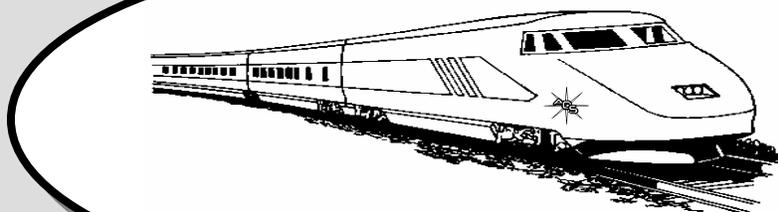


The Opal Express

Published
monthly by
The
American
Opal
Society



May 2006

Volume 39 Issue 5

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President's Message

By Gene LeVan

Good turnout in April for the Powered Metal presentation complete with a demo of how to make silver and gold jewelry from clay. Our many thanks to Lora Hart for showing our members how easy it is to make very fine jewelry using the PMC products, she is also open to giving personal training to the AOS members.

Jim Lambert will preside of the May meeting in my absence; I will be back in June.

Members Only Website Password

To log onto the website's members only area at: http://opalsociety.org/aos_members_only_area.htm type: Name: "member" and Password: "opalcanyon".

Opal Society Workshop

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

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

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

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

A Different Treasure

Not all lost mines beckon with the promise of gold or silver, The Land of Enchantment, for example, holds promise to a wealth in jewels - opals in particular - if one can find the mine. When first discovered in 1879, New Mexico's opal mine so disappointed the party finding it that they traded it to two prospectors for grubstake to go searching for treasure. Unfortunately for the new owners, relations with their neighbors were not friendly. Cochise's Chiricahua Indians were on the warpath and chased the mine ounces away. Figuring that something was better than nothing, they traded their interests in the mine. The new owners were even less fortunate. They were killed on site by marauding Chiricahuas.



Scones - Miner's candle holders - by Stephen M. Voynick

The mine lay quiet for several years until 1902 when investors in Phoenix tried to float a promotion to reclaim it and remove the opals from its depths, but the scheme floundered for reasons unknown.

There have been no recent attempts to work the mine, for the records indicating its exact location are lost. All that is known is that it was in the Horseshoe Range, close to the Arizona state line.

Horseshoe Mountain, near Summit, Hidalgo County, NM, 7 miles southwest of US 70, between Lordsburg and the Arizona state line.

From *Southwest Traveler Guidebooks - "Lost Mines & Buried Treasure - A Guide to Sites & Legends of the Southwest"*, by Edward Rochette.

April Guest Speaker Review: Lora Hart on Precious Metal Clay

By Russ Madsen

Precious metal clay artist Lora Hart was our guest speaker for April. Lora presented a very informative talk on many aspects of precious metal clay (PMC).

Lora Hart has a website where you can download PMC information files and see examples of her fine PMC jewelry at <http://www.lorahart.com>.

Lora also offers classes. After her talk there was a discussion about having a PMC class for AOS members. See below for details.

Highlights from the evening's talk:

- Currently there are four types of PMC available to the craftsperson - three types of silver, one of gold. After firing, silver PMC is .999 fine while gold is 22 karat.
- PMC can be formed in the same ways as ceramic clay.
- One of PMC's best attributes is its ability to accept textures.
- The finished PMC piece is slightly porous. If soldering is used to assemble finished PMC elements, place chips of solder along the entire seam because heat will not draw/flow solder along the seam. Lora suggested using easy solder for most operations. As soon as the solder melts withdraw the flame to avoid melting the PMC elements.
- Never use Vaseline or other petroleum products or aluminum with PMC projects. Even the slightest bit of aluminum will contaminate a piece leaving black spots and weakness that will cause the finished piece to crumble.
- PMC is very dry, therefore you must coat all tools with a thin layer of olive oil and coat your hands with Badger Balm, Burt's Bees Hand Cream, or olive oil. Keep a spray bottle of water on hand to spray the PMC occasionally as needed.
- Generally Lora prefers to use a flexible, nonstick working surface such as a Teflon baking sheet or see-through plastic paper protectors.
- PMC needs to fully dry through before it can be picked up. If using a hard working surface such as a tile or piece of glass, remember the top of your project may be dry to the touch but be sure to allow time for the piece to dry through before trying to pick it up off the work surface.
- PMC also must be fully dried before firing.
- Always fire at least for the time stated by the manufacturer of the clay you are using for proper sintering of particles in the PMC. It is always OK to fire for a longer time but watch the temperature carefully. Never fire silver PMC above 1650°F because fine silver melts at 1730°F. The longer a piece is fired the better the sintering of the silver particles and the stronger the finished piece. An orange glow will appear at 1650°F.
- The first part of firing drives off the matrix. When the orange glow appears hold that temperature and track your time carefully.
- Do not fire too cool - the metal particles won't sinter.
- Do not fire too hot - the piece will melt.
- Finishing is best performed before firing. Most finishing is completed when PMC has dried "leather hard". PMC can be sanded, rubbed with objects of various textures, carved, etched etc. much the same as unfired ceramic clay.
- Once it is fired and properly sintered the piece is handled with typical metalsmithing techniques. It can be filed, burnished, tumbled, sanded, polished, soldered, colored with various patinas.
- Remember PMC shrinks during firing. Original PMC shrinks about 30%; PMC+ and PMC3 both shrink about 12% to 15%; and PMC gold shrinks approximately 14% to 19%.
- The differences among the three types of silver PMC relate to

forms available (lump/clay, paste, syringe, sheet/paper) and firing characteristics (time and temperature).

