

# The Opal Express

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



Volume #35 Issue #9  
September 2002

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- Birefringence
- Treating Opal Matrix
- News from Down Under
- Short Story on Opal Mining
- Spencer Opal
- Opal Terms

**Board Meeting: Sept. 9**  
**General Meeting**  
**Thursday, Sept. 12**

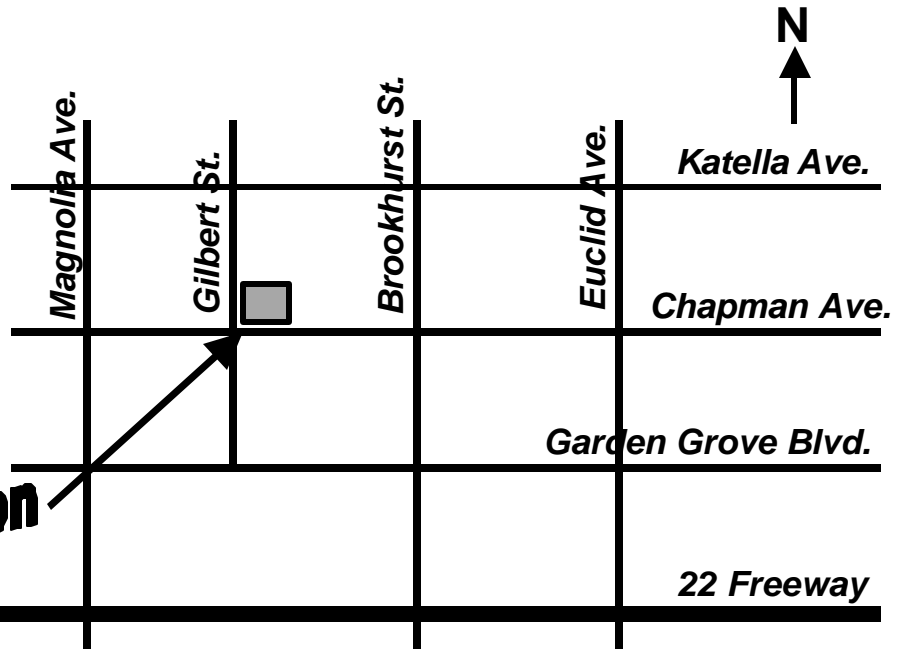
### This Months Speaker:

**JOHN ROSE OF 2ROSES STUDIO**  
**CREATING OPAL DOUBLETS AND**  
**TRIPLETS**  
**HANDS-ON WORKSHOP**

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

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

TO:



**Meeting Location**



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

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# American Opal Society Membership Renewal

Thank you for continuing to support your American Opal Society!

TYPES OF MEMBERSHIP (Select one)	DUES / RATES (select one)**	AMOUNT PAID
1) All US Addresses including Alaska and Hawaii	\$25.00	
2) International Members = All addresses outside of US Addresses	\$30.00	
3) Additional Badges/each	\$5.00	
** SENIOR DISCOUNT = Age 65 or over deduct \$5.00	-\$5.00	
Name badge (optional) \$5.00 each-includes engraving (Badge free when joining)	\$5.00	
<b>TOTAL PAID - DUES less Senior Discount plus Badge (if Applicable)</b>		

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

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

- Address     Phone     E-mail     Website
- Include my name & address on a list provided to the Dealers selling at our Annual Opal & Gem Show.

Without your signature here you will not be included in the member info list or included in the dealer roster.

If you checked any box above, please sign here: \_\_\_\_\_ Date \_\_\_\_\_

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Article Deadline is the 20<sup>th</sup> of the month prior to each issue

**Are Your Dues Due Now?**

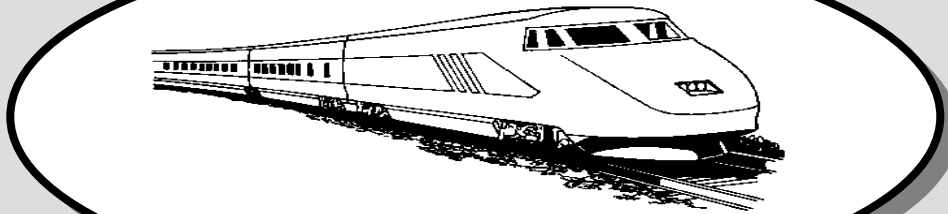
**PLEASE CHECK YOUR ADDRESS LABEL.** If your label shows the current month/year your dues are DUE NOW. If the date is older, your dues are overdue.

**A Renewal Grace Period** of two months will be provided. If your dues are due now you will receive two additional issues of the newsletter. Please note, however, that as the system is now set up, if your renewal is not received you will be AUTOMATICALLY dropped from membership thereafter. It is your responsibility to assure your dues are current.

Thank you,  
The Editor

# The Opal Express

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September 2002

Volume 35 Issue 9

## PRESIDENT'S MESSAGE

*Mike Kowalsky*

One of the highlights of this month was a visit to the GIA Headquarters, which is located about an hour plus south of Orange County in Southern California. It was initiated by a conversation I had with a past president of AOS, David Burton. He told me about the GIA exhibit in their headquarters now located in Carlsbad just a mile before the newest amusement park; Legoland. David encouraged me to see it and to tell all the members about the Opal Exhibit. Rather than just go to see the exhibit I started a dialog with the Public Relations office, Alex Angelle. After a dialog on e-mail we finally scheduled a meeting with Alex. Jay Carey, past AOS President and I toured the Carlsbad GIA Headquarters facilities and of course the Museum exhibit of fossils and opals. We had a very warm reception by Alex and we were introduced to the staff at the Library. The library staff was very helpful in showing us how to search for topics such as opal and associated topics. I was pleasantly surprised when Alex presented to me the special opal issues of the GIA Gems & Gemology publications for our AOS Library. We thank Alex and the GIA for the presentation of the spring of "92" and spring of "93" volumes. The Gem & Gemology issues will be available to view at the September General Meeting. We have a short agenda to discuss with Dr. Shigley and the Research Department of GIA. This agenda will try to identify areas that the AOS may participate with the GIA on opal related projects or studies.

I would like to mention that any of the AOS members can make use of the extensive library at GIA. In just a short time, we were able to determine that our collection of "Opals from around the World" is deficient in knowing where many of the known locations from around the world are that have opal. One of the locations that has opal is Madagascar. I found a book that discussed opal from Tasmania with a map of the mining area and some pictures of rough opal. In the GIA Opal Exhibit I saw my first specimen of opal from Hungary. I also noted in display a sample of opal from Len Cram's laboratory in a vial of water. One of the photos that was used as background in one of the exhibits is a well known photo from Len's books and contains a well known American Opal Society member; Barbara McCondra.

The GIA Exhibit on opalized fossils and Opals from many places around the world is an exhibit that should not be missed. I would like to urge anyone coming thru Southern California make a special effort to see the GIA museum exhibit. It is open from 9:00am to 5:00pm; Monday thru Friday. Please allow at least three hours to spend some quality time to see the exhibits in detail. And don't forget to ask for a viewing of a ninety-minute video that gives some excellent background on opal. The staff in the museum can rewind and restart the video unless there is a special tour within that time.

I hope our visit will allow us to participate in some opal related GIA projects. I know that we will be visiting to use their extensive library for research on opal topics and other related areas. As you can tell, Jay Carey and I had a very enlightening visit to GIA.

Bob Dixon and I have just returned from our long delayed field trip. We were able to get away and visit the Spencer, Idaho Opal mining area. We had a wonderful reception and met many of the folks we only see in Quartzsite or Tucson. It was great to recall past Opal Society history with Mark Stettler who showed me his prized opal carvings that had been created by Marvin Carvin (Marvin Wilson). We were given a tour of the Spencer Opal Mines by AJ Couture and visited the workshops of Claudia and AJ. The folks that will visit their Spencer Opal Mine over the Labor Day Weekend will have a great time. When we toured the area where mining will be permitted, we were able to pick rough opal without using any tools. AJ has been preparing the public mining area and the rough is there to the lucky folks that make it to the mine this weekend. Our stay was enhanced by the great food that the Spencer Café served. Needless to say we ate every meal we could there. We must mention that Claudia has the worlds largest fountain made from rough opal from their Spencer Opal Mine. I have a prized picture of it with AJ showing it to us as well as some video.

