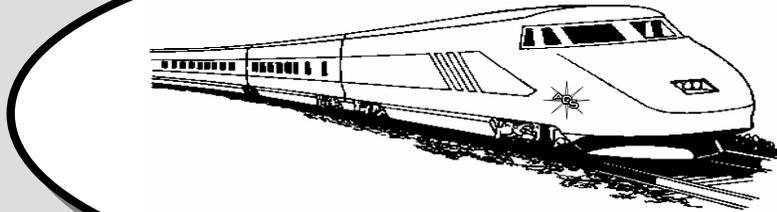


# The Opal Express

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## President's Message

*By Gene LeVan*

November is thanksgiving month and my special thanks to our members and board members that made this year successful. We still need your help with the opal show November 11 to 12 for front desk table etc.

For December meeting is our annual Christmas potluck dinner with show and tell table about opals. Bring a good bright opal that was cut from rough to show other members. There will be no speaker, just a great get together with members sharing opals and good food.

Happy Thanksgiving!

## 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: "nevadaopal".

## 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

**IT'S ARRIVED!!!**

**DON'T MISS IT!!!**

## **The American Opal Society's 39th Annual ANNUAL OPAL & GEM SHOW**

*The Largest Opal Show in USA!*

**Sat. & Sun., November 11 & 12, 2006**

**Saturday 10AM – 6PM**

**Sunday 10AM – 5PM**

**Opal and Gem Dealers** from around the USA and Australia.

**Rough and Cut Opals;** other gemstones; jewelry & supplies.

**Huge Raffle** many prizes of gemstones, jewelry, tools, etc.

**Free Opal Seminars** both days with Paid Admission.

**Free Demonstrations** on gem cutting, jewelry making, etc.

**Same Location Since 1991:**

## **Clarion Hotel Anaheim Resort**

616 Convention Way ANAHEIM, California

**Close to DISNEYLAND**

One block South of Katella on Harbor Blvd.  
near the Anaheim Convention Center

## **Notice to Interested Dealers**

If you haven't registered yet for the show,  
please contact Jim Lambert at:

Phone: (714) 891-7171 or email: [jlamb777@yahoo.com](mailto:jlamb777@yahoo.com)

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!

## **November General Meeting Cancelled**

General Meeting is CANCELLED this month due to the proximity of the Opal & Gem Show two days later. Please come to the show!

## **Volunteers Needed for the Opal & Gem Show**

We need volunteers for the Opal and Gem Show. Please sign up at the October meeting or contact Jay Carey or Jim Lambert.

## Opal & Gem Show Dealers

Name	Business Name	Telephone	E-mail	Website
Al Ramirez	Al's Opal Imports	619-282-1700	iopalgem@yahoo.com	opalgem.com
Dale Atkins	Savings Unlimited Gems & Minerals	805-383-3350	daleswisebuys@verizon.net	
Pedro Banuelos	Los Laureles Opals	510-393-6573	laurelesopalsmex@yahoo.com	
Barbara Brient	Barbara Brient	949-661-1159	precan@yahoo.com	
David Burton	Lapidary International	714-827-5680	gemsandopals@earthlink.net	
Sal Chavez	Casa De Lumbre	408-926-7261	zrchavez@sbcglobal.net	
Andrew De Boer	De Boer's Gemstone Treasures	714-537-0473	precan@yahoo.com	
Frank Gross	Great Southern Opals	310-541-2776	fwgross3@yahoo.com	frankgross.www6.50megs.com
Larry Hoskinson	Australian Opal	310-318-2170	lesneff@aol.com	
Dr. Walter Johnson	Walter Johnson	714-533-1287	donnawalt@msn.com	
Donna Schultze	Lasco Diamond Products	818-882-2423	donna@lascodiamond.com	www.lascodiamond.com
Eugene LeVan	Australian Opal Imports	562-621-1805	fineblackopal@sprynet.com	www.australianopalimports.com
Stan McCall	Custom Creative	714-827-5680	custom-creative@earthlink.net	home.earthlink.net/~custom-creative/
Steve Newstrom	The Village Smithy Opals	406-651-4947	info@villagesmithyopals.com	www.villagesmithyopals.com
Jim & Denise Nugent	Nugent & Associates	949-677-2626	jnugent@related.com	
Sally Patel	True Blue Opals	61-755949760	salopals@aol.com	www.trueblueopals.com
Bev Rafferty	Phoenix And Crow	562-621-0785	phoenixandcrow@myway.com	
Lothar Vallot	Santiago Canyon College	714-893-6643	ovdiamonds@aol.com	www.sccollege.edu/apps/comm.asp?Q=65
Walter & Joan Skinner	Opal Traders International	650-589-3505	joanhinmanskinner@msn.com	
John Ternus	Lightning Ridge Opal	626-967-0167	jhternus@earthlink.net	opalguy.com
Matti Tikka	Tikka Opals	61-2-9651-4705	mattitikka@bigpond.com.au	
Daniel C. Toledo	Toledo Fine Art Jewelry	562-944-6822	toledowildlife@aol.com	www.natureartists.com/daniel_toledo.asp
Herbert Vogel	VOG	715-649-3597		

Opal & Gem Show Seminar Schedule		
Saturday, November 11 <sup>th</sup>		
10:00 am	Walt Johnson	Opal Setting and Design
11:00 am	Larry Hoskinson & Leslie Neff	A Tourist's Guide to Finding Opal in Coober Pedy Australia
1:00 pm	Jim Pisani	The Opal of Tecopa, California
2:00 pm	Stan McCall	Advanced Inlay Techniques

### Opal & Gem Show Demonstrators

*By Clare Gagnon*

The following artisans have been invited to demonstrate their expertise at the 2006 Opal & Gem Show. The American Opal Society thanks each of them for their donated time.

