bridge through to completion in 1882. In 1884 he moved to Troy, New York, and in 1888 to Trenton, New Jersey where he remained until his death on July 21, 1926, at the age of 88.

Roebling had first become interested in minerals while a student at Rensselaer Polytechnic Institute. His collection, which he pursued vigorously throughout his life, eventually numbered over 16,000 well-chosen specimens, including every species obtainable and many extraordinarily fine display specimens. He was well read in mineralogy and carried on a wide-ranging correspondence with many dealers, collectors, scientists, geological surveys and museums in the mineral world. Oddly enough, though, he never cataloged or numbered his specimens (and was in constant fear of getting the labels mixed up). He was generous with his time, his money and his minerals, welcoming a steady stream of visitors to his home to see his collection. He was also an accomplished musician, linguist and classical scholar. The mineral *roeblingite* was named in his honor in 1897, by Samuel Penfield and A.E. Foote.

Following Roebling's death his collection was donated to the Smithsonian Institution by his son John, along with a substantial endowment fund (\$150,000) for the maintenance and further growth of the collection. The specimens were packing in 350 shipping boxes and transported to Washington. Smithsonian catalog numbers for the Roebling specimens are prefixed with an "R." Since 1929 the endowment has funded the purchase of over 13,000 additional specimens now considered to be part of the "Roebling collection."

From *The Mineralogical Record, Inc.*, <http://www.minrec.org>

### +++++ Faceting Fire and Crystal Opal

*Here is a great thread on faceting fire and crystal opal, courtesy of the Lapidary Arts and Faceters Digest.*

*The Editor*

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From: Dan Clayton <[dclayton@speakeasy.org](mailto:dclayton@speakeasy.org)>

There are some special challenges involved in designing for fire opal. The RI may not seem much lower than 1.54 for quartz but it is huge for optical performance. Most quartz designs will work poorly in opal. I am embarrassed to say that I have about six or seven designs for opal on the web but none of my own designs for opal on my own site. I will fix that tomorrow. In the mean you can access my round and square designs for opal at this URL: <http://gems.dnsart.com/faceting/>, under "Designs for Low RI Materials", specifically the Lakeview Round and the Lakeview Square designs. What designs work well for you?

Robert Strickland says the Tucson cut works well in opal and my simulation agrees that it is a good design for opal. You may have to look at it a few times to wrap your head around it. I will put my designs on my site tomorrow so they are easier to access. The USFG faceters list site is free but some things are enough of a pain I got tired of hearing about it and setup my own site at <http://gems.dnsart.com/> there is a link on my site to the Juniper Ridge fire opal mine in Eastern Oregon. I think it is opening the first week in June. The rough I have seen looks very good. Prices are up this year but still pretty reasonable if you live near Oregon. The gems are worth the effort to cut this material.

Dan Clayton

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Thanks for your post Dan; I have cut a 5 mm yellow fire opal using Bob Keller's Simple Jack design and pavilion angles for quartz. It's brightness is totally amazing.

Thurmond

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From: Tim Vogle <[birdman@mindspring.com](mailto:birdman@mindspring.com)>

Thurmond,

As one who has cut about 3000 stones a year for about the last 6 years or so, I have some guidelines for beginners.

1. Buy the best rough you can afford. Cheap rough gives you cheap stones.
1. If possible start with Lightning Ridge black opal. It is the most difficult to cut and when you master it, the rest will be easy.
2. Remember the 3 rules to cutting opal. Rule 1. GO slow. Rule 2 Go Even slower. Rule 3 Go even slower than you were in rule 2.
3. I usually cut 2 seconds look 10 seconds.
4. I usually never start cutting opal with a wheel lower than 300 grit. I work my way up the chain ending with 100,000 diamond on a felt pad. this give you a very high luster stone.
5. I very seldom cut calibrated stones. Preforms are easier to start and usually sell better.
6. When I grade opal there are a couple of things I look at. I look at flash from both sides of the stone and the thickness of the color bar. I then look at continuity of the bar. Is it straight, does it go all the way through the stone? How much potch (waste) is there?

Opal is formed in 2 directions, vertical and horizontal. If your flash is brightest from the sides (edge) and not from the top or bottom (widest part). You probably have a vertically formed opal and the sides will actually be the brightest. The top and bottom with generally wash out in color.

I use a standard 100 watt light bulb in grading. this give the best look and grading light.

I hope this has been helpful

Tim Vogle

Tim Vogle's SE Exotic Bird Fair, [www.birdfairs.com](http://www.birdfairs.com), 770-593-3962, 770-213-5300, [birdman@mindspring.com](mailto:birdman@mindspring.com)

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Hi Tim, Very good advise. A brief moment of inattention can definitely be a BIG problem when cutting opal. I think the same thinking applies to fire agate as well.