My mail also had a very nice item from Len Cram. I received a copy of "A Journey with Color; A History of White Cliffs Opal" which will be one of the grand prizes at our raffle during the Annual American Opal Society Gem and Mineral Show this November. I want to thank Len for his generosity and help in supporting the American Opal Society. Thank you Len.

I also received another package from Paul Edgren of Redding California. In it was a nodule of rough opal from Black Gate. The note read that it was donated to the American Opal Society in my name by Alf and Gilly White, who remembered me from my visit to that area in 2001. That was when we toured that area with Len Cram. Thank you and it is an excellent specimen. We will display it in our display case that we are planning for the November Opal Show. See you next month.

*Mike Kowalsky*

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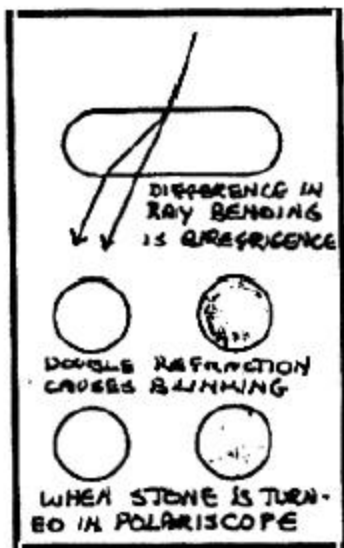
## BIREFRINGENCE

*By Gerald Wykoff, GG, OSM,*

Many gemcutters sometimes mistake the terms double refraction and birefringence. The term birefringence is actually the strength, or the measurement, of double refraction. This amount is measured by the difference between the refractive indices of the ordinary and extraordinary rays in uniaxial stones and between the alpha and the gamma rays in biaxial stones. The difference - or measurement - is always expressed by numerals, (e.g., -0.006-0.009 for beryl).

In most instances a precise measurement of birefringence isn't necessary for gemcutters. Birefringence is most useful for gem identification.

The doubling of opposite facets and inclusions is good proof that a stone is doubly refractive. Keep in mind most doubly refractive stones do not exhibit the extreme doubling effect of zircon and/or peridot.



If you'll carefully examine the amount of doubling you can reasonably estimate the amount of birefringence in the gem. To train your eye for estimating birefringence try examining a zircon, peridot, tourmaline and a sapphire of about the same size. A careful comparison of what you sight will give you a relatively good idea of the birefringence of each gem so you can judge an unknown with fair accuracy. While you are training your eye, don't forget there are

directions in which no birefringence is visible in doubly refractive stones. For that reason, you want to judge a stone only in a direction of maximum doubling, (e.g., perpendicular to the crystallographic axis). The direction parallel to the CA is the direction of least double refraction, which is why many smart gemcutters try to orient their stone on that plane.

Richard T. Litticoat, in his book, "The Handbook of Gem Identification," gives an excellent method for testing for doubly refraction. Cut a hole one-eighth to one-fourth inch in diameter in a piece of white cardboard or stiff white paper.

**Watch Light Pattern...**

Now hold this card so that sunlight —or light from a strong lamp— passes through the hole and fall upon the crown of a faceted gem. Light entering the crown will be reflected from the pavilion facets and refracted from the crown back to the lower side of the card to form a pattern of small dots.

The dispersion of the gem often causes a pattern of rainbow spots, Litticoat pointed out. If the gem is doubly refractive, then these spots will appear on the card in pairs.

*From 03/89 American Gemcutter #25*

**MARK YOUR CALENDAR!!!**  
 For The American Opal Society's  
**35th Annual**  
**ANNUAL OPAL & GEM SHOW**  
**Largest Opal show in USA!**  
**Sat. & Sun., November 2 & 3, 2002**  
 Saturday 10AM - 6PM  
 Sunday 10AM - 5PM  
**Location: Quality Maingate Hotel**  
 616 Convention Way **ANAHEIM**, California  
 Close to **DISNEYLAND**  
 One block South of Katella Ave.  
 On Harbor Blvd.

**September Meeting Announcement**  
**JOHN ROSE OF 2ROSES STUDIO**

**Doublet And Triplet Making Workshop**

The September meeting on **9/12/02 at 7:00PM** will be a very special Doublet and Triplet workshop presented by 2Roses Studios. This will be a **hands-on** learning experience where you will be instructed in doublet and triplet making technique, and actually make a doublet of your own. All supplies and practice materials (not opals) **will be provided**, but you **may also bring your own material**. Email [tworoses@2rosesstudios.com](mailto:tworoses@2rosesstudios.com) for instructions on preparing your material for a doublet. *2Roses Studio has a well-earned international reputation for highly original work that pushes way past the boundaries of traditional lapidary and jewelry fabrication. This workshop is a unique opportunity to learn the fundamentals of doublet and triplet making from two masters of the craft.* The presentation will start **promptly at 7PM**. **Door prizes** will be provided along with the usual refreshments. **Don't miss this one!!!**

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**ANOTHER TRICK FOR CUTTING MEXICAN JELLY OPAL**

When cutting Mexican opal with transparent or clear (that's most of it!) base color, cut a high dome on the topline and a moderate dome on the back. The reason for this is twofold:

1. If you get the top and bottom domes just right, the light will refract within the stone as it does in a properly cut faceted stone. The effect will be as though light is trapped within the stone and the color will "glow" in a seemingly bottomless stone. It works great with or without play of color. Try it!
2. Polishing the back of the opal helps the stone to last longer. A polished surface tends to retard water loss from the opal over time. A rough surface has many times more actual surface area per given dimension than a polished surface, thus increasing the potential for physical and chemical interaction.

*(From Mag 7 by Paul Born in Lapidary Digest #189, 12/26/98)*

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**TREATING ANDAMOOKA MATRIX OPAL**

*I am passing along a letter from a friend in Australia who is an expert opal cutter and opal classer. I asked him for some advice on treating matrix opal and here is his response! Steve Newstrom*  
 Hi Steve

Great to hear from you again, yes we are having a mild summer, but it is not stimulating a rush for people to go opal mining, yet. The season is due to begin in about a month's time, just hope we get a few more miners this year. Last year was very quiet, as far as prospecting and new areas being developed. Mintabie should be underway hopefully by March/April, so that should bring new blood back on to the fields. The trouble is that Lambina and Coober will suffer as a result, I hope I'm wrong.

**Treating Matrix:** There are a couple of methods being used at present, first is the sugar and acid method, and the other is sugar and heat. As the heating method is very critical, you can

kill your matrix very quickly if you get the temperature wrong. So this is the method for sugar and acid and is fairly fool proof.

If you are treating either rough or cut stones, the system is the same. I would recommend treating rough matrix before cutting so you can see what areas of the material show the best colors and if areas darken better than others. This helps you choose the best areas for cutting the king stones. First of all is to thoroughly DRY out the stones, either cut or rough, this can be achieved either in an oven at low settings or in any warm, dry environment, for at least 24 hours, or until completely dehydrated. Now mix up a solution of powdered glucose and demineralized water in a heat proof bowl. To do this place enough water in the bowl to cover the stones to be treated, bring to a simmer and add the glucose with a spoon until it reaches a saturation point where no more glucose will dissolve.

Do not boil the solution as it will turn to toffee (not bad at that). Keep it just below boiling point, around 95C or 200F.

Allow to cool sufficiently that you can put your finger in it. Now place the DRIED stones in the solution, return to heat, and simmer for at least 6 hours, again I stress, do not let the solution boil.

After 6 or more hours remove stones from solution with tweezers and place them on some paper towel.