- Any PMC that has dried out before firing can be reconstituted by adding drops of water. It also helps to add a drop or two of glycerin to new clay to make it easier to work. If the clay is fully dried it must be chopped and crushed into a powder before adding water. Keep clay wrapped in plastic wrap while kneading in drops of water or glycerin.
- Always keep unused clay wrapped in a sheet of plastic wrap and stored air tight in a cool dry place. Put a piece of damp sponge or wet paper towel in the container to help keep the clay soft.
- It is possible to fire PMC embedded with any lab created gems and various natural stones which can withstand the heat of sintering. Not opal! Also do not embed glass.
- Setting opal: remembering to allow for PMC shrinkage it is possible to embed a commercial stone setting in a PMC project then set an opal after firing is complete. Fine silver can be used to make a bezel. Do not use sterling silver for bezels in PMC projects. Because of its copper content, sterling silver degrades during PMC firing and will not produce a sufficiently strong bezel.
- It is OK to use silver PMC+ and PMC3 together with gold PMC. While they shrink at somewhat different rates they are compatible because the shrinkage rates are similar.
- If you want a mirror surface, smooth the piece before firing using very fine sandpaper (2,000 grit or finer if possible). After firing, burnish well then polish.
- PMC can be re-fired and repaired. Elements can be added or assembled using additional PMC.
- While rings can be made of PMC they are soft by comparison to usual fabrication metals because fired PMC silver is .999 fine and PMC gold is 22k. Also, because of PMC's slight porosity, PMC rings should never be worn doing dishes, swimming etc. PMC rings are best thought of as "cocktail party rings".

After her talk Lora gave a working demonstration of all PMC steps including firing with a small handheld butane torch.

If you are interested in attending a class and learning to make PMC jewelry please contact an Opal Society board member. The class consists of 6 hours of instruction and enrollment must be between 5 and 12 people. Cost is \$100 per person.

Our thanks to Lora Hart for a fun evening and a very interesting presentation.

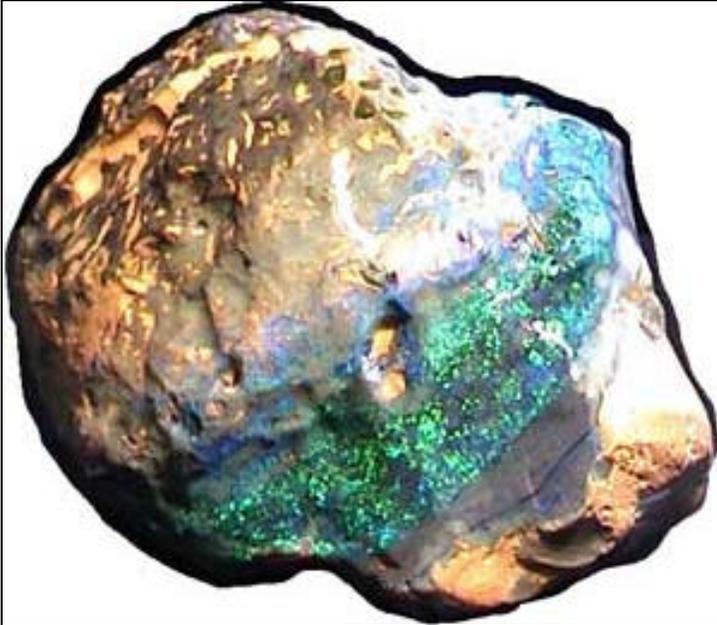
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Famous Opals: Halley's Comet

"Halley's Comet", is recorded in the Guinness Book of Records as the world's largest uncut black opal. The massive stone was found by a group of opal miners on the Leaning Tree Claim at Lightning Ridge known as The Lunatic Hill Syndicate. . In its uncut state (the stone has been partially cleaned up to show the gem colour) the nobby weighs exactly 1982.5 carats and measures 100 x 66 x 63 mm, or 4 x 2-5/8 x 2-1/2 in. Halley's Comet was for sale in 2005 for AUD\$1.2 million (USD\$650,000). The gem has a thick gem quality green and green/orange colour bar and is the largest gem nobby to be found at Lightning Ridge to date.

This extraordinarily large opal nobby bears intact the Chinaman's hat striations, marks formed during slicken siding of the country rock that have been preserved by the opal after it had formed, a time we can ascribe to twenty million years before the present.

It is a massive lump of genuine black opal, a nobby as big and as round as a man's clenched fist; one which originally weighed an equally enormous 410 grams from which a 2.4 grams chip was accidentally broken from the perimeter during recovery. However,



Halley's Comet

(Photo and info courtesy of Opals Guaranteed)

this provides us with a window into its interior, an interior composed of a 1.6 cm thick colour bar of pure, dense black gem grade opal, opal without blemish and entirely devoid of sand spots as well as other flaws or blemishes. This enormous colour bar runs true, right through the nobby, circumscribing the whole specimen. With the colour bar exposed normal to incident light, the piece can be easily examined, clearly showing the fire play to be entirely true and brilliant, i.e., there are no dead spots due to non-diffracting areas, in irisations of the Scots plaid color combination in harmony of brilliant green and spectral blue of the floral harlequin pattern.

This opal is the third largest gem grade black opal ever recorded but is the only one extant so it clearly is the largest specimen in existence from the Lightning Ridge Opal Fields over its eighty-eight years of mining history. It has been maintained intact since its discovery on 3 November 1986.

The gem comes from a claim first worked before the First World War that has been famous for producing the largest fine stones in Lightning Ridge. The Lunatic Hill Mining Syndicate obtained it from the Leaning Tree Claim of Lunatic Hill at only 0.3 of a meter's depth below the floor of one of the old, narrow and low drives which was barely 1.3 meters deep from the sandstone roof. During its days of activity in the first decade of this century, this claim became so named because gougers working in the shallow flat below this hill, upon which the claim is situated, jokingly considered anybody to be a lunatic who would go up a hill only to sink all the way down to the horizontally trending opal dirt levels. The Halley's Comet is the last piece of opal that will ever be produced from the Leaning Tree Claim as it has now been open cut and back filled.

