

The Opal Express

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



Volume #36 Issue #02
February 2003

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TO:

Empty rectangular box for address information.

Important Dates:

Board Meeting: Feb. 3

General Meeting: Feb. 13

Presentation on:

**Lab Created, Simulated,
and Synthetic Opal**
by Mike Kowalsky

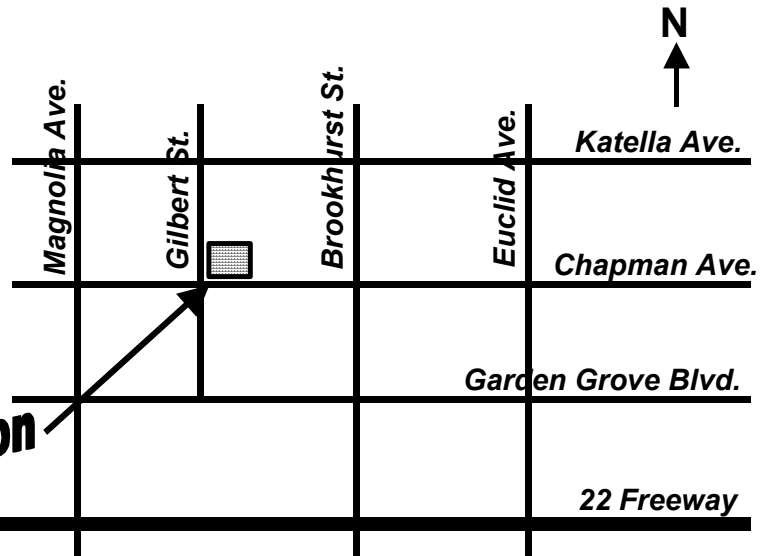
— GENERAL MEETINGS —

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

MEETING ACTIVITIES

Opal Cutting Advice Guest Speakers
Slide Shows Videos Other Activities

Meeting Location →



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



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Pam Strong	Vice President		
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Editor-Jim Pisani

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Email: webmaster@opalsociety.org

Article Deadline is the 20th of the month prior to each issue

Are Your Dues Due Now?

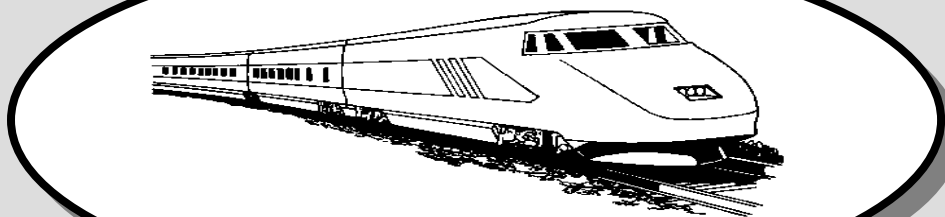
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Thank you,
The Editor

The Opal Express

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PRESIDENT'S MESSAGE

Mike Kowalsky

I will have to say that the past two years have been very worthwhile because I have learned so much during my terms as President. My trip to Australia was one of the highlights. I took so many pictures and was treated by the Australian community as one of them. I was well taken care of in Yowah and in Lightning Ridge. It was beyond any expectations I ever had when I planned the trip.

Here in the US, I have been to Tucson and have video taped some of the opal seminars and last year made my first presentation. This year I have almost completed my presentation, which will be on Identifying Created Opal. I plan to make the same presentation at the February General Meeting. I had collected some specimens of Slocum stones and one Gilson stone in prior years. Last year I added some specimens of Created Opal manufactured by Kyocera Corporation of Japan. I also received a donation of Russian "Synthetic" opal to expand my collection. I will be making the presentation on Feb. 8th and 9th at the Holiday Inn Holidome Opal Seminar. Tim and Barbara Thomas have provided attendees to the Seminars information about the American Opal Society and have honored us by putting us as co-sponsors. They have been strong advocates of the AOS and have been at our annual shows since the 70's

Speaking of the seventies, I found a lost box in my attic, which contains some treasures. It had American Opal Society newsletters dating from the 1971 time period to the 1978 time period. One of the issues from April and May of 1978 identifies the speaker for the evening as Janice Mack from the Gemological Institute of America. Her lecture included a discussion of natural opals, synthetic opals and some of the common substitutes for opal. There is also an article from the Orange County Register about Gilson "synthetic opal" and possible impacts on the opal jewelry trade. There is mention that Pierre Gilson had become an associate member of the American Opal Society. That was an exciting find for me especially at this time when I am presenting on the subject. The AOS has been on the cutting edge of opal knowledge from a long time ago. We need to maintain that knowledge base for our members.

Last but not least, I have learned so much from all the members that I have had contact with and from the annual shows that we have put on over the past two years. I will not disappear but hope to spend more time on the continuation of finding and presenting the knowledge that the Opal Society has been known for. One of my projects is to create presentations that will document and extend the knowledge that many of our members have. The information age had arrived with the capability to create CD's for presentations and to preserve some of the knowledge on DVD's. We will all benefit from this new information age.