**The next step is quite dangerous, so please be careful. Concentrated sulfuric acid will instantly burn skin on contact. Wear protective eyewear, gloves and apron. Never add water to acid, always add acid to water. Please do the acid portion out of doors. We use water in an inexpensive electric skillet, set on simmer, with the acid and opal in a covered Pyrex container, set in the simmering water. Please have sodium bicarbonate handy, to neutralize any spilled acid.**

Purchase sulfuric acid 95% concentration, battery acid is about 35% and is not strong enough. Place enough acid in a heatproof bowl, with lid (Pyrex or similar) to cover stones.

Wipe excess sugar solution off the stones with paper towel (do not use water) and place them carefully, with plastic tweezers, into the acid. Cover with lid and place complete bowl into a larger bowl (with lid) with an inch of water in the bottom and cover all with larger lid. Ensure that the smaller acid bowl is not floating in the larger bowl, just put enough water so that it can simmer for a few hours.

In a well-ventilated area, place the bowls on the heat and simmer the water, 95C for about 4hrs.

Allow to cool completely after 4hrs simmering, then remove stones from acid with tweezers and place into large container of water and wash thoroughly. If on inspection you feel some stones need to go darker, again dry those selected and repeat the process of treating (I have treated some stones up to 8 times to get the desired effect). If you are happy with the result, those stones are returned to the sugar solution and re simmered for at least 4hrs to neutralize any acid left in the stone.

Good luck with this process and I will try to get the specific data on the sugar/heat treatment from a friend of mine, and pass it on to you. Let me know how you get on, Stuart

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## NEWS FROM DOWN UNDER

*By Steve and Darlene Newstrom*

### ANDAMOOKA

Thanks to Peter Taubers (miner Andamooka) and the Mines Warden Jim Safta, in Andamooka, for this information!

*Andamooka opal formation:* Host rock for the opal is a highly weathered claystone (cretaceous age bulldog shale), commonly called kopi by locals. At the base of the kopi is a band of boulders and pebbles. The opal level lies at the contact between this band and the overlying gray-brown claystone. Opal is randomly distributed within this level and its presence cannot be predicted. Opal levels vary greatly, up to depths of approx 18m within the known workings.

*Andamooka Mining Activity:* There are 21 named diggings on the Andamooka opal fields with a current total of 289 registered claims. Of these 289 claims, 84 claims are registered at Whitedam (lots of new and productive mines here), 10 km. south of the town by road.

During the last 18 months, some very substantial finds of gem quality opal has been found at Whitedam, Blackboy, Tea Tree and Boundary Rider diggings.

Currently (2002) at any given time, 10 bulldozers, 15 excavators, 20 bobcats and 4 backhoes are working on the fields. There are also 8 large-scale noodling machine operations. Mining is mainly done in open cuts and tunneling in from declines. Many shafts are currently equipped with Yorke hoists and bucket elevators.

Most diggings are presently very active with some good opal being found.

Andamooka opal is very much in demand being highly valued as a bright crystal opal along with a very stable nature. It has been my experience that prices of Andamooka opal are slightly higher than comparable gem grade opals from other fields in South Australia.

### COOBER PEDY

Starting in 2000 an opal test drilling program was begun, in the Coober Pedy area, in hopes of uncovering new productive opal fields. This program, sponsored by the Australian government, has been unsuccessful in developing any new fields, but the information gleaned has been published and hopes are that it will yet reap rewards.

New interest has occurred at the Enterprise diggings with considerable drilling performed. The area has produced opal trace, but no sizeable parcels as of yet.

A lot of production has been occurring in the Shellpatch diggings. All likely opal dirt has been run through noodling machines for almost 100% opal recovery. Much of the opal recovered is in the form of opalized clam-shells (explains the name "Shellpatch"). Minor activity on the Shellpatch tableland continues.

Brown's Folly and its reputation for producing good opal continues to attract several new miners.

Fourteen and Fifteen Mile Fields are still being turned over by noodlers with some mine dumps (mullock heaps) being worked for a second time. Just shows how much was missed the first time through.

Dead Mans and Dead Horse Fields continue to attract miners and this year has been no exception.

The world famous Olympic Field seems to be getting more attention in recent months with miners working the edges of the original field. There has been quit a bit of production from Olympic Field.

Demand for opal continues strong with many buyers complaining they cannot source sufficient opal to supply their needs.

I recently visited with a friend and very successful opal miner, John Dunstan, concerning his claim. He is working, by himself, in the Coober Pedy area (not far from town) and is using a 60-ton Komatsu 355 bulldozer in an open cut, going down to the 50-foot level. From there down to about 65 feet (opal level) he uses a 30-ton Komatsu excavator to actually uncover the opal seams (and hopefully uncover large quantities of bright opal). He is doing well with gray-based opal in the \$100 to \$200 per ounce range, but hasn't seen much good gem grade opal. Good luck John and thanks for the information!

John also tells me there has been a lot of productive test drilling for gold, about 100 kilometers south of Coober Pedy. The indications are very hopeful for a large mineralized gold/uranium mine similar to the one in operation near Andamooka at Roxby Downs. Opal AND gold...now that is a combination to really bring out the adventurer in one.

There are also rumors of a new unnamed field in the Coober Pedy area, between Deadman's Gully and Dead Horse Gully Fields, where at least two miners have been finding opal. Coober Pedy hasn't seen a new field in about 10 years. Perhaps this is the long awaited opal field that will bring on a great opal rush and new influx of opal miners to the area!

**MINTABIE**

There is a lot of new interesting news from Mintabie thanks to our friends Dan and Patsy Tucker at "D & P Mining".

The lease on the town site of Mintabie is up this year. The site is leased from the Pitjantjatjara Aboriginal Community for mining uses. Hopefully an agreement will be made otherwise all miners/residents and business people will have to move elsewhere.

Diesel fuel is selling in Mintabie for about \$1.14AU per liter. This certainly increases the cost of producing opal in this area.

The Mintabie town size is about 350, which is up from last year. There is a new Information Technology Center in Mintabie with about 15 computers for public use, which also houses a new library and Youth Center.

Crystal Valley Field is the most active field at present with some nice color being found when the miners went deeper. The opal buyers in Mintabie are not able to find sufficient supplies of top gem crystal, but low to mid grades seem to be more plentiful.

A fresh new field has been found in Mintabie with test drilling done (indications of good opal) and roads being put in. This field is located about 5 kilometers west of the Grasshopper Diggings. Negotiations with the Aborigines are underway for a lease and hopes are the field will open sometime in 2002-2003.

**LAMBINA**

Lambina has been producing lots of opal!! Recently several claims have produced beautiful crystal jelly type opal (and we have some for sale). That is the good news. The bad news is that the Aborigines have closed, for the time being, promising new areas near Lambina and have proposed increasing the \$100/claim charge to \$1000/claim. The Aborigines have claims on much of the Crown land in South Australia and until these claims are settled in court, they have a large say over what is done with the land. Most of the land in the state of South Australia is owned by the crown. And many of the cattle and sheep stations are leased from the crown. Lambina Station (cattle ranch) where the Lambina Opal field is located is leased from the Crown. Australia although a great democratic nation, is still, very much, a part of the British Empire. Politics?!

*Steve and Darlene Newstrom*

*The Village Smithy Opals, Inc.*

*P.O. Box 1334, Billings, MT 59103-1334*

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*Website: [www.villagesmithyopals.com](http://www.villagesmithyopals.com)*

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**YELLA JIMMY - PART 1**

*[A short story of a past]*

*By Colin W. Wurth*

My earliest memories of old Tim were of a five-year-old boy watching him approach the bush that surrounded our house. He walked with well-practiced gait and usually was carrying an old cane basket that I always knew was brimming with fruit from his garden.

Recollections of Tim this way was always a welcome sight, not because of the fruit I knew he bought but the genuine openhearted friendliness of his approach, as a smile would break out upon his face as he received my innocent and joyful welcome.