From <http://www.opals-opals.biz/knowledge/opals/101/halleys/default.asp>

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 Here's a great article I found surfing the web that sums up the tourist's view of opal hunting in Australia - it's a bit dated and the prices are probably low but I'm sure the experience is still current!
 The Editor

In Search of Opals in South Australia

By Hal Goodman, January 15, 1989

Hal Goodman is a writer and editor who lives in New York.

IN mid-August, in the small Outback town of Coober Pedy, South Australia, thieves broke into the home of an opal buyer and removed a safe containing about \$750,000 in stones and cash. The local police began their investigation assuming that the valuables

were still in the safe, that the safe was still in or around Coober Pedy, and that their task was hopeless.

Coober Pedy may have one main street and only about 4,000 residents - fewer in summer, when the temperature can hit 120 - but it is surrounded by 100,000 mine shafts in an area of more than 300 square miles. At the bottom of one of those shafts, the police believe, the safe now reposes.

They are opal mines, every one of them. Coober Pedy owes its existence to the opal, and close to 90 percent of the world's opals owe their existence to Coober Pedy. Directly or indirectly, everyone in this pitted desert town about 450 miles northwest of Adelaide makes a living from the gems - mining them, buying them, selling them or providing services for the miners and a steady vein of visitors. It's probably not much of an exaggeration to say that if the last opal were mined today, tomorrow the population of Coober Pedy would have declined by, say, 4,000.

But mine shafts are not the only holes being sunk into Coober Pedy's sand and rock. About a third of the town's residents live underground, in dugouts carved from the hills. These have running water, electricity and - most important - free air-conditioning. No matter how "stinkin' hot," to use one resident's phrase, it may get outside, it's always 77 degrees down under, and one is beyond the reach of the dust storms that occasionally roll in across the Outback. A dugout is cheap to build, at about \$1,000 a room (even cheaper if you hit a seam of opal while tunneling), and convenient for a growing family. Need another bedroom? Just call in the drills and gouge farther back into the hillside. More shelf space? Hack it out of the wall. A hill, furthermore, provides excellent soundproofing.

Their hobbit-like existence is a source of pride to residents, manifested first in the name of their town. It comes from the aboriginal words kupa piti, which, depending on the guidebook one is reading, translate as boy's water hole, white man's burrow or white man in a hole. Nor are the citizens of Coober Pedy unaware of the commercial possibilities. Five of the seven hotels and motels are at least partly underground, and the builders were probably concerned as much with advertising as with air-conditioning. Four of the five use the word "underground" in their names. The other uses "dugout."

Above ground, Coober Pedy (rhymes with seedy) gives the impression of having been dropped haphazardly into the Outback and just left there. There are no sidewalks; the strip of ground between the street and the buildings is dirt and rock, the same dirt and rock that stretches away for hundreds of miles outside town. Low stony hills sprout small forests of air shafts and rainwater tanks, signs of abodes below. Idle or abandoned machinery - cars, mining equipment, portable generators - lies everywhere. Coober Pedy is not a beautiful city. One candid visitor's guide raises the question: "Why is there so much junk around town?" and answers, "This is a mining town, machinery breaks down, parts are a long way away, & dugouts don't have back yards." Another booklet superimposes the words "Coober Pedy: Opal Wonderland of Australia" over an aerial cityscape that would dishearten a dingo.

The main drag, Hutchison Street, resembles a shoot-'em-up Old West frontier town lined with jewelry stores. Outside, all is dust and heat and rubble; inside, polished glass and black velvet. A visitor shopping for opals is unlikely to do better anywhere in the world (though this is a point of dispute between Coober Pedy opal dealers and their counterparts in Australia's major cities). Viewing the town's 18 opal shops as one big jewelry store, the selection of set, unset and uncut opals available in Coober Pedy is surely unrivaled on earth. Competition among these shops is as vigorous as one would expect, and a couple of hours spent crisscrossing the town's few streets is almost certain to pay off in some bargains.

There is a cheaper way to go home with an opal: Find one yourself (or steal a safe). There are several tour operators in town, and all of them stop at the opal fields, where visitors can fossick or

noodle through the heaps of dirt and rock discarded from the mines. One's chances of picking up an opal or two are excellent, but the chances of finding anything of value are not. Most visitors leave with a couple of pieces of potch - the term for opal with no color in it. There are the inevitable tales of a tourist kicking idly round the heaps and pocketing a pretty stone that turns out to be worth thousands, but miners and guides, without ruling out the possibility, will smile and shake their heads when asked about such stories. The pros don't miss much.

A tour of Coober Pedy takes about two hours. Fossicking through the rock piles is certainly the highlight (wear old clothes), but, depending on the particular tour, one may also expect to see some of the underground homes, both outside and in; various types of mining equipment, some of which were invented in Coober Pedy; the inside of a mine and a demonstration of opal cutting and polishing. The tour may also stop at one of the town's two underground churches (one named the Catacomb Church, for the hiding place of the Christians of ancient Rome).

Outside town there isn't much, but tours are available to view what there is. The Breakaways, a colorful range of sandstone outcroppings, are about 15 miles away, and nearby runs the dog fence, a barrier longer than the Great Wall of China, built across half the continent to keep the dingos - Australia's wild dogs - out of the sheep ranches of the south. Also in the neighborhood is the desolate Moon Plain, the site of what was once an inland sea. Those shots of Tina Turner tooling across the desert in the film "Mad Max - Beyond Thunderdome" were filmed on the Moon Plain; seven members of the film crew were sent to the hospital with heat exhaustion.