I want to thank everyone, both AOS members and others in the Opal world, for all the help and making my tenure a very fruitful and exciting one. See you around,
Mike Kowalsky, Past President AOS

2003 AOS Election Results

An election of officers was held at the general meeting of Jan 12, 2003. The results are:

President: Pete Goetz
Vice President: Pam Strong
Treasurer: Mike Kowalsky

February Snippets

by Barb Whyre

"According to a Turkish legend conceived before Christ, opal was transmitted from Paradise to Earth by flashes of lightning." Appearing in the Australian Lapidary Journal, April & May 1969, this could rival the origin of the Lightning Ridge name.

Many find Mrs. Langloh Parker's account unbelievable "... in one of those terrible inland storms, lightning killed six hundred sheep, the shepherd and his dog." She came to Bangate Station in 1880 with her husband, owner for ten years.

Hints & Tips For Rockhounds

(Use at your own risk)

Field Trip Hint - Carry a small squeeze bottle (Sinux or nose spray bottle) filled with water on field trips. The bottles are small and light and handy for putting a drop of water or two on specimens you are checking. Never lick rocks; some are poisonous. Some may have other kinds of residues or deposits on them. - *The Leaverite News via Moroks 8-01*

Picnic Safety Warning - Never use a limb from a tree whose fruit has a pit (stone) in it such as chokecherry, peach, apricot, or cherry to roast a hot dog or marshmallow. Apricot & choke cherry release cyanide when heated thus poisoning your food and you. Use a metal coat hanger or willow limb. It's much safer. - *Pseudomorph & Breccia via Moroks 8-01*

Shield That Slab Saw - A good shield for a large slab saw is a bicycle fender. It is just the right size and shape to keep lubricant flying off the blade from spraying all over the shop. - *The Rockcollector via Rocky Review June/July 1999*
From the Rockhound Rambling - August 2001

Trip Report: Cloud's Jamboree, Laughlin, NV

By Jim Pisani

Due to some home remodeling expenses, my family and I decided not to go to the Tucson Gem & Mineral Shows this year. The high lodging expenses, and the fact that you have to reserve a year in advance to get into a nice place (which, of course, we didn't do), and the long drive, dictated a cheaper way to feed my gem addiction with another year's supply. We had gone to Quartzsite in previous years, but the lack of close, good, lodging - we don't RV or camp - made it less than desirable. We had heard that Cloud's Jamboree had relocated to Laughlin, Nevada. I remembered the show when it was in Quartzsite, and I considered it to be a top rate gem & mineral show. This was its second year at its new location, and rumor had it bigger and better than it's first year. An added bonus to going to Laughlin was that my in-laws wanted to accompany us, mainly for the gambling at the casinos along the Colorado River at Laughlin; the bonus being that they could help my wife and I baby-sit our 3-year-old son while we shop for gems and Gamble, of course.

The trip out to Laughlin from Orange County, California, was actually quite pleasant. It took us around 5 hours, with plenty of vistas of the Mojave Desert. A plus was the number of trains paralleling Interstate 40, which kept my boy interested, being a huge Thomas the Tank Engine fan. The traffic was not nearly as bad as going to Las Vegas or as long of a drive to Tucson.

The show was being held at three different locations at Laughlin and all were free to the public. The first two were at downtown Laughlin at the casinos - the Riverside Casino and the Ramada Express. The Ramada Express was indoors while the Riverside was in a large tent in their parking lot. The dealers at this show offered primarily finished product jewelry, but there were a number of dealers in rough. I met a gentleman dealer named John Quinn from Illinois, who gave me quite a good deal for Lightning Ridge rough. John says that he was one of the original founders of the AOS in Los Angeles in the mid-sixties. I also found something interesting collectable - lapis lazuli crystals in calcite - very interesting at an affordable price. There was a medium flow of people coming into the shows from the casinos. The dealers I talked to were pleased. The show sites in town ran from Jan. 10 through Jan. 19.

The third site was at the Avi Casino on the Avi Indian Reservation, located about 12 miles south of downtown, about a 20-minute drive. Here the show consisted of what I remember the original show to be - RV's and trailers outdoors. Here also there were a number of good gem dealers, but many more rough dealers. I was able to find good Koroit rough from A. A. Opals run by Ed & Bev Akers. I also found some excellent Oregon sunstone rough with excellent schiller at another dealer. However, the foot traffic was low. Most of the tourists go the main downtown area of Laughlin and didn't seem to know about the show here or were not willing to make the trip. This show runs longer, from Jan. 2 through Feb. 3.

In conclusion, I was please with the show, though I had some issues with it. Most of the information that I had on the Gem show was from the website, <http://www.cloudsjamboree.com>, but it wasn't updated with the latest info. I didn't really find out about which casinos actually had the shows until I got to Laughlin. There were not many obvious signs about the gem & mineral shows. I liked the location; the casinos offered inexpensive good lodging and food, with the added bonus of having true Vegas rules for those of us who like to gamble, as opposed to the Indian Casino near Quartzsite. The stretch of the Colorado River that the casinos are on is quite beautiful; the fast water taxi's ferry guests from casino to casino, offering a thrill and a scenic view. I also found there to be good selection of inexpensive gem rough at the

shows. However, the Avi dealers were not pleased, and I would be concerned with future attendance. Maybe more advertising is needed next year.