Tim was a man about sixty; he had weather-beaten craggy features that when he smiled exposed a huge set of teeth that

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**With continued buying trips to the Australian opal mines, we provide you with the lowest prices possible.** We stock rough opals from \$10.00/ounce to \$5000.00/ounce from mines in Mintabie, Coober Pedy, Andamooka and the latest opal strikes in Lambina. Opals available by the ounce, gram or individual stone...special orders or shipping "no problems mate". We look forward to hearing from you!

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\$95/oz, \$150/oz, \$200/oz,  
\$300/oz, \$750/oz, \$1250/oz



Steve chasing opals with a smile (and a pick), 15 mile diggings, Coober Pedy, Australia.



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E-mail: [vsmithy@prodigy.net](mailto:vsmithy@prodigy.net)

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seemed to fit so well his wrinkled suntanned face. He was a retired opal miner who lived a solitary life about a mile or so from our house in the country. His visits were always welcomed by my father and mother, but no more than myself. His stories of his past had something for all, the early days of his never-ending quests for his beloved opal in the harsh regions of the Australian outback; stories of hardship and wonder and of opal, that lured him to the places it called home. His enthusiasm for the stone was in a way infectious and he always maintained he had an incurable case of "opal fever".

My father was not noted for his understanding of anything that did not contribute to the families fortune but I always sensed in him an interest which was one that was a little out of place; he was an interested listener to Tim's world although he had no experience of the harsh regions Tim described but this gave a five year old boy a veracity for the words and stories.

Going to places that Tim described was no mean feats in those days, planning and knowledge of the unforgiving country was well known, its ability to rob individuals of their purpose if not their lives was a fact appreciated by most. Tim was a religious man but the world he talked about was not connected to his beliefs, he was an adventurer who had always took his

own destiny in his own private way, he expected no favors from the country that so many people had thought god had deserted.

The years unfolded with the pattern of Tim's stories and to a small boy wonders extended, Tim became increasingly a part of my life, I would sit and listen with an interest I am sure he didn't realise I had, his stories I think were being told to my parents and I don't think he knew his words and dreams were being stored by an inquiring and imaginative mind Tim's stories were many but there was always one that was constant and somehow he always came back to, it was of a lost opal mine called, "Yella Jimmy" it always seemed to interrupt his other stories, it was obvious he had a mild sort of obsession with the subject and his conviction of the story never wavered over the years. Its location was constant and I remember the change that would come over him as he told the story which he never tired of telling, he would however only give a vague description of the country where he claimed it was and this seemed to fuel some doubt in my father, who gave the story more veracity than I had seen him do with many other things Even at that early age I knew my father to be somewhat of a cynic.

The mine "Yella Jimmy" Tim would say over the years, "has the most beautiful opal in Queensland and it is the only place in the world where black opal can be found," my father would look at him with a doubting look, not convinced but still I could see interest in his words, probably it was Tim's conviction in them that swayed his halfhearted belief He would look at him in a way that spoke of his thoughts that this was a last forlorn dream of a disappointed old man, he would quiz Tim with questions that couldn't mean much as he had no knowledge of the hostile country that occupied the story and less knowledge of the desert gem opal but he would always listen, a vague sort of belief was somewhere in him.

Tim's story was simple; prior to the first world war, two of Tim's friends, that he had met on his never-ending quests for the gem, had found a mine in a remote and hostile region of the outback, they mined it successfully for some time before life's necessities and the need to realise some money took them to the far-off capital of Brisbane where they were when the outbreak of the war occurred. Being loyal citizens of the empire they didn't hesitate to enlist, they knew the location of the mine and they understood that it would wait while they attended to their patriotic duties. They were gratefully accepted and were soon shipped overseas where they ended up in France, my father's interest would always heighten at this point because he was a knowledgeable person in the history of those times and could not fault Tim as to time or details of their embarkation or destination. One of the men consequently lost his life in France and the other sustained severe injuries which included the loss of a leg so when he eventually returned home the prospect of venturing into the hostile world of his mine was virtually impossible although he guarded the secret of its location that was a testament to its veracity Several expeditions were mooted but for various reasons of either distrust or finance they were never realised, the location of the mine was a task for fully fit young men and resources were needed to survive the harsh country and water was another barrier, the beautiful gem had little meaning without water and its ability to steal a person's life, distance was another tyrant and protector of the beautiful stone. So time went by and Tim came closer to the story through his friend and finally with complications of his wounds taking a final effect on him he told Tim of its exact location, the last gasp of a dying friend, a secret that would be useless to him on his final journey.

Tim held the secret dearly. He knew and trusted his friends deeply and gave the story a veracity that was convincing to anyone with a knowledge of him, the story he had told over the years gave it a compelling ring of truth and his reluctance to tell just anybody indeed reinforced the faith he had in his friends and although he could have formed partnerships over the years he had never found anyone he thought worthy of the knowledge as well as droughts coming and going over the period presented

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obstacles that few city dwellers could understand, opal for all its beauty held little meaning to anyone when they were dying of thirst.

The years wore on and Tim aged and even diminished a little in resolve, he understood that to reach his mine would take a great degree of organisation and people with youth, I was, in his eyes far too young to risk such a venture and he had long ago decided that my father did not have sufficient confidence to undertake such a project, but still the thought of the distant mine baking in the fierce sun while shielding the beautiful opal from the eyes of men remained in him, a diminishing dream of a tired old man. Tim probably didn't realise that the stories he had told so often over the years were recorded so faithfully by my young ears, he had become used to cynicism, it was the dawning of that age and Tim was often seen as a relic of an unreliable past, given to dreaming his past into the present, a joke if you like, be kind, he is harmless and he wore this, with what I always felt was the confidence of truth and consequently my thoughts ran differently.

Finally when I was fifteen life beckoned, talking hard to my parents for abandoning further education to get on with what I saw as the real life. I left home and went to the city to work; I lost some contact with my lifelong friend Tim after a few years occasional visits and letters were the only contact and as with all youth life was full of bustle and there was little time to think of childhood dreams. This stayed with me for about two years when once again I remembered his stories and then being in a more positive position including a financial one and located in the city, I began to discover resources that Tim could only have dreamed of; books, army maps, general study of the vast area and many other aspects of his stories. The more I collated information the more it became obvious to me that Tim's dream was no dream, his descriptions were accurate given his limited knowledge of the time, although if he were a younger man I had no doubt he could walk straight to the mine, the directions the men gave him were probably more detailed than he ever told but his was bushman's knowledge and didn't have the luxury of detailed maps and information that now flowed around government and other sources.

The only directions he gave were loose; the mine was situated south of a deserted opal mining town of Opalton and east of an abandoned homestead called Maynside; an area so vast a person could spend his life searching and still be miles

from it at the end; at this time in our irregular meetings and letters Tim began to give me more accurate yet primitive directions for although I was seventeen Tim was getting older in looks and spirit but my interest always seemed to spark something in him at the moment I didn't know why, I was not fully acquainted with my fellow mans reason at that point in my life. Tim would tell me that the mine was located on the eastern side of a range of hills that ran in a north-south direction and directly opposite the mine there was a producing mine of medium quality opal, but Tim's mine produced a black opal, so fiery that when the two friends had taken a parcel of it to Brisbane in their final and fateful trip they had sold it at the best price obtainable at the time, indeed most of it went to collectors of the gem a sure indication of its quality. The depth of the opal as it lay in its moist home was only three feet, similar to the known mine over the other side of the range. The most telling point he had told me in those years was that on a clear day you could see the homestead at Maynside, this was a direction in bushman's terms which gave good indications only if a more detailed study along with a belief of the site had been made, the dream of Tim's had become a mild obsession with me, while other boys of my age were engaged in the usual sort of activities I was a little bit like Tim, I was on a lonely quest that nobody understood, I was warned continuously that the perils of travel to that world was a risk to life, I was told by most it was an impossibility and tales of lost dreams and people abounded with a frequency that should have dissuaded the strongest believer but to me they were founded on false understanding and lack of individual spirit and consequently fell on deaf ears which were described by most as an indication of my youthful foolishness.