Opal was first found here in the form of floaters - rocks lying on the surface - on Feb. 1, 1915, by 14-year-old Willie Hutchison, who was accompanying his father in a vain search for gold. The first claim was pegged out within a week, and mining began several months later. Opal production was continuous but erratic until the mid-1940's, when the discovery of new opal fields, the return of many miners from World War II and the opening of American markets coincided to bring an explosive jump in output. Today, between \$17 million and \$34 million worth of opal is mined in Coober Pedy each year, according to a government estimate. The gem industry's figure is much higher - between \$60 million and \$85 million.

The focus of all this business - and, at bottom, of everything that goes on in Coober Pedy - is a form of silica, related to quartz and sand. The difference is an unusually high water content, up to 20 percent, and an internal arrangement of tiny silica spheres, which diffract light entering the opal. The result can be a spectacular array of color seemingly trapped in the stone, bending and changing as the opal or the viewer shifts.

Opals are sold by the carat (152 carats equals an ounce), but a stone's value is also determined by its color. A nice big hunk of potch is pretty close to valueless, except, perhaps, as a souvenir. Opals can also be cut and polished in several different ways. A solid opal is the most valuable, but a stone too thin to qualify as a solid may be set as a doublet. The slice of opal is cemented to a dark backing, which brings out whatever color there is. A triplet is made by capping a doublet with a slice of transparent quartz. Any opal sold in South Australia will be accompanied by a certificate stating its weight and type.

All these variables make the pricing of opals a shifting and sometimes subjective business, but \$100 a carat is probably a fair average for an unset solid opal of respectable color. When one considers that an ounce of rock can bring in more than \$15,000, and that new opal strikes are still being made with regularity, it's no surprise that the lure of quick bucks draws prospectors from all over the world.

COOBER PEDY'S 4,000 people comprise about 45 nationalities, with Greeks, for some reason, holding second place (after Australians) at about 1,500. This pays off for visitors in the presence of several surprisingly sophisticated Greek restaurants. Chinese are also much in evidence; most of the resident opal buyers come from Hong Kong or Taiwan, renting houses or dugouts for most of the year and paying cash, well into the thousands of dollars, for the stones that the miners peddle door to door.

Residents point to the melting-pot aspect of their town with pride (though frying pan may be a better metaphor), and they swear that there is no more friendly, tolerant place on earth. This, to be sure, is the usual claim of small towns worldwide, but in Coober Pedy the combination of small-town life, shared hardship, a variety of ethnic groups and (let us not forget) a certain reliance on tourism does seem to have produced a sense of community lacking even the initial slight suspicion that an outsider in an American small town is likely to encounter.

Time your visit to Coober Pedy carefully, though, or the warm welcome you'll get from the townspeople will be nothing compared with the warm welcome you'll get from the weather. The Australian winter - June to September - is the most sensible time to go, when average daytime temperatures stay in the 70's. Even then, Coober Pedy is far from a luxurious vacation spot. It's hard to reach, dusty, rusty, windy and extraordinarily single-minded. But if you're anywhere in the neighborhood - within 500 miles, that is - it's well worth a trip. You'll be seeing a place that few Australians have ever seen, and a place that can honestly be said to resemble nothing else on earth.

TIPS FOR WOULD-BE PROSPECTORS

Getting There - Coober Pedy is served daily by buses on the north-south Stuart Highway, though distances have doubtless deterred many a visitor. It's a ride of 8 hours down from Alice Springs, a good 10 hours up from Adelaide, but there's no better way to get a sense of just how isolated Coober Pedy is. As a bonus, the overnight trip through the Outback gives many visitors their only look at kangaroos in the wild.

For those with less time, Opal Air and Kendall Air offer flights from Adelaide, but you won't see any kangaroos.

A ticket on Deluxe Coachlines from Adelaide to Coober Pedy costs \$57 (all prices given are in United States currency); from Alice Springs, \$50. A two-day, \$426 package from Adelaide, on Kendall Air, includes flight, accommodations and sightseeing. It can be booked through A.T.S. Tour Pacific in California (800-423-2880 outside California; 800-232-2121 in California). Where to Stay

Accommodations range from a bunk in an underground dormitory for about \$7 a night to a room for two for about \$80. Here is a sampling:

Radeka's Dugout (72 5223) is both a hotel and a youth hostel, offering a room for two for \$43 or a dorm bed for one person for \$7. The Underground Motel (72 5324) charges \$47 for two; the Opal Inn Hotel/Motel (72 5054) charges \$43 for two, and the Desert Cave Underground Resort (72 5688) charges \$80 for two. Where to Eat

Among the several Greek restaurants are Traces (72 5147) and the Acropolis (72 5464). At either, a meal for two with wine will run about \$35. For Australian fare, there is the Desert Cafe (72 5622), where a meal for two with wine costs about \$30. John's Pizza Bar (72 5561) has no liquor license. A meal for two there will cost about \$17.

Shopping - Among the opal shops are the Opal Factory (72 5300), Radeka's Underground Display (72 5223) and the Desert Cave Underground Display (72 5688). More Information

Details on lodging, transportation and everything else in Coober Pedy are available from the Coober Pedy Retail Business and Tourism Association, Post Office Box 76, Coober Pedy, South Australia 5723, Australia, or Tourism South Australia, 2121 Avenue

of the Stars, Suite 1210, Los Angeles, Calif. 90067 (213-552-2821; 800-447-5263). - H. G.

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Safety Article:

Keep Out! Old Mines Are Dangerous!