Stan McCall - On His Own!

Stan McCall, a long time AOS member, has ventured into his own gem cutting business. Stan has previously worked s a gem cutter for Lapidary International (Gems & Opals on Beach Blvd. In Anaheim, CA). He also has run the AOS workshop for the past few years, helping many members learn to cut.

Stan will specialize in custom cut stones, opal inlay, cold enameling, and stone repair and repolishing. His phone number is (714) 220-9282 and business address is 6029 Orange Ave. Cypress, CA 90630.

Good luck Stan!

Opal Care

Here is a thread of messages that I found in the Orchid Digest from <http://www.ganoksin.com> concerning the care of opals. They were published from 5-27-02 to 5-31-02. The Ganoksin Project provides an information forum on the Internet free of charge for all things connected with jewelry and jewelry making. Visit it and see! Printed with permission of Ganoksin. The Editor

From: Karen Strauss

You have all been so great in helping this hobbyist with past questions! Here's one more...

I purchased the most amazing opal. The dealer called it Nevada opal, and it's full of brilliant greens, reds and blues. It also has many black veins throughout the stone (petrified wood?). I'm about to set it, but wonder if there is a way to protect it afterwards. Someone suggested placing it in a plastic bag with a wet tissue to maintain a high humidity level. Any other thoughts on its care?

From: Mark Ruby

Karen, Most, not all, Nevada opal is unstable. If you have to take extraordinary measures to care for it, it is not suitable for

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jewelry use. Leave the stone out of water for a time to see if crazing will be a problem. Keep a very close eye on it. If you see any cracks form, place it back in the water and consider it "specimen only". Cracks can take weeks to form, sometimes only hours in a very dry climate. It is said that you can "cure" opal by keeping it semi-moist and allowing it to dry very slowly over a long period of time (months). But this is risky practice as it could go to any climate once it leaves your hands and could still craze down the road. I hope your piece is stable - as Nevada (and Oregon) opal can be some of the best!

Mark Thomas - Ruby SunSpirit Designs Loveland, CO 970 669-7075

From: Margaret Malm

This "Nevada opal" is, indeed, beautiful. But unfortunately it is very "cracky". (If it is allowed to dry out it will crack.) It's just the nature of this opal. Your best bet will be to keep it in water, and enjoy its beauty. Don't try to set it. and yes, as I understand it, it is opalized wood.

Margaret kadok@infowest.com, in Utah's colorful Dixie

From: Beth Rosengard

Hi Karen, It sounds like Virgin Valley, Nevada, opalized wood. I have a few pieces and it's amazingly beautiful stuff. Chances are, it's been stabilized with Opticon or something similar. There's nothing wrong with this; in fact, most of the Virgin Valley material is notoriously unstable and would fall apart if not stabilized. The process affects only the matrix, not the opal. As for care, I'd treat it the same as any fine opal don't expose it to extremes of temperature and don't store it for long periods in a dry environment (like a bank's safety deposit box). The plastic bag with a wet tissue is unnecessary. By the way, the black matrix Virgin Valley material is especially rare; you've got a real prize!

Beth

From: Kathy Johnson

I'm no expert on opals, but that just sounds like a great way to grow a bag full of mildew. My father used to cut opals (still does once in a while, but at 86 his eyes aren't what they used to be). He keeps his uncut opals and a few of the remaining cut cabs he has in small jars of mineral oil. I'm sure someone who actually knows how opals should be stored will jump in here with better suggestions.

--Kathy Johnson Feathered Gems Jewelry

<http://www.featheredgems.com>

From: Don Rogers

Karen, the Nevada opal has some of the finest color of any opal. It also has some nasty problems, mainly that it is not very

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stable. I have had pieces start to craze and crack within 20 minutes of being removed from water. I have had pieces that went from water clear with great fire to a sugar cube look within a similar time frame. Luckily the last resorted to its former life after about 10 minutes in a glass of water. I also have a nice piece of wood with opal in it. If I wet it, the opal really stands out. I put it in water over night, and it was just the opposite of the earlier stone, all the color disappeared. These stones are called Hydrophane Opal. Some will show color only when wet, others only when dry. Neither is a very good choice for jewelry. They can vary in weight by several percent between dry and wet states. Some, when dry, will stick to your tongue like natural turquoise.

As to your opal, what was the state of it when you acquired it. Was it in water, or was it a dry stone? Also what is its history, IE how long has it been out of the ground, and how has it been stored? If you got the stone dry, and it has been in that state for at least a couple years, then you might just have a rare Nevada stone that is stable. They make great jewelry items. If you are not sure of the stone, let it dry for a while, knowing that crazing and cracking are possible at worst, and turning milky white is the next worst thing. Don't try to accelerate the drying process. Just normal room temperature with mid to low humidity, IE 50% to 20%. If the stone stands this for six or seven months, then you may have a jewelry piece.