During the course of this time I did meet one man who took the story seriously, he was an Hungarian who indeed had some experience in arid and hostile regions and at first his interest was a revelation to me when I told him a broad outline of the story, his enthusiasm was so great he arranged for us to meet Tim and with goodwill one day we went to Tim and when I had introduced him to my friend he shut up about the mine like the proverbial clam, gone was his optimism to be replaced by doubt and slight cynicism, his attitude was not only a surprise to my youthful expectation of the meeting but a blow of great proportions I can remember studying him and thinking I had been led on a chase, Tim's story was different than the one that over the years I had become accustomed to and believed with such conviction, finally the man left, no doubt feeling that the proposition was just as others thought, the unfulfilled dreams of a dying man, no sooner had his car disappeared than Tim invited me into his strange little house that he himself had built, his attitude seemed different now he talked at length about people, the world and trust, it was obvious he had seen something in the man that my inexperienced eyes had not we talked for a long time and I remember feeling relieved I understood the reasons for his reticence in the presence of the other man, I realised that our family and myself in particular had been told more of his dream than he had to anybody else in this world and again my confidence returned but this time with more conviction mixed with a little pride Tim and I talked at length that day, he was impressed I had done the things I had, he would question and occasionally smile at my unbridled enthusiasm and in my later years I would remember a wistfulness that was although slight very visible it was if Tim was in another world he was not the jovial character of my childhood and I suppose I was beginning to see him with adult eyes and he to seeing me as an emerging adult as well and memories of that last meeting remain with me till this very day, we parted as usual as good friends, I remember walking down the dusty road that led from his house surrounded by trees and as I topped the rise which would take it from view one last wave to the solitary figure standing so starkly at the gate I remembered his arm stretched motionless in the air, and then forward back to my life and leaving his.

To be continued next month.

*Yella Jimmy is a true story written by Colin W. Wurth. Colin has given the American Opal Society permission to reproduce the story in our magazine. This short story originally appeared in "The Opal", the newsletter of the Opal Association of South Australia. Big thanks to Tony Clarke for contacting Colin for us!*

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## SPENCER OPAL

*From the LAPIDARY DIGEST - LapDigest News*

*Issue No 268 - Sat 3/25/2000*

*Edited and Published by Hale Sweeny - [hale2@mindspring.com](mailto:hale2@mindspring.com)*

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

Subject: Spencer Opal

Lapidary Digest members:

I recently purchased, at a bargain basement price, almost 40 pounds of Spencer Opal rough and would like to start making triplets. I have looked through the opal and can see bands of color in almost every piece. Now I just need to know how to get the most out of what I have.

I have been making cabochons for about four years, and have a used 10" flat lap. It came with a master iron lap, but no other grinding disks. Are there any Lapidary Digest subscribers who have made triplets from Spencer opal? I hope someone can offer suggestions about processing the rough into finished cabochons. I would also appreciate help on equipment needs. I have a 10" flat lap with an iron master lap, but don't have any diamond disks yet.

I'm on a very strict budget as I have not been able to work for the last eight months due to CFS, so funds are limited. How much will I have to spend to get the proper diamond laps? Are any of the less expensive diamond laps any good? Can I use silicon carbide disks and achieve the same results?

Best regards

Jed [jeddy@inconnect.com](mailto:jeddy@inconnect.com)

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Subject: RE: Spencer Opal

Jed, Have you been to the Eclectic Lapidary e-zine website? In the April '97 issue (in their archives) there's an article called "Kitchen Table Triplets" that describes an approach to making them. The author uses wet/dry sandpaper(!) on a flat plate to flatten the stones. This is the sandpaper they sell in auto parts stores, or hardware stores. Silicon carbide. And cheap. You should be able to go to: <http://www.bovagems.com>



Then go to archives, then pick the issue. I don't think you have to register, but it's free. And besides which, Carol is good folk like Hale and good to support. Hope this helps,  
Bob, [blombardi@cfl.rr.com](mailto:blombardi@cfl.rr.com)

Thanks, Bob - Carol is that. She's a peach and Han's article on kitchen table doublets would be right on for him. - hale

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Subject: RE: Spencer Opal

About Spencer Opal: Triplets are the main product of Spencer opals. Some of the material is thick enough to make doublets and occasionally (rarely) you can make a single cab.

The saw to use is something like a Faceting type with a thin blade (I use a 5" blade that is .004" thick in a Rock Rascal saw). Then I hold the piece of Opal by hand and cut between the color bands, hopefully parallel to the color band. Then I use a 6" All-U-Need to cut down to the color. When that is done I glue a black backing stone to that side. Then I do the same thing to the other side, except I put a Quartz Cap on that side. Use a good non-yellowing glue (I recommend 330 Epoxy, which dries water clear) and be careful not to get bubbles between the stone and the cap!!!!

The saw can be any saw! Preferably it just needs to be a small saw so you can put on a thin blade and do manual trimming (a Facetors Saw?). It just depends on how close the color bands are in the stone that you are cutting, cause if you cut a 1/16" or larger kerf you lose that much distance between color bands (some color bands will be close enough that you will cut them off with a thicker blade). Some people have used Genies (or similar) for polishing the color bands. I was never able to get the band flat enough with a round grinder. Usually a Flat Lap is too big for the size of stones that are available! That's why I have been using a "All-U-Need".

Hope this helps !! LOL and if you need more info, just send me an e-mail!

[pprmn@techline.com](mailto:pprmn@techline.com)

Just an added piece of advice about sawing. Hold the opal with the first two fingers of each hand, pressing on each side of the opal with your first and second fingers, and possibly add the thumbs lightly on top of the opal. Then facing the edge of the blade, lower the opal toward the table top, but support it away from the table top with your third and fourth fingers, which are bend under. That way, the opal does not touch the table top, and you have excellent control of it during sawing. - hale

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Subject: RE: Spencer Opal

Jed said: <<I recently purchased, at a bargain basement price, almost 40 pounds of Spencer Opal rough and would like to start making triplets. <snip> > I'm on a very strict budget so funds are limited.>>

Hi Jed,

Wow, 40lbs. with color, that should keep you busy for a while ;-) I've been cutting Spencer opal as well as opal from other locations for some time now. I still like silicon carbide for the final work as it's less aggressive than diamond. The key to triplets is proper orientation of the fire band (especially with Spencer opal where the band is sometimes thinner than a piece of paper) The brightest fire band must be located and oriented absolutely parallel to the backing material.

To identify and isolate the brightest fire band it's best to work in direct sunlight. If direct sunlight is not available, the next best light source is a 100 watt clear incandescent light. I find it helpful to sand any jagged edges off the rough to make it easier to see the fire all the way around. Keep the stone wet until the fire band is located. Turn the stone so that you are holding the fire band horizontal & rotate it to make sure it runs completely through the stone. If there are multiple fire bands identify the brightest one. After you have done this take a fine tip indelible felt marker and carefully trace on the fire band completely around the stone.

Dop the rough opal to a round wood dowel, large enough to provide a strong support for the stone. Mount the dop in the vice of the trim saw so that the marked line is parallel to the saw blade. (Set the vice so that the cut will be about 4 or 5mm beyond the marker line.) Make the cut.

Remove the opal from the dop. Lap on a flat lap with 180 mesh diamond lap or 100 grit silicon carbide disk to remove the bulk of the potch. Be sure to check your progress often. It is very important to stay parallel to the fire band. As you cut if you notice one side is thicker than the other you can control the cutting by applying more pressure to the thicker side. Once the fire just begins to show switch to the 220 mesh diamond lap or 400 grit silicon carbide and cut approximately one third of the way into the fire band.