**Skip Cone – Silversmithing.** Design and fabrication of intricate silver patterns with raised channel wire and fitted stones which are leveled and polished to make jewelry pieces such as broaches, rings, bolas or bracelets.

**Jeri Frank - Wire Wrapping.** The fabrication of jewelry by use of silver and gold filled wire which is bent and shaped into the pieces. Pendants, rings and bracelets are created in this manner. Jeri is a very popular instructor and has been featured in articles of trade magazines.

**Nora O'Campo- Wire Wrapping.** The fabrication of jewelry by use of silver and gold-filled wire which is bent & shaped into the pieces. Nora is an accomplished artist and also does beading and chain-making.

**Anastacio O'Campo – Silversmithing.** Fabrication & assembly of jewelry (rings, pendants, and other jewelry items) by soldering or brazing silver. He is gradually developing his own methods to add to the knowledge of jewelry making.

**Charles Paxton- Wire Wrapping.** The fabrication of jewelry by use of silver and gold-filled wire which is bent and shaped into the pieces. Charlie is a disabled veteran and represents the V. A. Hospital in Long Beach. His jewelry is large, unique and innovative, as fits the temperament of a large man.

**Virginia Pace – Carving.** Stone carving by Virginia has been recognized at all levels of the California and American Federations of Mineralogical Societies. Although she carves a variety of materials her best known work has been exquisite reliefs of female figures in howlite slabs.

**Adele (Sammy) Florida –Carving.** Her carving is done primarily in soft stone material, primarily soapstone, alabaster and howlite. She carves animal shapes and is a very prolific producer of them. She has also given teaching seminars and programs to Gem & Mineral Clubs.

**Chris Christopher - Chain Weaving.** This is a special technique for creating chains by crocheting fine silver wire into a compact chain. Chris is also an accomplished silver smith and does excellent jewelry and channel work projects. Also Chain Fabrication by making and soldering wire links to produce a fabricated silver chain.

**Clare Gagnon- Faceting.** Representing the Faceter's Guild of Southern California. Secretary of the Guild and long time member of its Board of Directors.

**Herbert Beckman- Cabbing.** Rocks are picked or dug up on field trips and brought to the Searchers work shop for processing. They are slabbed on large diamond saws, trimmed to shape and ground on grinders with diamond surfaces of varying grit sizes into finished

shapes called cabochons. Herb supervises the workshop and assists members needing assistance in working their materials.

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### Raffle Donations Needed for the Opal & Gem Show

If you have any extra opals, gemstones, rough, jewelry, lapidary equipment, books, etc. that you would like to contribute to the American Opal Society, please bring it to the October Meeting or to the Opal & Gem Show. The raffle is a big money-maker for us and the more gifts we have, the better. The AOS will give you a receipt that you can use as a charitable **tax deduction**.

Here are some of the **raffle prizes** we have so far:

- **“Journey with Colour: A History of South Australian Opal 1840-2005, Volume 3”**, Donated by Len Cram
- A Lightning Ridge **Black Opal**, donated by AustalianOpallImports.com
- **A Custom Pendant**, Donated by Custom Creative
- Plus many, many more prizes!

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### October Guest Speaker - David Kramer Prong Setting and Opal Cutting with the Contempo Lapidary Unit

*By Russ Madsen*

David Kramer, our October guest speaker, provided another informative hands-on talk and demonstration. This evening, David explained proper prong setting techniques and had along his opal cutting unit manufactured by Contempo Lapidary. Those in attendance were invited to try their hand and received one-on-one coaching of David's professional opal cutting techniques.

#### Prong Setting

The first point David made is to have good tools. He had on hand an assortment of prong pushers and used one or another as each prong was moved into place.

Many times one hears there are issues with prong setting opals because bending prongs over the stone can create pressures that may crack the opal. The first step of proper



*David Kramer and his Contempo Lapidary*

technique involves removing material from the inside of each prong so that they bend easily right at the girdle of the opal. This is accomplished with a flex shaft and burr. With the opal in place, tapping the prongs begins using one of the pushers. Once each prong has begun to move, material is removed from the outside of the top third of the prong so that it continues to move easily over and down onto the surface of the opal. It is important to include this step because the prong begins to work harden during bending and removing material permits further bending. Once the prongs are

fully in place, the prong tips are ground to a slightly tapered shape which removes any sharp edges that may catch on clothing etc. Finally, each prong is polished.

### Opal Cutting With The Contempo Lapidary Unit

David explained features of the Contempo unit include variable speed. The speed range of this unit is from a few hundred to about 9,000 rpm. The bearing for the driven shaft is very stable. David has his machine set up with one six inch wheel and one four inch wheel. Both have 600 grit diamond with the 6 inch wheel quite worn. Because David cuts opal dry, he uses a fan to circulate air (and any opal dust) away from the work. He notes the absence of a water pan makes it possible to use all the face of the wheel right around to the bottom. This provides additional cutting angles for better forming of cabochons. David pointed out cutting opal dry makes it possible to see any cutting flaws much more easily as the work progresses.