As to care after you set it, a little moisture will not harm it, and might do it some good. The moist tissue in a zip-lock bag is sometimes called the "Nevada Cure" as it slowly lets the moisture escape and reduces stress on the stone. The normal cure time is on the order of two to three years without opening the bag. The results are spotty though.

If the stone has been dry, and it has been cut and polished for several months to a year and is still in good shape, the best care you can give it is to just occasionally wipe it down with a damp rag. Never store it in a safety deposit box as the extreme low humidity, on the order of 1 to 2% will damage even a sound Australian opal. Never use any oils on the stone and Never use glycerin (an alcohol family chemical that will suck any remaining moisture out of your opal). Avoid extreme temperatures. Nothing

below freezing, and nothing so warm that you can't hold it in a closed hand. This advice applies to all opals.

Don at Campbell Gemstones

From: MidLife Crisis Enterprises

As stated, this material is notorious for instability. My wife made a necklace for a friend out of a limb casting of black opal. The limb piece fell apart but the knob she was going to cut off "fell off" or cleaved just where she was going to cut it. Lots of red fire, in a tear drop form. Beautiful to say the least. The casting was collected many years ago and was in a collection. All has been stable for about 7 years now...

There are so many "methods" and Ideas as to how to keep opal, sort of mind boggling. I tend to stay away from mineral oil as it (to me) makes no sense (where is there mineral oil in the opal fields??) but I think it has come into use as it doesn't grow algae like water does. I store of matrixed opal dry, the solid material in water. That is just me, but it makes the most brain sense to MY brain. Always open to other thoughts and thinking, but to date this is where I am on it.

Hope your piece is stable, it is beautiful material.

John Dach -- MidLife Crisis Enterprise
C.T. Designs (sculptures) Maiden Metals (foundry)
MLCE.net (web site) P.O. Bx 44 Philo, CA 95466

From: Mark Ruby

Kathy, Opals should not be stored in oil of any kind. The stone being porous, they absorb oil and that depletes play-of-color. The oil-bearing layer can be ground off in the case of rough. If you're serious about opal, store it dry. That way you will know if a parcel is cracky and not waste your time cutting it. I wait at least 6 mo. to a year before cutting especially if the parcel is newly mined. (old stock is best when you can get it) later,
Mark Thomas - Ruby SunSpirit Designs Loveland, CO 970 669-7075

From: Beth Rosengard

I recently came across the following article, which speaks to this point. Note that it's about specimen opals, not about opals set in jewelry. - Beth

Storage of Specimen (not to be cut) Opals:

-- **Liquid Silicon:** This viscous semi-liquid can protect the stones from mechanical shock and sudden temperature changes. It is close to the refractive index of opal which enables it to mask - not heal - existing cracks. However, it may be impractical for use in large quantities due to the expense.

-- **Glycerin:** This emollient can also protect opal and hide cracks, plus it is inexpensive. However, it can enlarge existing cracks and induce new cracking.

-- **Mineral Oil:** the viscosity of this material may protect opals from external damage. However, it is not recommended for long-term storage because opals will absorb the oil, become dull, eventually turn yellow and lose their play-of-color.

-- **Water:** The cheapest, safest and best fluid in which to store and display specimen opals. It is recommended that ordinary bleach be added sparingly (1 or 2 drops) to distilled water for preventing the formation of algae.

Compiled by Barr L. Doty and condensed from The Opal Express 12/98.

From: kpkelly

The reason mineral oil is used is that the refractive index of mineral oil is close to that of opal thus disguising any imperfections. If you want to keep the water clear of algae use a few drops of bleach. KPK

From: Kathy Johnson

Dad's had some of these opals stored in mineral oil for probably 25 to 30 years. But now that I think about it, the liquid in those jars *might* be glycerin. I'll have to ask him. If it's mineral oil, I'm sure it's too late to salvage them.

Kathy Johnson Feathered Gems Jewelry

<http://www.featheredgems.com>

From: Cathy Gaber

Glycerin is not good for opals either as it sucks the water out. Once in glycerin, they had better remain there or be switched to water, but you can probably never cut them.

Cathy

From: Rick Martin

> If you're serious about opal, store it dry. That way you will know > if a parcel is cracky and not waste your time cutting it. I wait at > least 6 mo. to a year before cutting especially if the parcel is > newly mined. (old stock is best when you can get it)

Now there's some advice I can pretty much agree with! Reading Orchid over the past few years I've been amazed by the many accounts I've read about unstable opal. I speak from many years of opal cutting and have experienced very few "cracky" opals in all that time. There are two reasons for that. I buy only Australian opals (unless I want an expensive thrill). And I know my opal dealers and expect them to pre-screen any unstable material or replace any that goes bad. There are bad Australian opals, too, but the word gets around to reliable dealers quickly. They don't want cracky opal any more than I do.

I'm from Idaho and have mined opal in both Idaho and Nevada. Here's the sad truth: most opal from that region is far too hydrated and is almost guaranteed to crack. It makes incredibly beautiful specimens but is not commercially useful opal. There are a few stable stones and there are people who claim to be able to stabilize the rough; it may be true but I'll let

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others take the risks. Anyone who expects to successfully sell this opal in jewelry is looking for trouble in my opinion (with the exception of properly made triplets from Spencer, Idaho material).