After you have lapped down to the fire band clean the stone with alcohol and inspect it for any fractures. If you find a fracture you have the option of treating the stone with fracture sealer or cutting the stone to eliminate the fracture. (The quartz will not have any fractures although it will magnify any obvious blemishes in the opal below). If you choose to seal a fracture use a good two-part sealer such as Opticon. Apply a coat of the sealer without the hardener and put the stone in the oven at 150 degrees for 15 minutes. Remove the stone from the oven and wipe clean with a soft lint free cloth.

To prepare the backing, cut a slab of Basenite approximately 1/8" thick, large enough to extend beyond the opal 1/16" on all sides. Lap both sides flat on the 180 diamond lap (100 grit sc.) followed by the 400 mesh lap. Wipe the slab clean with alcohol and set aside to dry. Place the Basenite slab on a piece of waxed paper about the size of a note card. In a plastic bottle cap or on a piece of doubled aluminum foil squeeze out a dab about the size of a kidney bean of both the epoxy and the hardener. Use a slow setting, crystal clear epoxy such as Epoxy-330. Carefully mix the epoxy slowly trying to avoid adding air bubbles. Allow the epoxy to sit for about two minutes, using a Popsicle stick transfer enough epoxy to the Basenite slab to cover the area, which will hold the opal. Don't spread the epoxy, instead allow it to flow from the Popsicle stick onto the middle of the slab. Carefully take a tooth pick and gently push any air bubbles in the epoxy to the edge of the flow. You don't need a great deal of epoxy, just enough to lightly float the opal when it's placed on the slab. Gently place the opal on the slab and allow it to sink into the epoxy. Gently push the opal down onto the slab, squeezing out some of the excess epoxy. Set the assembly on a level surface and allow to cure for a minimum of 24 hours.

Go to the expandable drum, on the 100 grit belt, and sand back the edges of the Basenite until the edge of the opal is reached. Lap on the 180 mesh (100 grit SiC) until the fire from the band closest to the backing starts to show. Be sure to check often to make sure you are staying truly parallel to the backing. Adjust the pressure as required to stay level. After the fire starts to show through switch to the 400 mesh diamond lap (or 400 grit SiC) and continue to lap the face of the opal until it has thinned to the thickness of about two pieces of paper. Wipe the start clean with alcohol and allow to dry. At this point you have two options. You can either use a commercial quartz top on your triplet or you can cut your own. If you opt to use a commercial top clean the surface of the opal with alcohol and allow to dry. If the opal shows any fractures apply a coat of Opticon and follow the same procedure as above. Select a commercial cap, which will fit as close as possible the size of the start. Next prepare another batch of epoxy using the same procedure as for gluing the opal to the backing. Follow the same procedure for gluing as before: gently place the quartz cap directly on top of the epoxy. Allow it to settle naturally, then gently push down on the cap to force out any remaining air bubbles (remember an air bubble will show up as an unwanted light reflection in your finished stone). Once you are satisfied all the air bubbles are out set the stone on a piece of wax paper on a level surface to dry for another 24 hours.

If you decided to make your own quartz top the approach will be somewhat different. If you want to cut a calibrated size stone now is the time to define the size. Mark it on the top of the opal start with a water proof fine tipped marker or aluminum pencil. On the cab unit sand the start to the marker line. Select a piece of optical grade quartz large enough to overhang the start by 1/8 inch all the way around. Wipe the opal with alcohol to remove any marks and set aside. If large enough, saw the quartz to approximately 1/4" thick. Lap to remove any saw marks. Lap both sides. finish on the 400-mesh lap. The reason you want to lap both sides is so that you will be better able to see any bubbles which might be trapped in the epoxy before it sets up. Mix the epoxy as above and proceed as detailed above for commercial caps.

After the epoxy has cured for 24 hours you can dop the stone as you would any other opal & cut like any other cab with one slight difference. The girdle should be slightly beveled so the quartz cap slightly overhangs the backing (otherwise you'll get a black ring around your stone)

One final alternative, which I have had a chance too try myself, is a relatively new adhesive, which depends on the UV rays from sunshine to cure. The product is called "Crystal Clear Glass Adhesive" and is made by Duo, a division of Manic Corporation, It comes in .07 fl. Syringes, It's a thin, bubble-free adhesive, allows you to move it around before it set up, and is water clear. It's been talked about here on the digest before. I found it at ACE hardware. It cures exceptionally fast. I haven't been using it for very long so don't know how it will hold up ten years from now (I know the epoxy will).

I hope this helps,

Noel, [jnoel1@pacbell.net](mailto:jnoel1@pacbell.net)

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Subject: RE: Spencer Opal

Hi Folks,

I wrote the "Kitchen Table Triplet" mentioned in the last issue of the Lapidary Digest (as seen in the "Eclectic Lapidary" - go to <http://www.bovagems.com> and then go into the "archives".) It describes my own method of making triplets. Let me just correct one statement in that: I don't use silicon carbide PAPER in lapping down the elements, but rather silicon carbide grit, in water, on a sheet of plate glass as substrate. I lap down to about 220 grit, that's all. Leaving the stone, the base and the cap a little rough I feel (without having any scientific proof) gives the epoxy a better gripping surface and makes for a better bond. The epoxy makes the roughness invisible.

One thing worth pointing out is that the number of variations on the basic theme that have been described here in the Lapidary Digest, all of which appear to lead to successful doublets and triplets, indicates that the process is actually rather forgiving. Probably the worst wrong thing you can do is get oil or bubbles in the epoxy; oil being fatal for the bond, bubbles for the appearance.

Cheers & thanks

Hans Durstling, [sinico@nbn.net.nb.ca](mailto:sinico@nbn.net.nb.ca), Moncton, Canada

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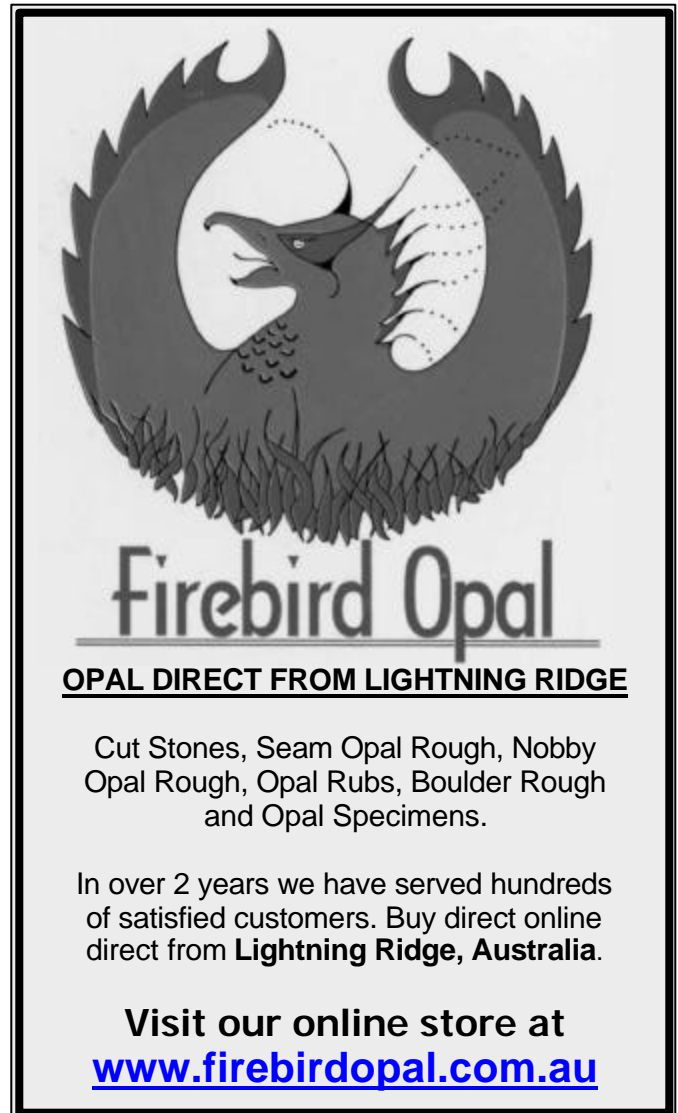
Subject: RE: Spencer Opal

Hi Jed, Noel, and all,

Great piece on Spencer opal triplets Noel! Thank you. I have a couple of points worth mentioning. In as much as Jed is on a tight budget, here is a very cheap suggestion for flat lapping. Heck I use it even when money is not tight, because it works so well. Diamond laps are pricey, even after one lays out the money for a machine.