Thurmond

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From: "Doug Dover" <[ddover@carolina.rr.com](mailto:ddover@carolina.rr.com)>

I have cut many pieces of fire opal with results from sublime to tragic. I have cut a spectrum of colors and shapes with the best results in emerald and srb. I always cut with 600 rough go to 1200 and polish on lucite with Cerium. If there is a problem with polish I go to spectra ultralap and it has always taken care of the problems. The first piece I tired to cut I used wax to dop and it clouded in the center and has since completely clouded, I assume from heat. I now use superglue for the first dop and epoxy for transfer. The worst problem I have had is tapping the stone against the metal bowl on my Graves and chipping it. I have also seen quite a few stones damaged by setters.

I have enjoyed cutting fire opal because it has some of the best & brightest colors available. It is just not a very durable stone.

Doug Dover, North Carolina

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From: Dan Clayton <[dclayton@speakeasy.org](mailto:dclayton@speakeasy.org)>

Hi Thurmond,

Actually I was interested in the gem photo topic I was just waiting for all the great advice to flow. I get good photos sometimes but often not. That is something i need to work on.

I did get some of the designs transferred from the USFG yahoo site to my own website. Now there are two rounds and three cut corner squares designed for fire opal.

You can go thru the front door of my site at

<http://gems.dnsart.com/>

or go directly to my design page at

<http://gems.dnsart.com/faceting/>

my favorite is

<http://gems.dnsart.com/faceting/lksqr4.pdf>

I have a link to Juniper Ridge Opal mine in eastern Oregon but you can all see their site here

<http://www.juniperridgeopal.com/>

I plan to visit the mine this summer and bring back some of those big hummers I saw Doyle Boyington display at our guild meeting. The mine is near Lakeview in the same general part of Oregon as the Dust Devil mine and sunstone area. I usually like harder stones with higher RI but these can be very attractive and they are from right here in the northwest US. Don't use just any quartz design on Opal or it will window badly.

Happy cutting,

Dan

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From: "birdamlasu" <[fob@birdamlasu.com](mailto:fob@birdamlasu.com)>

Hello,

I have carved a flower when I was learning and I put a bird on it in my design of a brooch. You can see the brooch in: <http://www.birdamlasu.com/jwfropibra.htm>

This was one of my favorite pieces and it's gone forever like many others.

Kind regards from Turkey,

Oya Borahan

Note: I want to thank many people who wrote me about my website. The more I get mails like these the more I get encouraged to start working and creating again.

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From: Dan Clayton <[dclayton@speakeasy.org](mailto:dclayton@speakeasy.org)>

Someone pointed out Phil Stonebrook's faceted crystal opal on the [www.qualitygemcutting.com](http://www.qualitygemcutting.com) site. The two I saw were beauts. Does crystal opal cut any differently than fire opal. I would have assumed fire opal would make a much better faceted stone than crystal opal but these two are fantastic. I would have thought a tablet with two opposing tables and a faceted girdle would be great for crystal opal with it's play of color. It looks to me like you might want a simple design that didn't overpower the play of color. Any comments form our gurus?

Dan Clayton

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Subject: Faceting crystal opal?

From: "Douglas Turet" <[anotherbrightidea@hotmail.com](mailto:anotherbrightidea@hotmail.com)>

Dan Clayton wrote:

*"Someone pointed out Phil Stonebrook's faceted crystal opal on the [www.qualitygemcutting.com](http://www.qualitygemcutting.com) site. The two I saw were beauts. Does crystal opal cut any differently than fire opal. I would have assumed fire opal would make a much better faceted stone than crystal opal but these two are fantastic. I would have thought a tablet with two opposing tables and a faceted girdle would be great for crystal opal with it's play of color. It looks to me like you might want a simple design that didn't overpower the play of color. Any comments form our gurus?"*

Dan,

Just call me "Guru-on-the-spot" (;o)... Yes, a tablet cut would do nicely, indeed, for a fine quality piece of Crystal (especially one with #5 red-green multicolor in her)! The rule I've always followed is as follows: if the Opal in question has poor play-of-color but good body color and good transparency (as in many of the Queretaro, Mexican Fire Opals or the Lightning Ridge Jellies), I'll facet it with a 45° pavilion main and a 38° crown. If she's a Semi-Crystal or Full

Crystal, I'll purposely cut a window down below, or do a double-Dutch Rose crown, which offers the angulation of a window, but also offers the extra "romance" of the added facets, above and below. Finally, if I'm cutting Contra Luz, I'll usually use either the latter or an intentional window (by cutting the pavilion mains at or below 42\*), and will often finish the top with an opposed-bar cut crown.

Now, Dan, it's time to repeat after me: "Om me lapidary hum..." (As seriously twisted as ever),

Doug

Douglas Turet, GJ, Lapidary Artist, Designer & Goldsmith.

Turet Design, P. O. Box 162. Arlington, MA 02476, U.S.A.