Those in attendance got to sit right down and give a try at using David's techniques while he coached.

Our thanks to David Kramer, professional opal cutter and jeweler, for his contribution to the mission of the Opal Society to educate our members and the public about opal.

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### Opal Canyon Trip Planned for November

The Leonids Meteor Showers is predicted to be at 2AM in the morning on Sunday Nov 19th. Russ Madsen is planning to visit Opal Canyon during the showers. Interested members can meet at the Subway in Mojave at 9AM Saturday morning. Russ plans to dig during the day and stay up most of the night to watch the show.

The Leonid activity is NOT scheduled to be great but the moon will be new that night - the sky therefore should be inky black providing one of the important elements of a good meteor show. Overnight temperatures are likely to be around freezing (literally). So warm clothing is a must. Day time temperatures in November can be fairly cool too, maybe high 50's to high 60's.

You can contact Russ Madsen at (562)884-2254 or [chairman2rgm@charter.net](mailto:chairman2rgm@charter.net).

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### Famous Opals: Jupiter-5 and the “Unnamed Lady”

*From “The News” of Coober Pedy*

“I saw a trace of colour in the wall, began picking at it and it got thicker and thicker, and there it was.” That is how 29-year-old Steve Zager

described finding the world's largest opal and what is believed to be the world's largest cut stone. They were both near each other in the same seam, 60 feet down on Coober Pedy's little used Jupiter Field, about 8 kilometers northwest of the town.

The 5.27 kg opal, worth



*The Jupiter-5 and the “Unnamed Lady”*

an estimated \$3.7 million, is called Jupiter- Five and will be listed in the 1991 Guinness book of records as the world's largest. The solid 765 carat crystalline gem, worth an estimated \$1 million, is called the Unnamed Lady. It is yet to be confirmed as the largest cut and polished gem in the world.

Mr. Zager has three partners who don't want their identities disclosed said at first he didn't know what to do with the finds, particularly the Unnamed Lady, but has decided to sell them. It would have been absolutely pointless to break up the Jupiter-Five. The patterns are so big that it would lose its intrinsic value.

The Unnamed Lady was eventually renamed Persephone, and according to Mike Crowe, whose writings appear in this book, believed the stone was sold for \$666,000.

*Chapter COOPER PEDY 1961 – 2005, From "A Journey with Colour – A History of South Australian Opal, 1840 – 2005", By Len Cram.*

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## Opal Prospecting Follies

*By Jack Fellows*

"Jek, you lose money. Drill no good!" This was Jack Piromanski speaking on 29 December 1966 at Mintabie, South Australia. Jack didn't use many adjectives or adverbs but I agreed with him. We were both lying on the ground under the drill table of the truck-mounted Mayhew drill, looking for opal traces. Developing silicosis seemed entirely possible but finding opal this way was hopeless. It was an air drill and the returns were dust and powder. Suffocating. We had tried panning the dust but soon gave up in disgust. We needed an auger drill to bring up larger cuttings. In retrospect it was pretty dumb to assume that a high rotary drill was the correct machine.

I mentioned Jack and his family in a previous article. He and I agreed on a temporary partnership to prospect and, hopefully, mine for opals. Jack and his wife, Mary, had sold their bar and grill business in Alice Springs and now lived with their youngest son, Peter, in a trailer at Mintabie. I had completed our company exploration contract in the Missionary Plains area west of Alice Springs and returned home to Brighton Beach, and Adelaide suburbs, on 22 December. We had to move to Brisbane before 20 January to start work on the final report. The timing was bad with respect to the holidays and even worse with respect to the weather. Aussies are rather adverse to missing holidays and nobody enjoys sun at 120°F. BUT, we decided it was now or never for the prospecting attempt.

I started to call local water well drillers, but had no success and called Department of Mines officials who gave me the cold shoulder. I should say almost frigid. Vi said, "Call your friend Tom." He wasn't my friend, at least not exactly, but in September had had lead a group of South Australians officials to our field operation on a fact finding expedition concerning oil and gas prospecting. He was undoubtedly the leader and had a lot of probing questions. Interested in everything. I had shaken hands with all of his group but didn't remember any last names and only his first name. Tom and I were on a first name basis for three hours and as he left he said, "Jack, if you ever get into any government strife, give me a call." After the group left several of the Australian helpers asked, "Didn't you know who that was? That was Sir Thomas Playford who has been Premier of South Australia for the past twenty two years."

I was reluctant to call Tom but the only other option was to give up. It took about two hours of phoning and holding and transferring of calls but he was finally on the line. He had been fishing from a house boat on the Murray River east of Adelaide.

He remembered me and when he heard of the snarl of red tape thrown up by the Mines Department he said, "'I'm very busy now and I won't be on Adelaide until noon tomorrow but I'm a tape cutter. Give me a call in the late avro (afternoon)." At 4 p.m. 23 December I had the promise of a drill for a week and the name of one of their drillers who would work for a week during the holidays. Who says "pull" will never help?

Vi and the boys had constructed a Christmas tree from tree branches and crepe paper which looked quite good. Turkeys seemed nonexistent in butcher shops but could be ordered for Christmas. Vi had ordered hers three weeks previously. It was the sharpest breasted, skinniest turkey we'd ever seen but the boys' friends and two adults, all of whom had never eaten turkey meat, liked it fine.