Jed, your iron lap will work great for rough grinding but will not produce a reliably "flat" surface. Regular use grinds channels in the lap surface. Iron laps are never "flat" enough unless you have the laps turned at a machine shop on a regular basis.

I suggest using a glass plate and loose grit (silicon carbide of course). A local glazier will usually be happy to cut a few eight-



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inch squares from his scrap. I like to use 3/16 or 1/4" thick glass. 1/8" should work just fine too. It is important to bevel the sharp edges and corners so you don't cut yourself. Glaziers are usually quite happy to do it for you (for a small additional charge, of course) or you can sand the edges with coarse emery cloth.

I like to use 320 mesh silicon carbide for rough grinding and 600 mesh for a finer finish. I keep a separate plate for each grit as courser grits create a rougher grinding surface on the glass. A finer finish also helps eliminate light scattering between the opal surface and the bottom of the cap. Too much light scattering can produce a slight blurring of the opal. However the epoxy will not adhere as well to a polished surface. 600 grit is a good compromise. It is important to utilize the entire surface of each glass plate to prevent the grinding surface from becoming concave with use. Once that happens it is impossible to grind a truly flat surface. Oh well, flip the glass over and use the other side for a while. One should be able to pick up glass plates and silicon carbide grit for well under \$20.

I have worked with a few Spencer opals and my experience is not equal to others, who haunt this list. I have a couple of tips, though, that originate from my work experience as a petrographic technician (I have produced around 25,000 to 30,000 thin sections to date). It is critical to keep two things in mind when making opal triplets: 1) Keep all mounting surfaces parallel to the fire layer, and 2) Grind all surfaces flat. By flat I mean flat to the point of ridiculous. The strength of the bond between the opal and its backing and cap depends, in part, on the precision of their fit. How well you capture the fire layer

depends on how precisely your ground surfaces match to the fire layer.

I like glass, it's cheap, flat, and no guilt tossing it when I've used it up. Good luck Jed, I hope this helps.

Paul Boni, Boulder, CO, [bonip@colorado.edu](mailto:bonip@colorado.edu)

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## SEPTEMBER GEM SHOWS

**7--MISSOULA, MT** "Montana Gems and Minerals"; Hellgate Mineral Society; Rubys Inn & Convention Center, 4825 N. Reserve; Sat 10-6, Sun 10-5; con. Bob Riggs, 14 Holiday Ln, Missoula, MT 59801, 406- 543-3667

**21-22--FONTANA, CA:** Show; Kaiser Rock Club; California Speedway, 9300 Cherry Ave.; Sat. 9-5, Sun. 9-5; free admission; contact Jo Ann Watson, (909) 355-7455.

**28--LOS ALTOS, CA:** Show, "Recreation with Rocks"; Peninsula Gem and Geology Society; Rancho Shopping Center, Foothill Expressway and S. Springer Rd.; Sat. 9:30-4:45; free admission; contact Frank Dina, (650) 967-3424.

**28-29--CARMEL VALLEY, CA** 43rd annual show; Carmel Valley Gem & Mineral Society; Monterey Fairgrounds, 2004 Fairgrounds Rd.; Sat. 10-6, Sun. 10-5; admission \$3.50, contact Sky Paxton, 15815 Verde Dr., Salinas, CA 93907, (831) 663-6978; e-mail: [sky@familystones.net](mailto:sky@familystones.net).

**28-29--DOWNEY, CA:** 52nd annual show; Delvers Gem & Mineral Society; Women's Club of Downey, 9813 Paramount Blvd.; Sat. 10-6, Sun. 10-4; free admission; contact Chuck Pierce, (714) 526-5614; e-mail: [caseychuck@att.net](mailto:caseychuck@att.net).

**28-29--FRANKLIN, NJ** 46th annual show; Franklin-Sterling Hill Mineral Museum; Franklin School, Washington Ave.; Sat. 7:30-6, Sun. 8-5; admission \$5, children \$3; contact John Cianciulli, 32 Evans St., Franklin, NJ 07416; (973) 827-6671; e-mail: [rockman@warwich.net](mailto:rockman@warwich.net).

**28-29--HIDDENITE, NC** 14th annual show; Western Piedmont Mineral & Gem Society; Hiddenite Center, Sulpher Springs Rd.; Sat. 9-6, Sun. 12:30-6; admission \$2, contact Roger Grinnell, P2866 White Oak Creek Rd., Burnsville, NC 28714, (828) 675-9281; e-mail: [rognell@webtv.net](mailto:rognell@webtv.net).

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## OPAL TERMS

*By Mark Ferguson*

**As you know, there is a multitude of opal types and countless more terms to describe opal. To help in this the AGIA (Australian Gem Industry Association) has defined the following:**

Type I	Precious opal found in solid pieces, no matrix. This is what most commonly seen opal is.
Type II	Boulder opal. Fairly thin layer(s) of opal in a rock matrix.
Type III	This is opal that is found scattered in small eyes or grains or fillings in solid rock.
Crystal	Transparent opal.
Simi-crystal	Translucent opal.
Opaque	Opal that is just that, opaque.
<b>So, now on to some other terms found in the opal world.</b>	
Abanderos	The term applied by Mexican opal miners to precious opals displaying striped or banded streaks or color play.
Agate opal	Common opal banded in a fashion similar to agate.
Agaty potch	Potch banded in a fashion similar to agate.
Amber opal	Opal with amber or brownish body color.
Angel stone	An Australian miner's term applied to hard silicified clay or sandstone above a precious opal layer; often permeated with precious opal-filled cracks.
Arananjados	Mexican term for precious opals of orange body color.
Azules	Mexican term for precious opals of a bluish body color.
Band	A hard silicious band of sandstone, usually at the bottom of the sandstone stratum, which carries opal.
Biscuit Band	A flaky sandstone band, either cropping out on the surface or quite shallow. Can contain opal.
Black opal	Any precious opal in which the body color is gray to black in hue. In the case of Australian types, the dark color is usually derived from the potch upon which is deposited the translucent to transparent precious layer. In the case of Virgin Valley Nevada black opals, the color is inherent to the translucent to transparent material containing the play of color.
Black potch	Dark colored potch useful for backing material in opal doublets.
Bluebottle	A blue colored potch, more commonly found with boulder opal.
Bottomed	The bottom of a shaft which has broken through the layer of sandstone which lies immediately above the