Tel. (617) 325-5328, Fax: (928) 222-0815,

Email: [anotherbrightidea@hotmail.com](mailto:anotherbrightidea@hotmail.com)

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Subject: Re: Crystal Opal

To: [lapidary@caprock-spur.com](mailto:lapidary@caprock-spur.com) (LapidaryArtsDigest)

From: Tom Herbst <[herbst@mpia-hd.mpg.de](mailto:herbst@mpia-hd.mpg.de)>

Thus spake Dan Clayton...

> It looks to me like you might want a simple design that didn't overpower the play of color.

Check out Greg Glenn's opal at:

[http://users3.ev1.net/~gregaglenn/gempage/mex\\_fire\\_opal\\_white\\_7ct\\_6mm\\_4in1.jpg](http://users3.ev1.net/~gregaglenn/gempage/mex_fire_opal_white_7ct_6mm_4in1.jpg)

These images demonstrate your point beautifully. They also highlight the importance of ambient lighting.

Incidentally, I would have called this a Contra-Luz Opal, and Dan Clayton / Phil Stonebrook refer to "Crystal Opal," while Greg Glenn calls his a "Mexican Fire Opal." Anyone else confused?

Tom Herbst, Heidelberg Germany, [tom@boghome.com](mailto:tom@boghome.com)

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From: Phillip L Stonebrook <[plstonebrook@juno.com](mailto:plstonebrook@juno.com)>

Greetings list and Dan...

Thanks for the kind words on my faceted blue crystal opals. For convenience of the list members that wish to view them, use the link below:

<http://www.qualitygemcutting.com/l-phils.htm>

Let me explain the rough selection and cutting process that produced these 2 gems. A friend made a buying trip to Coober Pedy and returned with several cases of quart canning jars full of opal rough. One day at our club shop, we screened 72 quart jars and picked out approx 30 pieces of rough that looked like good candidates for faceting. Of those 30, only 4 or 5 produced nice gems, with the 2 best shown in the above link – talk about rarity!

The rough was basically the same as regular "jelly" opal, bluish orange in body color, except they had a luscious blue opalescence mixed with very small pin fire appearing out of the middle of the crystalline material. After screening the mix of rough and working with the inferior pieces first, it became apparent that the "best performance" that could be obtained was for them to be cut so that the opalescent sheen would flood the crown. The SRB in the link above exhibits this ideal, with the Cardinal cut coming in as a close second. I BOG'd these designs to maximize this inherently low optical performance material, with the PM's coming in between 43.7 to 45 degrees; the CM's all came in at 41 degrees (sorry Gustavo, I was in error earlier about PM/CM's of 43/35). I cut the remaining pieces in a marquise and freeforms with the same angles – these other finished gems and the rejects went back to my friend, since I cut on rough "shares". The cuts were determined for best retention of rough shape/weight. Cutting and polish was uneventful and straight forward. All were cold dopped with CA to 5 minute epoxy.

In comparison to the fire opal I've cut, all characteristics were the same, and all cutting and polish was again uneventful and straight forward. So, if you've cut fire opal, give your mostly transparent crystal opal a try with the same light handed cautious confidence you would use with any precious brittle material.

Gustavo sent me some pix of a piece of crystal opal he has, and his material has far more fire appearing in the rough, both broad and pin fire. It was more translucent than my rough, but appeared to

be more transparent than "normal" white cabbing opal. For material like this with more translucency and intricate internal fire, I suggested a cabochon approach rather than faceting; possibly your suggestion of a simple faceting approach might work Dan. Certainly, you would want something that wouldn't interfere with its play of color. I'm not sure about the "tablet" approach, as rough this precious creates a certain amount of "pucker factor" during experimentation. I recommended an expert opal cutter's evaluation for the best outcome. I have seen rough like his before, cabbed in a buff top antique square design and mounted in a deep "sheltering" custom ring. It was majestic!

Best regards...

Phil in Florida

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From: "Douglas Turet" <[anotherbrightidea@hotmail.com](mailto:anotherbrightidea@hotmail.com)>

Tom Herbst wondered:

"Incidentally, I would have called this a Contra-Luz Opal, and Dan Clayton / Phil Stonebrook refer to "Crystal Opal," while Greg Glenn calls his a "Mexican Fire Opal." Anyone else confused?"

Hi Tom (and other mystified cutters),

There seems to be a good deal of confusion on the various varieties of Opal, so I'm-a just-a gonna have-ta add to it! (Or maybe diminish it, depending upon what others have to offer, along the way.) The way I was taught (by an Aussie Opal miner) was that "Jelly Opals" are those with glassy clarity and relatively little (or no) play of color, such as the smoky-yellowish materials from Lightning Ridge most of us have seen, with the faint, smeary purple 'fire'. (Envision a congealed blob of apple jelly, and you've pretty well got the idea.) At the other extreme, "Full Crystal Opals" are those which have so much fire that you're all but blinded by them, but which, when placed on top of a printed page, prove to be transparent enough to seem "crystal clear". "Semi-Crystal" Opals are those varieties whose bodies are slightly more cloudy than Crystals, yet not as opaque (or faintly translucent) as White or Grey Bases.