After a good but short Christmas holiday, Jim and I started north. We picked up Dave, the driller, at a pub near his home. He was not in the best of condition for the first 400 miles and slept most of the way to Maree at the south end of the Birdsville Track. As I write this story in August 2001 in the midst of the so called Calgary heat wave of 32°C, I'm reminded of our 10 p.m. supper on the verandah of the Maree pub where the waiter said, "It's cooling off very nicely tonight. it's only 108°F."

For the next 200 miles we followed a seldom used sandy track along the Ghan railway. We were stuck in several sandy creek crossings and arrived at Oodnadatta at 8 a.m. nearly exhausted.

Jack was there waiting for us and while Dave went to check out and service the drill rig at the Department of Mines storage shed, Jim and I had a shower and a short nap. We started west after lunch and it was pleasant to drive on the graveled road again. We stopped once at Welbourne Hill Station where was a lot of potch in site in a small gravel pit close to the road. The opal was all the same - dull blue with no flash and no other basic colour. Jack questioned the nice old lady station owner about a place a Yugoslav friend had mentioned "with a name like sheep" that had reported opal occurrences. She didn't know about any opal but said there was a property north of hers called Lambina. This place is now the new hot spot for opal mining in South Australia.

We stopped for water at Maria Bore at the Junction with the highway to Darwin. Mintabie water was known to be salty so we filled all possible containers. At the time, Maria Bore was simply a well with a water trough and a windmill but in 1991 it was a thriving town with a post office, several shops and a police station.

We continued northwest to Mintabie in a very rare outback occurrence - a rainstorm! It was very short but Mary and Peter had collected several gallons of really fresh water. It had never been big or busy but the Mintabie field had been abandoned for years. We were the total population of six. There were thirty or more old hand dug shafts scattered over twenty acres and two old dilapidated shacks (bough shelters). We renovated the best shelter and after making sure there were no snakes or scorpions present, we moved in. We covered the roof with a tarpaulin and this shack became our three hour midday retreat from the daytime temperatures of 115° to 125°F.

Mining at Mintabie has always been more difficult than at Coober Pedy where the overburden is relatively soft sandstone and the opal dirt, so called, is quite soft and sometimes damp. Mintabie has a lot of trees which grow between the sand dunes which are up to 20 feet high. The overburden is hard sandstone with a roughly 10 foot tick seam of very hard material (some call it quartzite) This layer has broken a lot of tools and machinery and probably a lot of hearts, too. This very hard layer has defeated most hand tool miners since the 1930's when aborigines started taking black opal samples to sell or trade at Coober Pedy. Strip mining methods started at Coober in the early 60's but the D7's and D8's from Coober were too small and weak for Mintabie work which was now done by D9's, D10's and the largest Komatsu dozers, all with one tooth rippers. Actually, some excavation is done with smaller dozers supplemented with drilled holes and dynamite. This method is slower and sometimes large pieces of opal become several small cracked ones from the explosive shock.

Since the drill could not find opal, we flagged out several locations in about 30 acres and left Dave to try to find places where the quartzite (?) layer was thin. There were none. It varied from about 7 feet to 15 feet and appeared to have a fairly smooth top

surface. Jim and Peter helped him occasionally for the next few days.

The next morning Jack said, "We go prospect," and produced a saw, an axe, a torch (flashlight), a miners lamp and a one inch rope about 100 feet long. I thought these were peculiar prospecting tools but Jack was soon at work cutting down a gum tree to produce a log about 4 inches in diameter and 10 feet long. He knotted the rope at 2 foot intervals, tied it to the log, threw the log across the closest shaft and said, "Wait for signal." He put the miner's lamp on his head and descended the rope. He was back soon and said, "No good." We went to another shaft that had a larger pile of mullock and Jack repeated his descent. After about 2 minutes he shouted, "Come!" and I climbed down with the torch. Jack said, "Stay close" and proceeded to crawl along one tunnel.

The previous miners had collapsed the roof in several places and we had to crawl through some very narrow passages. We came to a pillar directly in front with 2 wider tunnels around both sides. "Must be opal here," he said and we started around one side. Suddenly Jack stopped abruptly, yelled "Snake!" and kicked me on my head as he backed up and the light went out. In the confusion, his head had hit the wall and broken the old restraining strap. With the torch for light we repaired the miners lamp, added some carbide and we could see a tail tip protruding about a foot past a large block of sandstone. The tail was quite thick. Jack said, "Goanna," and as he moved ahead it disappeared. My heart descended from my throat and we crawled onward. The twin runnels became one again but ended after 20 feet. We returned on the other side of the pillar and found a few scrappy pieces of potch with a little colour. After climbing the rope to the surface, bright sunlight did not improve the looks of what we had found but Jack was optimistic. He said, "Must be opal in pillar. I come back with gelignite."

I wasn't too keen about rope climbing and crawling around in dark tunnels so Jim and I, with a pick and crowbar, poked around on the so called "White Hill". This hill is like a hoodoo that stands about 100 yards away from the escarpment where all the previous work had taken place. It was roughly conical in shape and nearly as high as the scarp. Other people had dug around before us but we found several pieces of good semi-black opal. Three places were very good but also thin and small. We made doublets from them and still have one left. I had prepaid the drill rental for four more days work and during that period Jack and Peter investigated nearly all the old workings. Peter got a scare one day when, nearing the bottom of a shaft he saw a snake below. He climbed up, got their .22 rifle, shot the snake and climbed down with a stick to poke and make sure it was dead. After all that effort there were no tunnels. It was an abandoned shaft. He brought the snake up to the surface. It was a "brown", very deadly and nearly seven feet long. Mary said if they stayed there she would get at least one cat to help watch for snakes around the trailer, vehicles, etc. In later visits to other mining areas in New South Wales and South Australia we noticed a large number of cats but very few dogs. I asked why miners preferred cats and was told that dogs were too excitable or anxious and clumsy and sometimes got bitten. Cats would never stop watching a snake so people didn't have to watch for snakes, they watched the cats instead.