opal dirt	
Boulder opal	Queensland, Australia precious opal found as crack and seam fillings in a dark brown ferruginous sandstone, frequently cut in matrix.
Cachalong	An opaque to feebly translucent porous type of opal which when wetted with the tongue absorbs moisture so quickly that it sticks. Generally white in color but pale colors in other hues are known, Cachalong is commonly associated with opalized and chalcedonized wood. Also abundant as cavity fillings associated with zeolite minerals in pillow basalts.
Calcareous	A geological term to describe chalky types of sands and shales.
Candlebox opal	Australian miners term for opal so poor in quality it cannot be sold.
Cherry opal	Applied mainly to Mexican opals of deep red color, which may be translucent to transparent and with or without color play.
Chloropal	Incorrectly applied to green opal, this term is properly applied only to a green, opal-like silicate of iron.
Claro	Mexican term for opals of exceptional clarity and generally of near colorless hue.
Claypan	A flat open, bare area of country with little or no vegetation.
Claim Jumping	Using the letter of the law to take another miner's claim for not fulfilling the conditions of the lease.
Common opal	Applied to all opal which is not precious; i.e., has no color play.
Conglomerate	A term used in geology to describe a coherent mass of water worn pebbles and gravel in cement-like material.
Contra Luz	A Mexican term for certain peculiar highly translucent opals which exhibit plays of color in transmitted light and may or may not display a similar phenomenon in reflected light.
Datum Post	A fixed starting point, to a granted mining area.
Deep Country	Any area of a field which requires deep shafts to reach the opal level. The opposite to a shallow country.
Diatomaceous earth	An earthy mineral form of opal comprised of the opal skeletons of minute marine animals called diatoms. Used as an abrasive powder and as a filtering media. Synonymous with kieselguhr, infusorial earth, tripoli.
Diatomite	Diatomaceous earth.
Double Bar	Two horizontal parallel bars of color running through a piece of opal.
Duffer	A mine or shaft which produces no opal.
Face	The wall of a mine, which is usually carrying opal.
Fire opal	A term correctly applied only to orange- or yellow-red to deep red translucent opal varieties, mainly from Mexico, but also from other opal deposits. Commonly and incorrectly applied to any opal displaying play of color. It is to be noted that fire opals from Mexico frequently display plays of color and thus should be termed "precious" fire opal.
Flame opal	Precious opal in which the play of color is generally confined to a single large patch or a number of large patches which tend to display color and quickly eclipse as the specimen is turned.
Floor	The bottom of a drive or tunnel.
Floaters	An Australian miner's term for precious opal fragments found loose on the surface. Equivalent to the mining term float.
Foul Air	Stale air in which, due to the lack of circulation in the mine, poisonous gases can be built up.
Free form	A piece of opal where the natural shape of the stone has been kept when cutting.
Geyserite	Opaline silica deposited in the throats of geysers and also upon basins and terraces of certain hot springs. White to grayish, porous, and without play of color.
Girasol	A much-abused term which according to dictionaries is merely a synonym for precious opal in which play of color is pronounced. This term should be dropped.
Gouge	This term is used to describe a miner digging out opal, or digging with a pick in anticipation of striking opal.
Harlequin	Applied to precious opal in which play of color occurs in small, more or less, rectangular patches of similar size. The pattern has nearly ninety-degree angles of color. In

	the early days, the "harlequin" description was reserved exclusively for a stone exhibiting squares of different colors which changed as the stone was moved	Parcel	A term used when offering a number of opals for sale at the same time.
Honey opal	A term commonly used in North America to describe translucent to transparent opal with or without play of color, of a yellowish amber hue similar to that of honey.	Painted Ladies	Opal which is found often on the surface of boulders or fills the cracks in boulders and when split open is too thin to remove and thus is left on the base rock and polished as it sits or used as specimens.
Hyalite	Completely transparent and colorless common opal generally formed as rounded encrustations upon cavities and fissures in felsitic volcanic rocks. In appearance most similar to melted drops or blebs of glass. Very rarely displays play of color.	Pineapples	The name applied in Australia to clusters of glauberite crystals replaced by precious opal and bearing a superficial resemblance to pineapples or pinecones.
Hydrophane	Curious form of porous opal, generally white in color and probably identical to cachalong except that when immersed in water, considerable translucency is produced and rarely, even a play of color.	Pin fire opal	Applied to precious opal in which the play of color emanates from very small spots or patches.
Infusorial earth	See diatomaceous earth.	Pinpoint	Australian equivalent of pin fire opal.
Ironstone	Australian term for a dark brown ferruginous sandstone in which precious opal commonly occurs.	Pintas	Mexican name for common opal flecked with precious opal.
Jasper opal	Impure jaspery chalcedony cemented or veined with opal.	Pipe opal	Australian term for precious opal found in tubular openings in sandstone and yielding cylindrical masses of rough.
Jelly opal	Applied to highly translucent opal which may or may not contain play of color.	Play of color	The accepted and correct term used to designate the shifting, intensely pure color of various hues observed in precious opal.
Lechosos	Mexican miner's term for precious opal with a milky body color.	Potch	Australian term for common opal found with precious opal, which can be in different colors.
Lithoxyl	A vague term for opalized wood.	Potch and color	Australian term for potch in which some patches of precious opal occur.
Lluisnandos	A Mexican miner's term for highly translucent to transparent precious opal in which the play of color descends in brilliant ribbons through a clear matrix like "spatters of rain descending through the light of the setting sun and casting sparks on the way".	Prase opal	Common opal of green color.
Matrix	Meaning a mixture or enclosing. A common term used to describe a form of boulder in which flecks or veins of color are seen.	Precious opal	A term applied only to opal, which displays the familiar brilliant and pure play of colors.
Mexican opal	See fire opal	Ratter	A word from early days of opal mining for a thief who enters a claim which is known to be producing opal, usually at night or when the owner is away.
Milk opal	Translucent opal of milky body color with or without play of color.	Roof	The top section of a drive or tunnel.
Miner's Right	A mining license, which allows certain rights to the holder. (Except for New South Wales; The Miner's Right was changed in N.S.W in 1973 )	Rough	Is the term used by miners when they offer uncut opal for sale.
Moss opal	Common opal, generally white to pale bluishwhite in color containing very delicate fern-like black growths.	Rubbing Down	The first process in cutting opal where the outer layer of material is removed.
Mountain opal	An Australian miner's term used to designate opal found in mountains instead of in the sedimentary rocks of the plains.	Rush	Hurrying to peg claims after the discovery of a rich opal find.
Mullock	Opal dirt which has been brought up from down in the mine and dumped on the surface around the shaft. Can sometimes contain pieces of opal missed by the miner.	Sandstones	Strata associated with Australian sedimentary opal, of a feldspar base, not quartz.
Natural Jointed	A term used by the miners to describe lumps of the same piece of opal which all join neatly together in the ground.	Seam opal	Applied to precious opal occurring in narrow seams often with the brightest play of color in planes vertical to the plane of the seam. Rough fragments are characteristically tablet-shaped.
New Chum or a green horn	Someone without experience.	Sedimentary	A geological term for water or wind worn material which has settled and become consolidated.
Nobbies	Rounded opal nodules much like pebbles in form but actually fossil replacements.	Semiopal	a completely meaningless term applied to impure forms of common opal. Should be discarded.
Noble opal	An older name for precious opal.	Shincracker	A hard porcelain type of opal dirt, which flies up when hit with a heavy pick, striking the miner in the shins.
Opal Dirt	A common name to describe shales and clays, which carry opal.	Siliceous	One of many manes used in geology to describe silicon dioxide compounds.
Opal matrix	Another name for Queensland boulder opal or Andamooka sandstone impregnated with opal.	Siliceous sinter	Synonymous with geyselite.
Opalescent	A commonly used and also misused term which is supposed to describe any gem material in which a vague bluish light plays back and forth as the specimen is turned before the light. Thus this term, obviously derived from opal, has been used to describe adularescence observed in moonstone feldspars, the chatoyancy observed in chrysoberyl's cat's-eyes, etc.	Specking	To search old mine heaps for traces of opal. Also known as noodling.
Opaline	Comprised of the opal form of silica.	Tabasheer	A variety of opal very similar in appearance to cachalong found in bamboo joints and said to be used for jewelry in the Orient. Becomes translucent when immersed in water.
Opalized	Applied to any material replaced or converted to opal.	Tailings	Material which is left over after the miner has gone through them.
Opalite	Another much abused term, which should be discarded. In the United States it has been indiscriminately employed to describe a large variety of cherts (chalcedony) and only rarely true common opal. In Australia, this term is applied to black glass used for backing material in doublets.	The Level	The stratum in which opal is carried.
Opalo	Spanish name for opal.	Tripoli, tripolite	Purified diatomaceous earth extensively used for polishing powders.
		Water opal	Commonly applied to extremely clear and transparent precious opal.
		White opal	Any precious opal in which the body color is white, pale yellowish-white, etc.
		Windlass	A winch for hauling dirt up out of the mine.
		Wood opal	Opalized wood.
		Yowah nuts	Australian miner's term for small nodules of ironstone sometimes containing precious opal.

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