"Contra Luz" is another animal, altogether: it's a very specific type of Jelly Opal which, though found primarily at the Queretaro field, in Mexico, is found in other locations, as well. What makes "Contra Luz" so special is what it does (or doesn't do, depending upon the perspective it's viewed from) -- and the 'dead giveaway' about this is the English translation of its name from Spanish, "The Opposing Light". With a good piece of Contra Luz, what appears to be a lifeless piece of Jelly Opal (when viewed from above, with a light source above the viewer's head), can suddenly explode with either the "Rolling Flash", "Rolling Straw" or "Rain" patterns of fiery play-of-color, when lit from the side of the stone, 90\* away from the overhead direction. Again, hence the name.

If I were asked to appraise these stones for insurance purposes, having seen both Greg Glenn's site and Dan Clayton's, I'd call Dan's "a highly translucent Semi-Crystal Opal with blue-green pinfire", and Greg's "a colorless, transparent Jelly Opal with brightness level #5 Contra Luz play-of-color in a red-green multicolor Rolling Straw pattern, very possibly of Mexican origin". What's most impressive about Greg's piece is that it appears to feature a complete lack of body color, in the image at top right. (Aside to Greg: am I correct in assuming that this shot was taken under fluorescent lighting, which tends to deaden all things optically related?) As for the nomenclature used, Greg's may very well be a Mexican stone, but it is definitely \*not\* a true "Fire Opal". The reason that I can state this with such absolute certainty is that the \*sole\* characteristic which earns an Opal its designation as a "Fire" Opal is that it's coloring matches one of those found in a fire: reds, oranges or yellows. Thus, just as a White Opal cannot be a Black Opal, and an Aquamarine cannot be a Heliodor, a Fire Opal cannot be colorless. So Tom, in the final analysis, you would have been right-on-the-money to call this a Contra Luz Opal! (Woo-woo! Way to go, Tom!!!) Okay, I think \*somebody's\* got too much time on his hands, today... back to ye olde grinding wheel!

All the best,

Doug

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From: Phillip L Stonebrook <plstonebrook@juno.com>

Greetings list...

Thanks Tom, for the link to Greg Glenn's faceted opal - it's very, very nice! Go, look, see (one more time) at:

[http://users3.ev1.net/~gregaglenn/gempage/mex\\_fire\\_opal\\_white\\_7ct\\_6mm\\_4in1.jpg](http://users3.ev1.net/~gregaglenn/gempage/mex_fire_opal_white_7ct_6mm_4in1.jpg)

You also said:

<<Incidentally, I would have called this a Contra-Luz Opal, and Dan Clayton / Phil Stonebrook refer to "Crystal Opal," while Greg Glenn calls his a "Mexican Fire Opal." Anyone else confused?>> while Doug Turet also jumps in to sort out the confusion, and has confused me even more with his wealth of experience, by mentioning things like

<< .. especially one with #5 red-green multicolor .. If she's a Semi-Crystal or Full Crystal .. cutting Contra Luz .. "Om me lapidary hum..." As seriously twisted as ever ..>> Hahahaha!

Doug, since you obviously have the experiential expertise that makes your recommendations worth listening to, why don't you think about contributing to a "faceted opal clinic" after the tourmaline clinic, and sort out our confusion! I know I would benefit! (I've thought about complimenting you for your knowledgeable posts in the past but didn't want to "pump up" your head .. too much {:-}!) How about it Thurmond? (Yes, your header question on dark tourmaline is the same "white paper limit" ((over 50-60% saturation)) test which we discussed in the "dark garnet" clinic, with the same limitations, i.e., cut just above CA, or maybe below, with shallow crown, 2 bounce limit, and large table to get light into/out of final gem. Cutting the table perp to the "C" axis probably would be even worse).

Best regards...

Phil in Florida

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From: "Gustavo Castelblanco" <[mail@montana78.freemove.co.uk](mailto:mail@montana78.freemove.co.uk)>

Hi Everyone,

I would like to thank the list member for all the valuable information about crystal opal. When I saw Phil's opals in the quality gemcutting site I was amazed to see how beautiful they were. I am very aware that stones look 10 times better than what they look in pictures, so you can imagine how nice those two stones are. I contacted Phil for some advise as I have a piece that looks very nice and I thought it could be faceted.

My experience with opals is nil and feel too scare to touch this stone. Phil's advise was great, talk to someone who knows the subject and do not use this piece as my first opal.

I thought it will be nice for me to show you what the stone looks like and then maybe the experts and gurus can have a better opinion about what to do. I have a few pics. available in my web site <http://mysite.freemove.com/gemstones/>

The stone looks nicer than the pics.