The drill time ran out and the Piromanskis planned to move to Coober Pedy where the digging was easier. We considered the drilling mistake a temporary set back only. Finding some opal in the tunnels and also in the white hill convinced us it would be a good place if we had better machinery. We agreed to keep in touch and possibly try again.

Dave took the drill back to Oodnadatta and continued to work for the government. Jim and I returned home to Brighton on 4 January where we packed and shipped most of our belongings to Brisbane, loaded the remainder in our Holden station wagon and traveled to Queensland. During the next four months in Queensland, working regular office hours and only five days a week, left time for exploring the Gold Coast, the Sunshine Coast, the sapphire diggings

in northern New South Wales and digging for quartz. We left for several opal fields in May 1967 where we were much more successful. We'll describe that later.

*Reproduced from The Calgary Lapidary Journal, November 2001, via the Gem & Mineral Federation of Canada. GMFC Newsletter, Spring 2002.*

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## Opal; Myth, Magic, and Misconceptions The Gem Trade Articles

*By Richard W. Wise, G.G.*

Opal is unique among gemstones. It inspires the strongest of emotions. Few gem lovers are neutral about opal. One either loves opal or one fears it. The Romans loved opal and considered it good luck. The Australian aborigines, who associated it with the Rainbow Serpent, were fearful of it. Marbodius, a medieval Bishop of Rheims, declared it to be the patron stone of thieves and attributed to it the ability to make the wearer invisible. The father of William the Conqueror attributed all the bad luck of his house to the ownership of a single gem. Today many people still believe that the wearing of opal is bad luck unless it is one's birthstone.



*Open cut mining in the Australian outback. Here a bore is made by a Caldwell Drill in an area outside Opalton, Queensland. Mining is a hit or miss affair. If traces of color are found, one of the miners will be lowered into the hole with a flashlight. Photo: R. W. Wise*

The Roman historian Pliny identified India as the earliest source of gem opal. There are early references to mines at Poona, Bijapur and Sitibali. None of these sources has ever been proved. The only documented ancient source of opal is the volcanic deposit located southwest of the northern end of the Carpathian Mountains in what is now Slovakia. These deposits were formed by silica dissolved and deposited in cracks and veins of volcanic rhyolite, trachyte and basalt.

There is very little evidence that gem opal was known at all in the west prior to the Romans. No known written references predate Pliny. There are no extant examples of opal jewelry from European or Mediterranean cultures prior to Roman times. The word itself comes from the Latin "opalus", the Greek "opallion" is derived from the Latin. Modern discoveries of high-grade opal in Ethiopia has led to speculation that this may be the Romans Asian source. Opal from this source is, however, rather distinctive and more of the Mexican type. The most likely scenario is that beginning about 50 BC opal was traded from its Carpathian source down the Danube river to the Greek city of Corinth and from there to Rome itself.

Australia is the modern source of over 90% of the world's opal. Australian opal was first discovered in Queensland at Listral Downs and at Springside in 1872. Commercial mining in Queensland peaked in the 1890's, declining sharply after 1895 due to drought. Deposits of opal were discovered at Whitecliff in 1890 and Lightning Ridge in 1902. The two major producing centers; Coober-- Pedy and Mintabe--were discovered in 1915 and 1919 respectively. Coober Pedy was the single largest producer until it was surpassed by Mintabe in the early 1990's. Coober Pedy is still the most important producer of commercial grade white-based opal.

### Stability

Unlike most gemstones, opal, like glass, is non-crystalline. It is basically a silicate, 85-99% pure, with the chemical formula  $\text{SiO}_2 \cdot n\text{H}_2\text{O}$ .

Two important factors affect the stability of opal: toughness and water content. Opal rates 5 1/2-6 on the Moh's scale, although some stones from Brazil are close to 7. Opal is, therefore, somewhat prone to scratching and abrasion. Toughness is another matter; opal is rather brittle and subject to chipping. Gem Opal contains between 6-18% water. Water content is important because it directly relates to the stability of the gemstone. Opals with high water content are unstable and more likely to craze or crack.

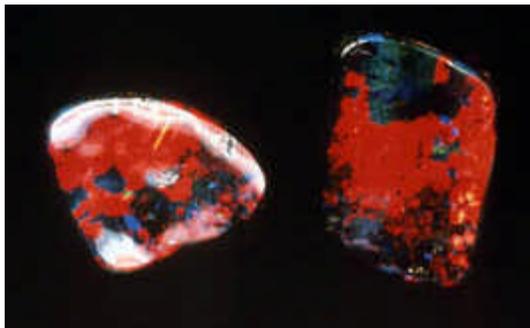
There are six main types of opal classified according to body color. Black opal has a dark gray to black body color. Additionally, the stone must be opaque when held to the light to be classified black opal. Semi-black has a dark body color but is translucent when held to the light.