Whether hiking, camping, hunting, 4-wheeling, or simply just enjoying the countryside, outdoor activities are a source of enjoyment for millions of Americans each year. But outdoor recreation also requires caution—especially near abandoned mines. No one knows the exact number or location of all abandoned surface and underground coal mines in this country. We do know that hundreds are scattered across the American countryside, primarily in the eastern coal-producing states, such as Pennsylvania, West Virginia, Virginia, and Kentucky. In western states like Colorado, Arizona, Montana, and Utah there are also abandoned "hard-rock" mines that pose additional dangers. Hazardous abandoned mine problems include open shafts and horizontal openings resulting from underground mining, unstable vertical cliff-like high walls, dangerous water bodies, collapsing buildings and rusting machinery, and defective or unused explosives. Many of these hazards are the result of mining that occurred years ago—some in the early 1900s. There is nothing of value left in abandoned mines—That's why they are abandoned. Federal and state reclamation agencies are working to reclaim abandoned mines, but there are so many of them left that it is vital to know about abandoned mine dangers and stay away from them.

Abandoned Mine Shafts

Abandoned mine shafts may be unmarked or unprotected at the surface and be hundreds of feet down. They may be fairly easy to see if they are large; they may be obscured by years of vegetative overgrowth; they may be covered by decayed and rotten boards that will give way under the slightest weight; or they may be a combination of all these. Even when an open shaft is clearly visible, walking close to it is very dangerous because the decomposed rock at the top of the shaft can suddenly cave in.

Abandoned Horizontal Mine Openings

Abandoned horizontal mine openings leading into underground tunnels may seem sturdy to the untrained person but be prone to cave in. They may seem safe to explore but can contain many hazards—rotten roof support beams, deadly odorless gases, poisonous snakes, vertical shafts in the tunnel floors, and flooded sections. Darkness and sharp objects hanging from the roof add to these underground mine hazards. In addition, unused or misfired explosives can become highly unstable and be set off by a slight disturbance or a touch. Blasting caps, resembling a firecracker with wires, are sometimes found on the ground and, if stepped on, they will explode.

Abandoned Surface Mines

Abandoned surface mines also contain dangers. Many of the steep embankments and high walls are very unstable and will collapse under the weight of a person, especially after periods of alternate freezing and thawing which cracks the rock and weakens the steep earth material. Water bodies may look like desirable swimming holes or ice skating ponds; however, they can be deceptively deep, dangerously cold, and frequently hide steep slippery sides that can make climbing out extremely difficult or a life-threatening danger. Regardless of the type of mine, remember to stay away if you spot what appears to be an abandoned mine. It's likely to be dangerous. And, if you are in an area where coal has been mined, watch where you are going. You may stumble across an abandoned mine when you least expect it. Be alert!

Don't go looking for abandoned mines but if you find what you think is an abandoned mine shaft, tunnel, or other danger, mark the location so it can be easily spotted. Be careful not to go too close.

The report what you found to the nearest location of the Office of Surface Mining, or contact your state abandoned mine reclamation office (visit <http://www.osmre.gov/map.htm> for contact information). Be prepared to describe the approximate location, identifying landmarks, nearby trails, or other characteristics that will help authorities locate the mine. Reporting the location of abandoned mines is a public service. You will be protecting others from danger, and helping America maintain and improve the environment. For additional information about abandoned mine land hazards visit the Office of Surface Mining "Keep Out" website at www.osmre.gov/keepout.htm.

And remember, warning signs should be taken seriously; however, most abandoned mine hazards have no warning signs or fences around them and the hazards are not always apparent. Abandoned mine sites are an irresistible and sometimes deadly attraction for children and adults. In addition, trespassing or exploring on abandoned mines is a violation of property rights just like walking into someone's yard or home without their permission. So . . . keep out and be safe.

Reference: US Department of the Interior; Office of Surface Mining; 1951 Constitution Ave., N.W.; Washington, DC 20240; 202-208-2719; getinfo@osmre.gov; www.osmre.gov. Information gathered for educational purposes under the provisions of the "Fair Use Act of 1976."

Additional Comments for Rockhounds from the Editor: *if it's not in the tailings, it's not in the mine! Conversely, you can always find whatever was in the mine outside in the tailings. The miners always missed gems and minerals, and careful inspection and/or screening of the tailings will produce results without the extreme danger and hardship of entering an old mine.*

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A Rockhound in Iraq

Rock Hunting in an Iraqi Combat Zone (Rockhounding at its Extreme)

PART 3 of 5

By Yonis E. Lone Eagle

Howdy fellow Rockhounds. I hope everyone is doing all Hunky-Dory and finding lots of good stuff on ya'lls local fieldtrips. I'm now reporting to ya'll from FOB Diamondback up in Mosul, Iraq. I've been transferred up here to help them out with their workload with all the medical equipment. Between working my job, pulling guard duty, surviving the extreme heat and working with all my rocks, life around here keeps me pretty busy. Lately, the temps around here have been around 125 degrees during day and in the 90's at night. Over the next couple of months, the temps will be getting over 135 degrees with the nights in the 100's. Y'all folks are missing so much fun.

As for the War on Terrorism, all the casualties are keeping everyone else very busy. Currently with all the wounded soldiers coming through our hospital doors, about 80% are wounded Iraqis, either local civilians, Iraqi National Guard troops (ING's), or Enemy

Prisoners of War (EPW's). The other 20% of the wounded are U.S. troops. It is very unfortunate that all the Terrorist hurgents that come into Iraq to disrupt, destroy and kill don't give a damn about human life. Besides trying to kill U.S. and coalition forces, they end up killing a lot more innocent civilians. Local men, women and children are being maimed or killed at an increasing rate.