The day after I took the pics, I pre-polished the flat base of the stone to get a better idea about the quality. The fire is a lot more intense now. I used a nu-bond 600 and it made a big difference with a very little time on the lap (I am scare). The stone glows a orange/red colour, and it has layers of blue/green, pins of yellow and a red layer near the top of what will be the top of a cab, or the pavilion if faceted. After I did the little pre-polish, the stone looks more transparent against the light, and it does not shows the fire. If viewed with the light coming from behind you can see the fire. I am absolutely confused about what kind of opal this is and what to do with it. All I know is that if I wet it and switch the lamp of my machine on I could spend all day looking at the magnificent explosion of colour in this piece. I think I will call it The Enchanted opal as some people of my country will call those special emeralds that take the breath away from who ever sees them. Sadly I have the feeling that this opal is going to remain in my safe for a long time. I haven't got the knowledge to touch it and I am wise enough not to. maybe if I

was younger I just would go ahead and do it. Is that a sign that I am getting old?. Now I am twice as scare. :-)

Thank to all,

Gustavo.

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Subject: "Enchanted Opal"

From: "Gustavo Castelblanco" <[mail@montana78.freemove.co.uk](mailto:mail@montana78.freemove.co.uk)>

I added three pics. of the Enchanted Opal (I like that name) in my web site. Just follow the link Enchanted Opal. I hope this will give you all a better idea about the stone. <http://mysite.freemove.com/gemstones/>

Regards,

Gustavo.

-----  
Subject: Enchanted Opal

From: "CHARLES COVILL" <[ccovill@msn.com](mailto:ccovill@msn.com)>

Gusravo: That's Cabing Opal, It's to pretty to facet. Make a freehand cab then make a special mounting you wont be sorry ! There will be to much waste if you facet it.

Charles in Austin

-----  
Subject: Thanks

From: "Gustavo Castelblanco" <[mail@montana78.freemove.co.uk](mailto:mail@montana78.freemove.co.uk)>

Hi,

I wanted to thank all the people who shared their knowledge about opals on and off the list. After reading very carefully and taking notice about the advice and information given to me about the Enchanted Opal I have come to the conclusion that the stone will be better cut into a cab. I will loose too much weight otherwise and may not have a good result if I facet it.

I am getting very interested in opals. I have never really look at the parcel I bough till I saw Phil's stones. I hope I don't become an opal maniac as it will take me away from faceting. Maybe I should find the happy medium line between both. Still I have to learn to cab and it will be a while before I tackle any decent stone.

Regards,

Gustavo.

-----  
*From Lapidary Arts and Faceters Digest -  
<http://www.gemcutters.org>, [lapidary@caprock-spur.com](mailto:lapidary@caprock-spur.com), Issue No. 99-102 - Monday, Dates April 2-12, 2003*

## +++++ Finding Opals in the Rough

**Desert leads adventurous souls to a gem of a good time**

*By Mark Vanderhoff*

RENO GAZETTE-JOURNAL, 9/11/2002

The Royal Rainbow Opal Mine sits on a dark brown slope of the Calico Hills in northwestern Nevada. It overlooks the Black Rock Range north of Gerlach and the Black Rock Desert.

For a fee, anyone can drive up to the mine and have a crack at the opal-hiding chunks of basalt that have been blasted and bulldozed out of a small section of the slope.

Caretaker Elselil Philipps, 63, teaches amateurs how to mine opals and provides hammers, chisels and other digging tools.

The opal-mining experience rekindles that childhood digging-in-the-dirt sensation, shows off the strange and rugged lands above the Carson and Washoe valleys and, sometimes, inducts unsuspecting visitors into a hobby that for Philipps and others has become a way of life.

"That's one of the benefits of being caretaker," she said. "I can go up there and dig whenever I want."

John Peterson, a member of the Reno Gem and Mineral Society, considers opals one of his favorite gems. Visitors to the Royal Rainbow are certain to find an opal, he said.

"It's kind of like looking for gold," he said. "There's a surprise every time you turn over a rock. When you see some fire, it just makes you feel good."

### The finicky fire

Peterson and other opal fans love the gem for its play of color, commonly referred to as "fire." Little pieces of silica arranged in complex patterns within the opal can reflect every color of the rainbow.

"There's no other stone that's as beautiful," Philipps said.

Once unearthed or uncovered from a rock, not all opals immediately display fire. The opals at Royal Rainbow might appear milky white at first, for example. New colors might appear or existing ones might become brighter over time, or the color pattern might become more defined, Philipps said.

"You never can tell what will happen," she said.

The colors of opals vary from location to location. The play of color in Royal Rainbow opals often starts with red, gold and green and can eventually include blue and, although rare, purple.

A problem with opals is "crazing," the flaking and cracking of the gem caused by the loss of water when the stone is exposed to open air, Philipps said.

"Some opals can craze within five minutes," she said.

For that reason, many prized opals are stored in water. Opals worn on jewelry must be slowly dried out or treated with chemicals to slow the crazing. Some dry and windy climates facilitate crazing. Whether an opal will craze or not is unpredictable, Philipps said.

"The stones are so beautiful, it's worth taking a chance," she said.