The only other precious opal I've found to be mostly stable is from Piauí State in Brazil. In the 1970s when rough was briefly available, there were two types: alluvial and mined. Brazilian alluvial crystal opal may be the most stable I've ever cut. It is harder than opal from other sources, with over 60% of the pieces tested by late opal dealer Bill Maison able to scratch quartz! It also occurred in large gem-quality pieces (up to 4 oz. with a few pieces to 10 oz.) and featured unusual and dazzling columnar fire patterns. Unfortunately the mined opal was stressed by heavy machinery rumbling over it and would often crack within a year of being cut. I don't know the present status of that location but see very little material on the market.

I'm wary of Mexican precious opal. It's gorgeous but very prone to cracking, especially the so-called Canterra matrix type. I've heard the same thing about Indonesian opal and the "thunderegg" opal from Ethiopia. In general they are all volcanic opals and very few volcanic opals are stable in my experience.

Storing opals in water is like eating chicken soup for a cold: it can't hurt but it probably doesn't help either. Opal is either stable or it isn't. Unstable opal will eventually craze. I consider oiling opal a shady practice, mostly to hide cracks from buyers. It actually hurts good opal, which needs to "breathe" to keep itself hydrated from humidity in the air. That's why you should never store opal in a safe deposit box. The same low humidity that preserves the paper in wills and stock certificates will dehydrate even stable opals and crack them.

If you are lucky enough to own a fine opal protect it from hard knocks, too much heat and sudden temperature changes. Then just enjoy it.

Rick Martin MARTIN DESIGNS

appeared polished. The latter existed on those materials that were unable to flow in the Beilby manner.

The Beilby layer can occur in three ways. First, as an amorphous layer much like glass, e.g., the polish on zircon and spinel. Secondly, as an amorphous layer, but parallel to crystal planes and crystallizing again in these lines, e.g. calcite. In the third case, the layer forms by flowing but immediately crystallizes identically to the underlying material, e.g. quartz.

Distinguishing properties of the Beilby layer: It is very thin and usually slightly harder than the underlying material, probably due to packing of molecules by pressure.

There still remains some controversy over the existence of the Beilby layer. Some argue that the flow is not true melting, but rather a migration of molecules under pressure. Polish seems to be the result of a combination of temperature, polishing agent and pressure and varies from material to material. But, does it really matter, as long as we get a good polish?

From Geolap News 8/1997 via the Pegmatite 12/1999, via The Tektite, 04/00

25 Almost Everything You Need To Know About...

Taking Care Of Opals

By Ron Fulmer

There seems to be much confusion about the proper way to care for and clean opals. This is a simple guide that will let you preserve your beautiful opals and keep them looking their best.

To care for Opal correctly, two of the basic physical properties of this unique and beautiful gemstone must be understood.

Precious Opal contains around 6%-10% water (sometimes higher). Opal has a hardness of 5.5 - 6.5 on the "Mohs" scale of hardness. First and foremost you must determine if your opal is a natural occurring solid, doublet or triplet. The care instructions for each can differ significantly.

When purchasing Opal, buy quality stones only from knowledgeable dealers or jewelers, preferably someone who is a cutter. The reason for purchasing from a cutter is, many jewelers don't understand Opal, and therefore cannot offer you the right care advice for a particular Opal. If you know precisely the type of Opal you have purchased, you will know how to care for it.

What can I do if my stone loses its polish or becomes scratched?

- This is the main reason for recommending you buy from people who cut Opal. For example, if you get an Opal from a cutter and after prolonged periods of wear and tear your Opal may need repolishing (in most cases it can be repolished at a reasonable price). Or alternatively, if you have damaged the opal and it needs to be "reworked", then this is the person to do it for you, or at least give you the best advice.

Can I put Opals in water?

- Yes! Solid Precious Opal should be placed in a dish of clean room temperature water for at least 10 - 15 minutes, every 12 months or so.

From personal experience (gained from over 27 years of cutting, collecting and handling opals) this allows the gemstone to absorb moisture it may require therefore preventing any crazing or cracking caused by drying out. (Especially if the opal has been subjected to harsh or dry conditions).

Basic Care Practices

- Always remove rings when "Washing Up". Even solid Opals can be adversely affected if subjected to sudden temperature changes. (Such as being placed in very hot water).

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The Beilby Layer

What is the Beilby Layer? It is a phenomenon that brings about a polished surface.

Sir George Beilby discovered that during polishing, the surface of gemstones actually melted and flowed as a "glassy" layer over very fine scratches. He proved it by noting a certain scratch pattern, polishing the surface, and then recovering the scratch pattern by etching away the polished surface with acids.

In 1937, a Mr. Finch, using another technique, confirmed this finding. He reported that there were two types of polish: the Beilby flow and the surface that has such fine scratches that it

- It the stone is an opal doublet or triplet, it is unwise to place it in water (particularly hot water with detergent, as in washing up) for any length of time as it may effect the cement that is used to bond the stone segments together (Doublet - 2, Triplet - 3).
- Don't wear OPAL when gardening. Sand or soil is abrasive and will wear the polish off the stone over time. Also there is the chance, if you are doing any sort of work that could bring the stone in contact with hard surfaces, a flick of the wrist in the wrong direction could chip it.