Crystal opal has a dark to light almost transparent body color and looks like its name. White opal, the most common, has a translucent to opaque milky white body color. Mexican opal has a red to orangy-brown body color. Boulder opal may have any body color but will include ironstone matrix as part of the cut gemstone. Boulder opal has very low water content and may have some legitimate claim to the title of most durable opal.

### Judging Quality

Color in gemstones is divided into three components: hue intensity (saturation) and tone. Hue, what we usually mean when we use the word "color" is the single most important factor in defining value in most gemstones. For example, the reddest red is the most important factor in the value equation of ruby. In opal it is the brightness or intensity of the given hue that is most important. In the words of one prominent dealer: "opal is like a light bulb, the brighter it is the better it is."

Once we dispose of intensity, hue is the next most important factor. There is a hierarchy of hues. It is generally agreed that red is the top color, followed by orange and ending with green. Here the agreement



*By far the rarest and most expensive color, "red opal", a stone with fifty percent or more of a visually pure red play of color will command the highest price. In addition, these two stones show exceptional saturation. Photo: R. Weber*

ends. Multicolor, an opal with three or more hues is the most desired. Richard Drucker author of "The Guide" a well respected gemstone price list, reserves his highest rating for a stone that is seventy-five percent red and containing two additional hues.

### One Glaring Exception:

Fire opal is graded differently from all other types. In this type of opal body color is visually dominant and is considered the key value factor. In fact, fire opal has little if any play of color. Dennis Schmelzeneach of Opal International suggests five most desirable qualities based on body color, ascending from least to most expensive; these are: light orange, medium orange, dark orange, orange/red and cherry or fire engine red. Other authorities, notably Paul Downing, consider orange/red to be the top color.

Pattern is an important determinant of value. Again, there is general agreement that harlequin, squarish blocks of color which resemble the patchwork costumes of the clown figures featured Picasso's early paintings is the most desirable. Pin-fire, a pattern composed of myriad pinpoints of color, a sort of Technicolor Milky Way, the least desirable. However, the question of pattern can be

made needlessly complex. It is rather a question of composition. Pattern should be judged as if the gem were a fine abstract painting. The play of color should be pleasingly distributed across the face of the stone and appealing to the eye.

### The Care and Feeding Of Fine Opal:

Bring a few opal experts together or read a couple of books and one thing is certain; disagreement. Some people believe you should store opal in water others use glycerin. Both practices are common in the opal fields. Others keep their opals immersed in oil. While small amounts of oil rubbed into the surface of a wear-pitted stone may temporarily enhance the clarity of the stone, oil and water do not mix so oil immersion is not recommended. Glycerin is actually a drying agent and although its immediate effect may seem positive it may have a long-term negative effect on the gemstone.

Opal is brittle and must be protected when setting. Improper setting of opal in jewelry is a major reason why opal has developed such a bad reputation for durability. Prong setting of opal in rings is a common practice. It is also, unfortunately, a prescription for disaster. The exposed edges of prong set opal are much more likely to chip. Opal, especially fine stones, should always be bezel set.

### Opal Enhancement And Treatment

Opal is subject to a number of treatments most of which are traditional and well known to the jeweler/gemologist. The two best known are smoking and sugaring. Each aim to darken the body color in order to enhance the play of color.

Recently several opal dealers have begun experimenting with plastic polymers in an attempt to enhance the clarity and/or stabilize the gem to prevent crazing and cracking. Dr. David Lipman a professional chemist and part time opalolic has begun treating opal with CR-39, a polymer used in the manufacture of lenses for diving masks. Developed by PPG Industries, CR-39 has a refractive index of 1.43-1.46 which overlaps opal's normal RI range of 1.44-1.46. Lipman reports good success in stabilizing rough from problem areas such as Virgin Valley, Utah and the Mintabe field in Australia.

Lipman's process involves placing the opal to be treated in a vacuum chamber, a method similar to the Opticon process used to treat emerald. The vacuum accomplishes two objectives first it allows the polymer to be drawn into cracks and fissures that break the surface of the material and second it creates the airless environment required for the polymer to set-up and harden. This later (hardening) step is rarely used in emerald treatment.

Dr. Lipman was kind enough to provide me with nine samples of opal treated with his process. I examined these samples using standard instruments available to the average jeweler/gemologist with the following results:

In samples where the rough had been stabilized before cutting I found evidence of jagged, scar-like polishing lines, resembling draglines, probably the result of undercutting where the softer polymer was eaten away by the action of the polishing wheel. These lines were quite evident using a standard jeweler's 10x loupe positioned so that overhead light reflected off the surface of the stone.

I next examined several samples where Dr. Lipman attempted to mend cracks in cut gems. To my surprise, despite the overlap of refractive index, cracks treated with CR-39 were visible to the naked eye when viewed in normal lighting. Under low magnification (10-20x), all of the treated stones showed a white, opaque flaky fingerprint inside the fracture. This appears to be the result of the polymer lifting away from the surface of the fracture. This may be the result of differing rates of thermal expansion between the polymer and the host material. The fracture line was also visible on the surface of the stone viewed in reflected light. Filled areas showed no reaction to ultraviolet light and refractive index and specific gravity were unaffected.

### Conclusions and Caveat

Based on the samples provided, it would appear that polymer treatment with CR-39 while useful in stabilizing softer varieties of

opal rough to permit cutting is easily detectable when used to enhance the clarity of cut opal. However, as Dr. Lipman points, out there are a number of polymers currently on the market that can be used to treat opal. "It is just a matter of time before the perfect match is found."