### The Nevada gemstone

In gemstone circles, Nevada is known as a source of precious opal, said Larry Olds, a friend of Philipps who owns a share of the Bonanza Mine in the Virgin Valley.

"People you talk to, they don't know there's opal in Nevada and it's the state gemstone," he said.

The arrangement of silica particles in precious opal is more complex than in common opals, allowing the gems to reflect light more brilliantly, Olds said.



**LONG HAUL:** Dan Cearley of San Jose, Calif., lugs his tools to the Royal Rainbow opal mine, where you can dig all day or half-day for a fee and keep what you find. The mine is run by Elselil Philipps.  
Photo - Scott Sady/RENO GAZETTE-JOURNAL

"You can find opals anywhere, in just about every country and every state in the United States, but not all of it's precious, with the play of color," he said.

Precious opals can be found in Nevada in the Calico Hills, where the Royal Rainbow is, and near the town of Gabbs in Nye County, east of Reno near the Toiyabe National Forest.

Most of the precious opal in Nevada is found in the Virgin Valley, on the eastern boundary of the Sheldon National Wildlife Refuge in the northwestern corner of Nevada. In 1993, miners found a 100-kilogram opalized log in the Bonanza mine, Olds said.

Silica, perhaps from volcanic ash, fills in the spaces of decomposing ancient wood buried in the Virgin Valley, Olds said.

The process sometimes forms a shell of opal surrounding wood that has remained soft over millions of years, he said.

### The Opal Lady

Philipps was searching for hot springs in the summer of 1992 in the Virgin Valley near the Oregon border when a local told her of nearby mines where anyone could hunt for opals for a fee.

"Somebody said 'Are you here to dig?'" she said. "I said, 'Dig what?' The first opal I found, I was an opaholic."

In search of more opals, she came across the Royal Rainbow and met its owners and then-caretakers, Max and Susie Berchtold, who now live in California.

When the Oakland post office where Philipps worked offered her an early retirement, she jumped at the chance. She sold her home, bought an RV, and took the Berchtolds up on an offer to stay with them at the mine.

"I'm still here and they've been gone for five years," Philipps said.

These days, her RV sits in the shade of aspen and willows. Six cats roam the grounds. Various grinding, mining and polishing tools sit under the porch awning connected to her RV. The license plate on her car reads "OPALADY."

### Mining opals

When examining rocks for signs of opal, Elselil Philipps suggested checking for a smooth, rounded shapes on the outside of the rock, glass-like substances in the rock or any colors different from the rock itself.

Search for cracks to break the rock open. This makes chiseling easier, and fractures in the rock often occur where opals or other minerals weaker than the rock are located.

"Anyplace that looks like it's going to be easy to break, have a go at it," Philipps said.

Give the rock a good whack, the harder the better, she said.

Examine every side of the rock, searching for signs of opal. Don't discard a rock with a tiny piece of opal or glassy mineral — that may be the tip of a large opal.

Protect exposed opal by keeping it wet. Wrapping it in a wet paper towel works well, Philipps said.

Use a diamond band saw to cut the rock away from the opal, or take it to a lapidary, a person who cuts and polishes stones.

Don't try to chisel the opal out of the rock — this will likely break the opal.

### Royal Rainbow Opal Mine

Cost: \$25 a person a day; \$15 a person a half-day

E-mail: nvopallady@pocketmail.com

Directions: From Reno, take Interstate 80 east to exit 43. Take State Route 427 north, turning left on Nevada 447 just before Wadsworth. Continue on Nevada 447 through Gerlach, turning right on State Route 34 just past town. After 12 miles on State Route 34, turn right (north) on Soldiers Meadows Road. Take a left after 35 miles to reach the mine. Look for signs to the Royal Rainbow Opal Ranch along State Route 34 and Soldier Meadows Road.

Some other opal mines in Nevada that offer fee-digging:

### Royal Peacock Opal Mines

Cost: \$70 a person a day; \$30 per person per day to dig in mine tailing.

Details: (775) 941-0374

### Rainbow Ridge Opal Mines

Cost: \$200 a day for three square yards shared by one to two people; \$35 a person a day to dig in mine tailing.

Details: (775) 941-0270

### Bonanza Opal Mine

Cost: \$30 a person a day. Details: (541) 383-1700

**Editors Note:** Elselil Philipps passed away early in September of 2004 after this article was written. The mine is owned by Max and Susie Berchtold and its status is unknown. Prices and info listed may be outdated. See the 7-2007 issue for better info.

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**Safety Article:**

**Dust in Opal Mining and Cutting**

**Introduction.** All mining creates dust. Dust can cause skin irritation, allergies and damage to the respiratory system. Most dust particles breathed in are large enough to be caught within the nose, throat, trachea and bronchial tubes where they are ejected by sneezing or coughing. However, a small number are the right size and shape to get far enough into the breathing system to cause damage.