How do oily substances affect an opal?

- It is recommended you do not place Opal near oils or oily substances, however oily hand and face creams will usually not damage Opal. (Except that they may "build up" around a ring and make it look unsightly.)

How do I store Opals for long periods of time?

- De-humidified atmospheres, (such as bank vaults and safety deposit boxes) are to be treated with caution when storing Opals for long periods, as they can extract the water content from an Opal over time, causing the Opal to crack or craze.
- If Opal must be stored in these conditions, it is strongly advised to put them in a sealed plastic bag with a little water to prevent drying out.
- Also it is advisable to check your Opal every 6 - 12 months to ensure it has not "dried out". Otherwise, it is generally safe to store them away, as long as the area is not overheated.

Displaying Opal

- Don't store Opal for prolonged periods of time under hot lights, as this could crack the stones if the heat builds up and is magnified. (as in a showcase).
- If Opal is to be displayed under these conditions it is strongly advised to place the Opal in or near a source of moisture (i.e.; a bowl of clean water or wet sponge).

Cleaning Opal

- Opal can be cleaned in soft detergent (washing up detergent) in lukewarm water using a cloth or soft brush. After cleaning, Opal should be rinsed in clean room temperature water.
- By following these few simple rules on basic Opal care, your Opals will last forever as a source of enjoyment and natural beauty.

Author - Ron Fulmer - Director of Processing and Sourcing
Gemstone Services Australia Pty Ltd, via The Tumble Rumble
7/01, via Rocky Review Aug/Sept 2001

Packing Fragile Specimens For Mailing

I've developed another method for packing very fragile specimens, and it works quite well. Instead of soap powder, I use the tiny (4-6mm) Styrofoam balls formerly used to fill beanbag chairs. These are no longer available directly, due to safety reasons (small children inhaled them), but beanbag chairs are a common find at garage and tag sales, and at thrift stores. The contents of one beanbag chair are adequate to package dozens of specimens.

To use these, first wrap the specimen lightly in tissue paper or thin plastic, to keep the beads out of crevices. For very fragile specimens, do this wrapping with extreme care. Next, choose a box for the specimen with (Continued next page) at least one inch of free space on all sides. Fill the box about half full with the beads, and then bed the wrapped specimen in them. Fill the remaining space with the beads, completely, but with very little overfill. Close and seal the box completely to prevent the beads from escaping.

Be sure to label the box as "Fragile - Tiny Styrofoam Beads Inside" to prevent unfortunate surprises on the other end...they

scatter easily. Finally, pack this box in a larger box, using packaging peanuts as additional cushioning.

How well does this work? Well, I've shipped fairly large specimens of jackstraw CERUSSITE this way, with no breakage whatsoever. As a test, I packed an egg using this technique, and then dropped it off a four-story building. No breakage. **By George Campbell; osomin@compuserve.com, OsoSoft Mineral Connection [www.osomin.com]**

(The above item was sent by George to the Rockhounds Internet list on March 1, 2001, from The Mineral Mite - March 2001)

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Alternative To Dopping Wax

My father use to go demonstrate his Genie a lot at shows & found dopping wax a royal pain. Then someone how to use cushioned carpet tape (I don't know if this is the same as the double sided cushioned tape you can get at most department stores), it must be the cushioned tape though. He would take some copper plate & solder it to a copper tubing or put a nail in a wooden dowel rod. Then cut the plate a little smaller than the stone, so there is a little clearance between the stone & plate when the tape is put on (you don't want your grinding wheel to hit the plate but you also want as much tape stuck to the stone as possible). Put the tape on the plate, wrapping the tape around the sides. There you have a dopstick that can be uses again and again. Eventually the tape will get dirty & lose it's stickiness, but all you need to do is pull out your pocketknife & scrape off the tape & put on new tape.

To put the stone on all you do is stick it on, yea sure, occasionally the stone would fall off while cutting, but all you need to do is dry off the stone & stick it back on. When you are done all you need to do is pull the stone off. Dad preferred the cushion of the tape over the solid hold of the wax, and after he made a few sticks he never melted wax again.

My dad preferred working large stones so I don't know how well this works on smaller stones & I have never tried dopping wax so I'm not a good source of which is better, but I hope this might help someone.

I know most of you knew my dad & already know about his sticks, but sense I took the time to post this on one of my mailing list, why not share it with the club.

Happy Cutting!

Dennis Chapman

From the Tooele Gem & Mineral Society

<http://www.utahrockhounds.com/tooelegem>

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The Theory of Tumbling

An understanding of the theory behind a Process is always an aid to its practical application. This article will tell you "how" and "why" a tumbler works.

Because of the interest in lapidary tumbling, some notes on the mechanics of the process may be of help to the lapidary. The method has been used in industry for many years in cleaning, deburring, and polishing metal, plastic, ceramic, and other materials. The following information has been gleaned, for the most part, from trade journals, catalogs, and technical literature. Some of it is from the author's personal experience.