### Speaking Of Plastic

Ed Hilton of Opal America mentioned a new plastic opal simulant called Opalite that he would have difficulty to detecting if



Traces of color in rough boulder opal. This chunk of ironstone has been sliced on a saw. Photo: R. W. Wise

predominantly green play of color. The specific gravity of opalite is 1.18-1.20 which makes it ultra light even for plastic. When viewed from the back opalite has an unnatural looking sheen similar to abalone shell. These two factors make identification of unmounted opalite fairly easy.

Bezel mounted and backed, identification of opalite can be quite another matter. According to literature supplied by the distributor, opalite has "virtually the same structure as genuine opals" with sub-microscopic spheres of synthetic polymer used as a replacement for the silica found in natural opal. This would account for the fact that the play of color, even under magnification, in both reflected and transmitted light, is quite convincing. There is no sign of the lizard skin effect found in true synthetics. Thus, visual identification is not to be relied upon to separate opalite from natural opal in mounted stones.

I next subjected the sample to standard gemological testing. Subjected to ultraviolet light opalite exhibited a chalky white fluorescence which was stronger long wave. These reactions parallel some light colored natural opal. A spot refractive index reading of 1.48 is too high for opal, which should be no higher than 1.46 and is normally lower. When rotated in the polariscope the sample showed a distinctive anomalous double refraction (ADR) which took the form of a strong reddish glow, which alternated with the normal body color as, the stone was rotated 360 degrees between crossed polaroids. According to Mr. Yung Opalite was first introduced to the American market at the February 1993 Tucson show but, has been on the market in Asia for about ten years. Careful testing with the polariscope and refractometer should be sufficient to separate opalite from opal. Given the difficulty of obtaining accurate spot refractive index readings I recommend that both tests be used in conjunction. Positive identification proves difficult when mountings preclude the use of the polariscope and refractometer. "

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### Woman Finds 1.30-Carat Diamond in Park

From Associated Press, September 22, 2006 9:34 PM EDT

MURFREESBORO, Ark. - A Tennessee woman whose husband predicted she wouldn't have any luck gem hunting at Arkansas' Crater of Diamonds State Park made a sparkling discovery: a 1.30-carat diamond.

"I wasn't expecting to find anything and was just picking up pretty rocks," said Melissa Lacey of Knoxville.

At first, she thought the light yellow diamond was "a piece of dirty quartz." After it was identified by park staff, Lacey said she couldn't wait to show it to her husband.

The diamond was the size of a piece of candy corn. The largest diamond ever discovered in the U.S. was unearthed here in 1924. Named the Uncle Sam, the white diamond weighed 40.23 carats.

A freshly dug trench was opened to the public on Saturday. Soil from the trench was spread out over parts of the diamond field. Lacey found her diamond there Thursday.

The Crater of Diamonds State Park is the world's only publicly operated diamond site where the public is allowed to search and keep any gems found, regardless of their value.

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### November 2006 Gem & Mineral Shows

**4-5--CONCORD, CA:** Annual show; Contra Costa Mineral & Gem Society; Centre Concord, 5298 Clayton Rd.; Sat. 10-5, Sun. 10-5; adults \$3, children under 12 free; 19 dealers, museum-quality specimens, beads, jewelry, fossils, books, tools, 10 demonstrators, cabbing, arrowhead knapping, soapstone carving, faceting, club member exhibits, fluorescent mineral display, children's activities; contact Bill McKay, 2049 Oakridge Ln., Pittsburg, CA 94565, (925) 439-8195; e-mail: williamrmckay@hotmail.com.

**4-5--RIDGECREST, CA:** 51st show; Indian Wells Gem & Mineral Society; Desert Empire Fairgrounds, 520 S. Richmond Rd.; Sat. 9-5, Sun. 9-5; free admission; contact John DeRosa, (760) 375-7905.

**10-12--COSTA MESA, CA:** Show, "West Coast Gem & Mineral Show"; Martin Zinn Expositions; Holiday Inn-Bristol Plaza, 3131 S. Bristol; Fri. 10-6, Sat. 10-6, Sun. 10-5; free admission; more than 80 dealers, minerals, fossils, gemstones, jewelry, beads, meteorites, shells; contact Martin Zinn Expositions, P.O. Box 665, Bernalillo, NM 87004, fax (505) 867-0073; e-mail: mz0955@aol.com; Web site: www.mzexpos.com.

**10-12--SACRAMENTO, CA:** 64th annual show and sale, "Golden Harvest of Gems"; Sacramento Mineral Society; Scottish Rite Center, 6151 H St., across from Sacramento State University; Fri. 9-5, Sat. 10-6, Sun. 10-4; rocks, gems, minerals, jewelry; contact Sheldon Shuper, (916) 383-9153; e-mail: jfosback@aol.com.

**11-12--ANAHEIM, CA:** Show; American Opal Society; Clarion Hotel Anaheim Resort, 616 Convention Way, one block south of Harbor Blvd. and Katella Ave.; Sat. 10-6, Sun. 10-5; adults \$4, seniors and students \$3, children under 15 free; opal and gem dealers, rough and cut opals, tools, books, supplies, raffles, free opal seminars, free demonstrations; contact Jim Lambert, American Opal Society, P.O. Box 4875, Garden Grove, CA 92842, (714) 891-7171; e-mail: jlamb777@yahoo.com; Web site: www.opalsociety.org.