Working in the medical field for over 25 years now, I've seen more than my share of Life, of Death, and of blood shed. During the Gulf War, I saw enough death, destruction and carnage for two lifetimes. Not my luck. This War on Terrorism is a war of more of the same, but much worse. A while back, we had a U.S. female soldier flown in to our ER severely wounded from an accident. Our trauma



Sergeant Yonis Lone Eagle

team work vigorously for over half an hour trying to save her life, but her injuries were too severe. As her spirit left her body to be with the

Great Spirit, the entire ER staff bowed their heads as our chaplain prayed for her departing spirit. You could hear a pin drop. As the staff exited the ER, there was not a dry eye in the room. We have seen several severely wounded male soldiers that did not make it but this was the first female soldier that died. It hit very close home for everyone.

And then couple of months ago, there were two U.S. soldiers in town handing out candy to a group of young Iraqi children. There was at least a group of fifty of them between the ages of five to fifteen. They were so happy to be getting a sweet treat for a change. Candy is something that has been very scarce, especially during the Saddam regime. A suicide bomber drove up and killed the two soldiers, but in doing so, killed over twenty of the children and wounded over thirty others. When all those wounded children came into our hospital with missing hands, arms, feet, legs and burns, the staff went into action and did their jobs to the highest standards of the Army Medical Corps. But you still could still see the pain and sadness the their eyes as the staff worked feverishly to save and comfort as many as these innocent young lives as possible. When you looked into the eyes of these innocent young children that were badly burned and/or missing a limb, they would look up at you with their trembling bodies and their scared eyes asking "Why". Your heart sank and went out to them. When you work in the medical field and deal with death on a daily bases, you have to have some sort of wall between you and death. If not, death can and will tear out your heart and soul. The saddest part of all this is the innocent lives that are taken away for no reason, especially the children.

While there is a lot of bad news and negativism about this war in the media with all the daily murders and killings and destruction, there are a lot of good and positive things that have come out of the ouster of Saddam and the fall of his regime. In my next report, I will be telling ya'll of the positive news you won't hear in the media.

And now for the "Rock News". First, I want to thank the "Alamo Rock Shop" of Boerne, Texas, for sending me over a Twin 6 lb. Barrel Rock Tumbler. When I moved up here to Mosul, I brought about fifty pounds of the best rocks I found with me. (I had to leave at least another thirty pounds behind.) And I've put it strait into operation tumbling the great pickens from Tikrit. The rocks I collected down at FOB Speicher were great, with less than 20% limestone. There wasn't a day that did not go by that I didn't pick up one or two dozen rocks. But up here in Mosul, the pickens have been very, very slim. I've been up here for over six weeks now and collected only about a dozen rocks. The rocks up here are over 90% limestone.

I recently found a very good and more detailed map on the Internet of Turkey, northern Iraq and their rivers. This has led me to another conclusion and gave me a more accurate source of the origin of the rocks. There is a major lake and two dams north west of Mosul. There for, with all this manmade stuff in the way, not much rocks coming from that direction. South of Mosul, there are two major rivers that flow into the Tigris between here and Tikrit, the Great Zab and the Little Zab rivers. The Little Zab has at least two dams and another lake. The Great Zab, which flows into the Tigris further north than the Little Zab, flows freely all the way from the extreme southwestern tip of Turkey. There for, I would say the majority of all those wonders I found down south evidently came down the Great Zab River.

Now to wrap up some old news from my last report. A few months back I got to go down to the Middle East country of Qatar. I flew down on a C-130 into Al Udeid Air Base in Qatar. We then took a thirty-minute ride over to Camp As Sayliyah, which would be home for the next few days. While down there for a two week class, I got to do some more rock hunting. The majority of the rocks I found around the camp were tumbled limestone beach rock from the Persian Gulf. However, I did run across some unique lavas, a quartz/mystery rock conglomerate, a piece of petrified wood, a piece of granite, and a very nice three-inch fossilized coral stem.

So what are Astronomy Rocks, Diseased Rocks and Finger Rocks? Astronomy rocks, the name I gave them for what they look like, are black igneous rocks with small white spherical dots and swirls in the matrix that look like stars in the nighttime skies. Diseased rocks, again, the name I gave them for what they look like, are different colored rocks with spots or feldspar crystals that look like blotches or rashes or a disease on the surface. And Finger rocks, same naming, are long skinny rocks about one-half inch in diameter and three to five inches long, about the size of your finger! What's amazing about these rocks is that they tumbled and traveled such a long distance without getting broken.

Folks around here have really got their curiosity up when they walk into my shop and see this thing with two barrels rolling over and over. "What is that", I'm asked a couple of times a day. And once I explain what a Rock Tumbler is and what it does, a dozen more questions pop up. What kind of rocks do you tumble? Where do you find the rocks to tumble? When will the rocks be ready to see? How do you tell a good rock from a bad? Why would anybody want to tumble rocks? I got a lot of folks very, very curious and anxious to see the final results of the tumbler. I tell them one of the things you have to learn about being a Rockhound is "patience".

The good news is that coming in my fourth report sometime in early September, "Pictures, Pictures, Pictures". I will be including several colored photographs of all the unique wonders that I have found over here. They will include photos of the Astronomy rocks, the Diseased rocks, the Spotted rocks, the Banded rocks, the Abstract Art rocks, and my new "Pet Rock" I found I call Cyclops.

And now something for any Jadeite and Nephrite experts reading this. Does anyone know of any Jade that comes from southeast Turkey or northern Iraq??? I found some green rocks I strongly suspect are a type of Jade. All the research that I have done on the Internet tells me that the closes Jade found in the area comes from the region far to the northeast of Turkey toward China. Too far for these rocks to travel. If anyone has any information, please e-mail me at rockymountainrockhounds@yahoo.com.

Well folks, six months down and six months to go. Everyone please take care and safe and happy hunting.