The speed of rotation of the drum is "all important" in the rapid working of the material in the drum. Surprising enough, there is just one speed at which the drum and its charge will work most efficiently. Faster or slower than this speed will increase the time necessary to finish the charge. The reason for this is easy to understand when we know the processes at work in either grinding or polishing in a tumbling drum. The mechanism is *not* one of tumbling, in spite of the name. All, or at least 90%, of the work is done by a *sliding* motion of the contents of the drum.

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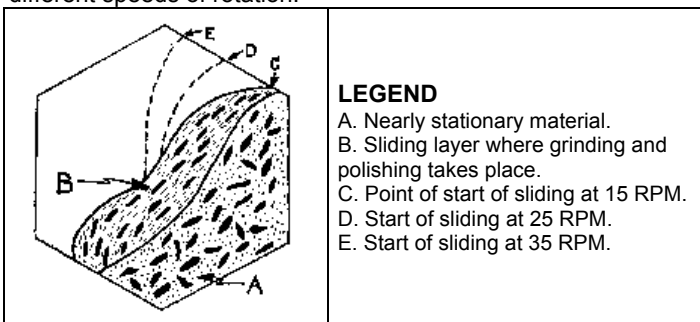
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How Speed Effects Tumbling

The rotary speed of the drum for maximum effect is that which causes a maximum of sliding effect. Let us assume that we are using a hexagonal drum. The diagram shows the effect of different speeds of rotation.



The material at "A" is doing little or nothing except climb the side of the barrel. At point "C" it begins to slide on its return to the bottom of the barrel and 90% of the grinding and polishing takes place in this area, "B." As the speed is increased from 15 RPM to 25 RPM, the start of the slide point moves to "D" but the total amount of the material contained in the sliding mass is less. If one has an open-end drum and can watch the work as it moves in the barrel, these effects are readily apparent.

As the speed is further increased to 35 RPM, the sliding mass almost disappears and the material rolls or tumbles to the bottom of the barrel. When this happens grinding and polishing ceases for all practical purposes. All of these effects are easily proven experimentally and anyone with a tumbling barrel can verify them for himself.

Establish the Best Speed

The speeds given are for illustration only and will vary with each individual case. Experiment with your drum until you find the right speed to give the maximum thickness of the sliding layers and consequently the maximum cutting effect. One manufacturer states that with a 30" diameter barrel operating at 20 RPM, the sliding layer is three inches thick.

I think that from the above and by reference to the drawing, it is plain to see that the maximum cutting rate will be obtained with a drum that is approximately half full. More or less material, or "charge," will decrease, not only the number of pieces finished, but also will cut down on the cutting speed by decreasing the thickness of the sliding layer.

Many users of barrel polishing use only abrasive and water in addition to the pieces being ground or polished. However, some have found that the addition of such materials as sawdust, ashes, paper packing material, confetti, fiberboard, walnut shell meal, etc., are a great help, especially in the final or fine grinding and polishing.

Author Unknown. From "Gems & Minerals," January 1955, pp 12, 71. - from the Orcutt Mineral Society, Santa Maria, CA - http://pw1.netcom.com/~shields6/OMS_2001.html

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Tucson Gem & Mineral Show Guide

WHOLESALE GEM & JEWELRY SHOWS

Feb. 1-15 - AKS Gem Shows - Jewelry, silver, minerals, gemstones, lapidary, metaphysical objects/art - Quality Inn — I-10 at Exit 262; 1025 E. Benson Hwy., Tucson, AZ 85745; (520) 623-7792. - Information: Kay Schabillon, (866) AKS-SHOW, (504) 455-6101; fax (504) 455-6157; e-mail aksshow@att.net; Web site www.aksshow.com.

Feb. 5-10 - American Gem Trade Association (AGTA) - Primarily high-end loose colored gemstones and pearls, with some finished jewelry; designer jewelry section; MJSA jewelry suppliers; gem instruments - Tucson Convention Center — Main entrance on S. Granada Ave.; 260 S. Church St.; (520) 791-4266. - Information: AGTA, (800) 972-1162; fax on demand (800) 879-6259; e-mail info@agta.org; Web site www.agta.org.

Feb. 1-13 - Atrium Productions - An even mix of gemstones, gem rough, jewelry, minerals, various gem and lapidary objects, art - Pueblo Inn (formerly Four Points Hotel) — S. Freeway Ave. Between Congress St. & Starr Pass Blvd.; 350 S. Freeway Ave.; (520) 622-6611. - Information: George Zrakat, (480) 998-4000; fax (480) 998-4748; e-mail atriumpro@aol.com.

Feb. 5-10 - Gem & Lapidary Dealers Association (GLDA) - Gemstones, diamonds, pearls, and finished jewelry; designer jewelry section - Radisson City Center (formerly Holiday Inn) — Broadway Blvd. & Granada Ave.; 181 W. Broadway Blvd.; (520) 624-8711. - Information: GLDA, (520) 792-9431; fax (520) 882-2836; e-mail info@glda.com; Web site www.glda.com.