**11-12--YUBA CITY, CA:** Show, "Festival of Gems & Minerals"; Sutter Buttes Gem & Mineral Society; Yuba Sutter Fairgrounds, 442 Franklin Ave.; Sat. 9-5, Sun. 9-4; contact Cliff Swenson, 10832 Pinehill Dr., Grass Valley, CA 95945, (530) 272-3752; e-mail: evelbruone@att.net.

**18--VALLEY CENTER, CA:** 1st annual tailgate; Palomar Gem & Mineral Club; Bates Nut Farm, 15954 Woods Valley Rd.; Sat. 9-5; 20 dealers, rough rock, gems, minerals, finished jewelry; contact Van Lynch, (760) 749-4164; e-mail: Vlync@ci.carlsbad.ca.us; Web site: www.batesnutfarm.biz.

**18-19--LIVERMORE, CA:** Show and sale, "Lithorama 2006"; Livermore Valley Lithophiles Gem & Mineral Club; The Barn, 3131 Pacific Ave., east of Livermore Ave.; Sat. 10-5, Sun. 10-4; eight dealers, gems, minerals, beads and findings, jewelry, equipment, 35 educational displays, fluorescent displays, demonstrations, prizes; contact Bill Beiriger, (925) 443-5769; Web site: www.lithophiles.com.

**18-19--OXNARD, CA:** Show, "Galaxy of Gems"; Oxnard Gem & Mineral Society; Oxnard Performing Arts Center, 800 Hobson Way; Sat. 10-5, Sun. 10-4; free admission; contact Larry Knapton, 8222 Loma Vista Rd., Ventura, CA 93004, (805) 647-8762; e-mail: dknapton@hotmail.com; Web site: www.ogms.net.

**18-19--VICTORVILLE, CA:** 31st annual show; Victor Valley Gem & Mineral Club; San Bernardino County Fairgrounds, 14800 7th St.; Sat. 9-5, Sun. 9-4; contact Bob Harper, (760) 947-6383, Walter Evens, (760) 956-7980.

**25-26--BARSTOW, CA:** Show; Mojave Desert Gem & Mineral Society; 841 Barstow Rd.; Sat. 10-5, Sun. 10-5; contact Gene Haines, (760) 256-0595.

**25-26--SAN FRANCISCO, CA:** Show, "San Francisco Crystal Fair"; Pacific Crystal Guild; Laguna Ave. and Marina Blvd.; Sat. 10-6, Sun. 10-4; contact Jerry Tomlinson, (415) 383-7837; e-mail: sfxtl@earthlink.net; Web site: www.crystalfair.com.

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**NAME BADGE ORDER FORM:**  
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**MEMBERSHIP ROSTER and NEWSLETTER MAILING:** 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.

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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 #11  
November 2006**

TO:

### Some Topics In This Issue:

- Opal & Gem Show Information
- Prong Setting and Opal Cutting
- November Opal Canyon Trip
- Famous Opals - Unnamed Lady
- Opal Prospecting Follies
- Opal; Myth, Magic, & Misconceptions
- Woman Finds 1.30-Carat Diamond

### Important Info:

Board Meeting  
November 2<sup>nd</sup>

General Meeting  
**CANCELLED DUE TO  
THE OPAL & GEM SHOW**

Opal Show  
**November 11<sup>th</sup> & 12<sup>th</sup>**

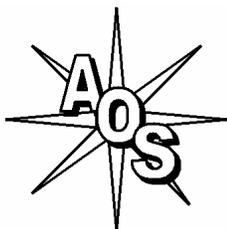
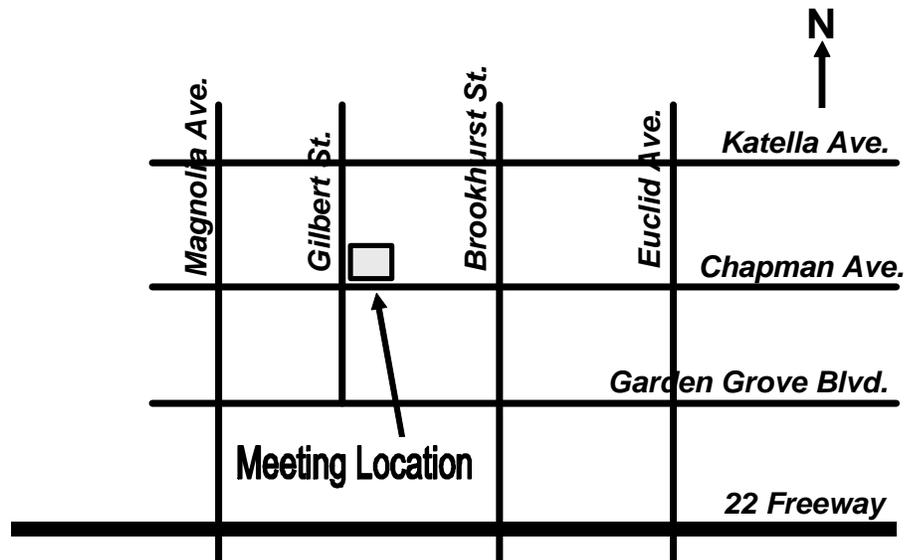
### — GENERAL MEETINGS —

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

## **November 11th & 12th: 39th Annual OPAL & GEM SHOW!!!**



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