**Silica.** Silica is very hazardous to health. It is found in pockets of the sandstone host rock in the opal fields and in particularly high quantities in Mintabie. Exposure to silica is the cause of a debilitating and sometime fatal lung disease called silicosis. Dust needs to be tested to find out if it contains silica and to do this effectively right across the opal fields would be a major task. Consequently the most practical solution is for all miners to restrict their exposure to all dust as much as possible. Silica dust can only harm the body if particles are small enough to be breathed into the lungs and retained there (known as inspirable dust).



Cutting machine

**Dust Controls.** There are several ways to control dust.

Try to keep as little dust as possible from becoming airborne and prevent the spread of airborne dust. (e.g. extraction/collection systems on drills). In an underground mine ensure air flow

(ventilation) is as good as possible. Try not to stand in dust clouds. For example try to stay up-wind of the blower outlet. If possible dust-generating machinery should have a local dust collection system.



Dust Extractor

Wear a dust mask or respirator.

Remember, paper dust masks and some cartridge respirators are not suitable for diesel fumes so, if protection from them is also needed, it is important to ensure that the right cartridges are being used. It will be

necessary to contact the supplier for information on the correct type of respirator and cartridge.

**Cutting and polishing.** Cutting and polishing opal also creates a certain amount of silica-bearing dust. As most cutting and polishing is done wet, the dust is usually held within the water and does not become a problem. However some processes are carried out dry and this allows the dust to become airborne. For this reason it is advisable to have the cutting/polishing equipment fitted with an extraction system that sucks the dust away from the breathing zone of the cutter/polisher. Care must then be taken when emptying the collection system of the extractor.

**Checklist - Dust**

1. Have adequate ventilation to keep the mine clear of dust.
2. Where possible, use dust extraction or collection systems.
3. Ensure that the operator is on the down wind side of the machinery.
4. Appropriate breathing protection should be worn.

*From the Opal Miner's Guide - Safety in Opal Mining. Published by the Mining and Quarrying Occupational Safety Committee of South Australia.*

++++  
**Baking Soda in the Field**

Here are some reasons you will be glad you took a box of natural baking soda along on your field trip.

1. Insect bites, minor burns, and poison oak. Add water and make a paste and apply to affected area.
2. Sunburn, windburn, and prickly heat. Add ¼ cup to a basin of water and bathe or apply with a sponge.
3. Acid indigestion. Add ¼ teaspoon to ½ glass of water and drink slowly.
4. Tired Feet. Add 3 tablespoons to a basin of warm water and soak your toes.
5. Tooth cleanser and breath freshener. Use as much as needed on damp toothbrush.
6. Hand and fingernail cleaner. Rub dry powder onto moistened hands to remove pitch, odors, grime, or grease.
7. Fire Extinguisher. For a grease fire, open and throw the contents of a box at the base of flames.
8. Freshening coolers, travel mugs, and thermos jugs. Add 2 teaspoons and partially fill with water. Shake and rinse.
9. Deodorant. Sprinkle some inside your boots or hiking shoes.
10. Safe, natural cleanser for camp dishes and pans. Add 3 tablespoons to a pan of warm water and soak.
11. Cleaning a dirty spattered windshield, chrome, and camper frames. Rub with a damp sponge sprinkled with baking soda.
12. Freshening RV water tanks. Flush with a solution of ¼ cup of soda in 1 gallon of water. Rinse with clear, clean water.

*Reprinted from Del Air Bulletin, 9/04; via the Breccia, 7-2006*

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**August 2006 Gem & Mineral Shows**

**4-6-COSTA MESA, CA:** Show; Gem Faire; Orange County Fairgrounds, Bldg. 10, 88 Fair Dr.; Fri. 12-7, Sat. 10-7, Sun. 10-5; \$5 weekend pass; contact Yooy Nelson, (503) 252-8300; e-mail: info@gemfaire.com; Web site: www.gemfaire.com.

**4-6-NIPOMO, CA:** 39th annual show, "Rainbow of Gems"; Orcutt Mineral Society; St. Joseph's Church, 298 S. Thompson Ave.; Fri. 10-5, Sat. 10-5, Sun. 10-5; free admission; rocks, minerals, gems, exhibits, tailgaters, demonstrations, lapidary equipment, one-of-a-kind crafted stones, raffles; contact Wes Lingerfelt, 110 W. Bennett St., Nipomo, CA 93444, (805) 929-3788; e-mail: Rocks4u@prodigy.net; Web site: www.omsinc.org.

**5-6-SAN FRANCISCO, CA:** 52nd annual show and sale, "Golden Gateway to Gems"; San Francisco Gem & Mineral Society; San Francisco County Fair Bldg., 9th Ave. at Lincoln Way; Sat. 10-6, Sun. 10-5; adults \$6, seniors and students \$5, children under 12 free with adult; displays, demonstrations, minerals, gems, jewelry, lapidary rough, fossils; contact Ellen Nott, (415) 564-4230; Web site: www.sfgms.org.