Yonis "Rock Pockets" Lone Eagle

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Hard or Tough

The terms "hardness" and "toughness" are sometimes confused when comparing the qualities of gemstones, and there is a great deal of difference. Diamond is by far the hardest of gemstones, for it

will scratch, cut or polish any other stone. But, for toughness (resistance to chipping and breaking), jade has diamond beat. A diamond will easily cut or scratch jade, but a jade hammer can in turn crush a diamond to powder. It is the crossmatted structure of jade that makes it nearly impossible to break. If you drop a solid jade cabochon on cement and it breaks, better check, it probably wasn't jade. The Chinese used jade for anvils, just as we use steel, and sometimes the same anvil was used for generations. Jade for axes and hammer-line tools, centuries ago, was a practical, useful and highly values material.

From the *Williamette Agate and Mineral Society, Salem, Oregon* - <http://www.wamsi.org>

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Lapidary Polishing Compounds

For economy dedicate a buff, lap pan to a particular polish and simply recharge with fresh polish as required to maintain effectiveness.

Cerium Oxide - the best gemstone polishing compound for most uses. Best with opal, agate, quartz, obsidian. Not as effective with soft material or stones that tend to undercut.

Micron Alumina - a 5 micron polishing powder developed for computer disks. It is the best polish for seashells, pretty good for soft stones and excellent as a pre-polish in vibratory tumblers and laps - not rotary tumblers.

Aluminum Oxide, MAP - preferred by many to Linde A, this is a slightly faster and more economical rare earth polish that we call Miracle Atomic Polish.

Tin Oxide - a long time favorite. Use on leather for polishing turquoise and all soft stones.

Zirconium Oxide - a rare earth polish that is especially good for tumblers and laps. The most economical effective polishing media. White and will not discolor gemstones.

Linde "A" - A tremendous favorite with gem cutters whether faceting or polishing cabs. Relatively expensive, you should consider polishing the stone then giving it a quick hit with Linde A to attain a super polish. Available as powder to mix with water or an emulsified cream with the consistency of hand lotion that does not separate in solution

Oxalic Acid - used for polishing carbonate type onyx when mixed with another polish such as Tin Oxide. In a strong solution with water, it is used to clean iron stains from specimens, i.e. Quartz. Mix with hot tap water by stirring in oxalic crystals until the water is saturated and will not dissolve any more. Crystals forming along the sides of the container indicate a saturated solution and should they disappear, you need to add more. **WARNING:** While this is a relatively mild acid all precautions must be taken to keep it out of eye, mouth, etc.

From *(Golden Spike News, 4/01)*

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May 2006 Gem & Mineral Shows

6-7--ANAHEIM, CA: 47th annual show ; **Searchers Gem & Mineral Society;** Brookhurst Community Center, 2271 W. Crescent Ave., at Brookhurst; contact Beth Pelfrey, (714) 774-2754; e-mail: beth714sc-rocks@yahoo.com.

6-7--BAKERSFIELD, CA: Show, "Art in Stone"; Kern County Mineral Society; Kern County Fairgrounds, Ming Ave. and S. P St.; Sat. 10-5, Sun. 10-5; free admission, parking \$2; contact Buster Ordiway, 15220 Sunnybank Ave., Bakersfield, CA 93314, (661) 809-4705 or (661) 589-3834; email: CaOrdPPTA@aol.com.

6-7--BISHOP, CA: 3rd annual show, "Eastern Sierra Gem & Mineral Show"; Lone Pine Gem & Mineral Society; Tri County Fairgrounds; Sat. 9-5, Sun. 10-4; demonstrations, 12 dealers; contact Francis Pedneau, (760) 876-4319, or Jeff Lines, (760) 872-6597.

6-7--KINGMAN, AZ: Annual show, "Gems of AZ"; Mohave County Gemstoners; Kingman Academy of Learning, 3419 Harrison St.; contact Dave, (928) 692-3797, or Bill, (928) 565-9586.

6-7--LOCKEFORD, CA: 4th annual show , "Winos and Dinos"; Vino Piazza; 12470 Locke Rd.; Sat. 12-5, Sun. 12-5; free admission; dinosaur fossil

displays, mineral, fossil, and jewelry dealers, guest lecturers, dinosaur bounce house, wine tasting, excellent food; contact Karyn Litchfield, (209) 727-9770, e-mail: karyn@vinopiazza.com; Web site: www.vinopiazza.com.

donna@nahant.com; Web site: www.nahant.com/nsrnc/.

6-7--WALNUT CREEK, CA: Show, "Contra Costa Crystal Fair"; Pacific Crystal Guild; Civic Dr. at Broadway; Sat. 10-6, Sun. 10-4; contact Jerry Tomlinson, (415) 383-7837; e-mail: sfxlt@earthlink.net; Web site: www.crystalfair.com.

12-14--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; 100 dealers, China, Brazil, Russia, India; 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.

12-14--MARIETTA, GA: 38th annual show; GA Mineral Society; Cobb County Civic Center, 548 S. Marietta Pkwy.; Fri. 10-6, Sat. 10-6, Sun. 12-5; free admission; more than 30 dealers, gems, fossils, minerals, jewelry, door prizes, public auction Sat.; contact: Jay Gorday, 1690 Granger Ct., Chamblee, GA 30341, (770) 986-0822; email: mayshow@gamineral.org; Web site: www.gamineral.org/may-show.htm.

13-14--BOZEMAN, MT: 47th annual show; Bozeman Gem & Mineral Club; Gallatin County Fair Grounds, Black St. and Tamarack St., exit I-90 at N.7th St.; Sat. 10-6, Sun. 10-4; gem, mineral and fossil displays; kids' activities; contact Dan Carter, (406) 586 4552, or Dick Wendel; e-mail: skier1932@sbcglobal.net.