**11-13-SANTA BARBARA, CA:** Show; Gem Faire; Earl Warren Showgrounds, Exhibit Hall, 3400 Calle Real; Fri. 12-7, Sat. 10-7, Sun. 10-5; \$5 weekend pass; contact Yooy Nelson, (503) 252-8300; e-mail: info@gemfaire.com; Web site: www.gemfaire.com.

**12-13-WALNUT CREEK, CA:** Show, "Contra Costa Crystal Fair"; Pacific Crystal Guild; Civic Dr. at Broadway; Sat. 10-6, Sun. 10-4; contact Jerry Tomlinson, (415) 383-7837; e-mail: sfxtl@earthlink.net; Web site: www.crystalfair.com.

**18-20-SACRAMENTO, CA:** Show; Gem Faire; Scottish Rite Center, 6151 H St.; Fri. 12-7, Sat. 10-7, Sun. 10-5; \$5 weekend pass; contact Yooy Nelson, (503) 252-8300; e-mail: info@gemfaire.com; Web site: www.gemfaire.com.

**25-27-SAN DIEGO, CA:** Show; Gem Faire; Scottish Rite Center, 1895 Camino del Rio S.; Fri. 12-7, Sat. 10-7, Sun. 10-5; \$5 weekend pass; free shuttle between the Scottish Rite Center and Sheraton Hotel locations; contact Yooy Nelson, (503) 252-8300; e-mail: info@gemfaire.com; Web site: www.gemfaire.com.

**25-27-SAN DIEGO, CA:** Show; Gem Faire; Sheraton Hotel Mission Valley, 1433 Camino del Rio S.; Fri. 12-7, Sat. 10-7, Sun. 10-5; \$5 weekend pass; free shuttle between the Sheraton Hotel and Scottish Rite Center locations; contact Yooy Nelson, (503) 252-8300; e-mail: info@gemfaire.com; Web site: www.gemfaire.com.

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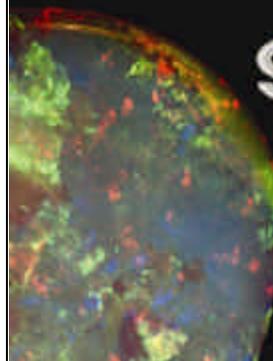
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## Are Your Dues Due Now?

**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.

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Thank you,  
The Editor

# The Opal Express

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



**Volume #39 Issue #08  
August 2006**

TO:

### Some Topics In This Issue:

- Famous Opals: The Roebling
- Washington A. Roebling
- The Cat's-Eyes Have It
- Faceting Fire and Crystal Opal
- Finding Opals in the Rough
- Dust in Opal Mining and Cutting
- Baking Soda in the Field

### Important Info:

**Board Meeting  
August 1<sup>st</sup>**

**General Meeting  
August 10<sup>th</sup>**

**Lecture:**

**Francis Lau on Diamonds.**

— **GENERAL MEETINGS** —

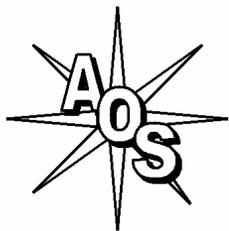
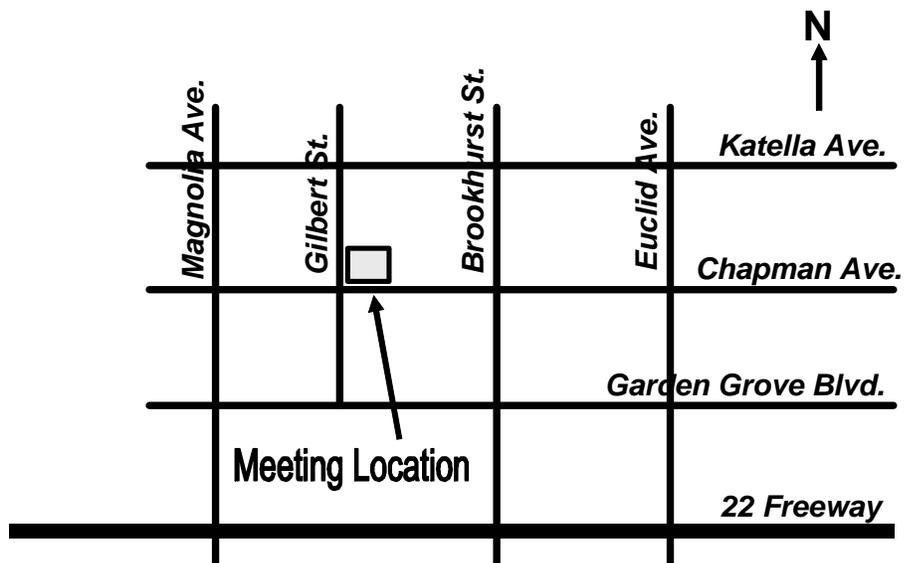
2nd Thursday of the Month  
7:00 pm - 9:00 PM

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

## **August 10th: Francis Lau on Diamonds**



## **The American Opal Society**

<http://OpalSociety.org>

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