13-14--GRAND JUNCTION, CO: 59th annual show, "Rocks and Minerals of the CO Plateau"; Grand Junction Gem & Mineral Club; Two Rivers Convention Center, 1st and Main; contact Don or Marj Gibboney, 193-27 Rd., Grand Junction, CO 81503, (970) 245-2885.

13-14--RENO, NV: Annual show, "Jackpot of Gems"; Reno Gem & Mineral Society; Reno Livestock Events Center, Exhibit Hall, 1350 N. Wells Ave.; Sat. 10-5, Sun. 10-4; adults \$5, seniors and ages 12-18 \$4, ages 6-11 \$3; contact John Peterson, (775) 356-8820.

13-14--VALLEJO, CA: 51st annual show; Vallejo Gem & Mineral Society; County Bldg., Solano County Fairgrounds, I-80 and Hwy. 37; Sat. 10-5, Sun. 10-5; dealers, demonstrations; contact Laylie Mack, (707) 644-3035.

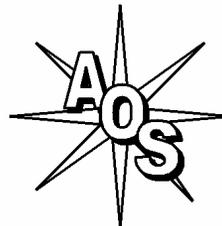
19-21--ANDERSON, CA: Show; Superior CA Gem & Mineral Association; Shasta District Fairgrounds; Fri. 9-5, Sat. 9-5, Sun. 10-4; contact Steve Puderbaugh, (530) 365-4000.

20-21--BILLINGS, MT: Annual show; Billings Gem & Mineral Club; Holiday Inn Grand MT Convention Center, I-90 exit 446; contact Tom Staycheff, P.O. Box 477, Billings, MT 59103, (406) 656-3514.

20-21--CASPER, WY: 54th annual show; Natrona County Rockhounds Club; Parkway Plaza Hotel, I-25 and Center; contact NCRC, Box 123, Mills, WY 82644, Chuck Decker, (307) 237-8043, or Rick Betts, (307) 472-5459; e-mail: wyo_rockhound@msn.com.

20-21--NEWBURY PARK, CA: 32nd annual show, "Pageant of a Thousand Gems"; Conejo Gem & Mineral Club; Borchard Park, 190 Reino Rd.; Sat. 9-5, Sun. 10-4:30; free admission; exhibits, demonstrations, gem and jewelry sales, youth activities, door prizes, silent auctions, plant sales; contact Sal Scarpato, (818) 707-9972; e-mail: salscarpato@sbcglobal.net; Web site: www.cgamc.org.

21-22--HERMISTON, OR: Show, "Nature's Treasures Underfoot"; Hatrockhounds; Cooper Hall, Umatilla County Fairgrounds; Sat. 10-6, Sun. 10-4; contact Juanita Ross, 1495 W. Orchard, Hermiston, OR 97838, (541) 567-2542.



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By Jochen Knigge

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Are Your Dues Due Now?

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

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

American Opal Society
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**Volume #39 Issue #05
May 2006**

TO:

Some Topics In This Issue:

- Lora Hart on Precious Metal Clay
- Famous Opals: Halley's Comet
- In Search of Opals in South Australia
- Keep Out! Old Mines Are Dangerous!
- A Rockhound in Iraq
- Hard or Tough
- Lapidary Polishing Compounds

Important Info:

**Board Meeting
May 2nd**

**General Meeting
May 11th**

**Russ Madsen and Jim Pisani
will give a slide presentation of
their trips to Opal Canyon**

— GENERAL MEETINGS —

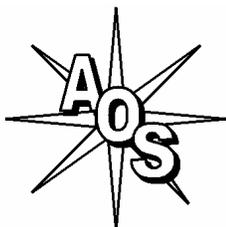
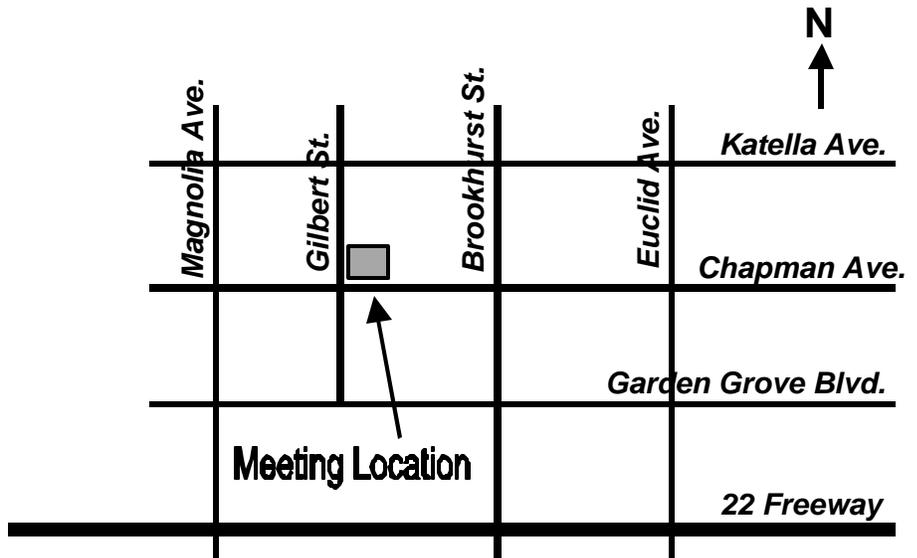
2nd Thursday of the Month
7:00 pm - 9:00 PM
Garden Grove Civic Women's Club
9501 Chapman Ave.
(NE corner of Gilbert & Chapman)
Garden Grove, CA

MEETING ACTIVITIES

Opal Cutting, Advice, Guest Speakers,
Slide Shows, Videos, Other Activities

May 11th:

Russ Madsen & Jim Pisani present: OPAL CANYON



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