Feb. 1-14 - (Gem Mall & Rodeway); Feb. 6-14 - (Holidome) - Gem & Lapidary Wholesalers - Manufactured jewelry, gemstones, pearls, watches, silver; some designer jewelry, some beads - **Gem Mall** — I-10 at Palo Verde Rd.; Country Club Rd. & Michigan St. - **Holiday Inn/Holidome** — I-10 at Palo Verde Rd.; 4550 S. Palo Verde Rd.; (520) 746-1161. **Rodeway Inn/Grant Road** — I-10 at W. Grant Rd.; 1365 W. Grant Rd.; (520) 622-7791. - Information: G&LW, (601) 879-8832; fax (601) 879-3282; e-mail info@glwshows.com; Web site www.glwshows.com.

Feb. 6-11 - GJX Gem & Jewelry Show - Gems, gem carvings, designer and fashion jewelry - Gem & Jewelry Exchange — Main entrance on S. Granada Ave.; 198 S. Granada Ave. - Information: Cheryl Wormington, (520) 882-4200; fax (520) 882-4203; e-mail cheryl@gjxusa.com; Web site www.gjxusa.com.

Feb. 1-16 - International Gem & Jewelry Show - Manufactured jewelry, gemstones, pearls, silver, lapidary objects, minerals - Intergem Tucson 2003 — Two Blocks Southwest of the Tucson Convention Center; I-10/Frontage Rd. & Simpson St. - Information: (301) 294-1640; fax (301) 294-0034; e-mail info@intergem.net; Web site www.intergem.net.

Feb. 1-15 - Pacifica/AKS Gem Shows (Howard Johnson) - Jewelry, silver, minerals, gemstones, lapidary, metaphysical objects/art - Howard Johnson — I-10 & Starr Pass Blvd.; 1010 S. Freeway Ave.; (520) 622-5871. - Information: Kay Schabillon, (866) AKS-SHOW, (504) 455-6101; fax (504) 455-6157; e-mail aksshow@att.net; Web site www.aksshow.com.

WHOLESALE MINERAL SHOWS

Jan. 27-Feb. 16 - Madagascar Minerals Gallery & Warehouse - Minerals, gems - Norcross-Madagascar Warehouse — N. Main Ave. Between Drachman St. & Speedway Blvd.; 1224 N. Main Ave. Advance Information: Robert Grant, (520) 882-8884; fax (520) 882-0053; e-mail sales@madagascarminerals.com; Web site www.madagascarminerals.com.

Jan. 31-Feb. 16 - TopGem Minerals - Minerals - TopGem Warehouse — N. Main Ave. Between Drachman St. & Speedway Blvd.; 1248 N. Main Ave. - Information: Mike and Norma New, (520) 622-6633; fax (520) 792-2928; e-mail topgem@topgem.com; Web site www.topgem.com.

Jan. 28-Feb. 15 - V-Rock Shop - Minerals, gems - V-Rock Shop — N. Main Ave. South of Speedway Blvd.; 933 N. Main Ave. - Information: Gerald or Dave Vukmanovich, (520) 882-8886; fax (520) 882-2971; e-mail tucson@vrockshop.com; Web site www.vrockshop.com. Wholesale or retail-registered buyers only.

WHOLESALE & RETAIL GEM & JEWELRY SHOWS

Feb. 6-10 - Gem Galleria - Gem and jewelry art; a juried show - Manning House — Congress St. & Granada St.; 450 W. Paseo

Redondo; (520) 770-0714. - Information: GemCast Productions, (303) 526-4412; fax (303) 526-5109; e-mail mntngem@aol.com; Web site www.gemgalleria.com.

Feb. 1-15 - Pacifica/AKS Gem Shows (Holiday Inn Express)

- Gemstones, jewelry, silver, minerals, lapidary, metaphysical objects/art - Holiday Inn Express — I-10 & Starr Pass Blvd.; 750 W. Starr Pass Blvd.; (520) 624-4455. - Information: Kay Schabillon, (504) 455-6101; fax (504) 455-6157; e-mail aksshow@att.net; Web site www.aksshow.com.
WHOLESALE & RETAIL GEM, MINERAL, & FOSSIL SHOWS

Feb. 2-15 - Arizona Mineral & Fossil Shows - Minerals, fossils, and some gems (Best Western, InnSuites, and Marketplace); Feb. 1-9 - (Vagabond Hotel) - **Best Western Executive Inn** — (W. Drachman St. & Oracle Rd.; 333 W. Drachman.; (520) 791-7551. **InnSuites Hotel** — N. Granada Ave. & St. Mary's Rd.; 475 N. Granada.; (520) 622-3000. **Mineral & Fossil Marketplace** — N. Oracle Rd. & Drachman St.; 1333 N. Oracle Rd.; (520) 624-4018. **Vagabond Plaza Hotel** (formerly Ramada Inn) — N. Oracle Rd. & Drachman St., 1601 N. Oracle Rd., Tucson, AZ 85705; (520) 623-6666. - Information: Martin Zinn Expositions, (303) 674-2713; fax (303) 674-2384; e-mail mz0955@aol.com; Web site www.mzexpos.com.

Jan. 30-Feb. 16 - Fine Minerals International - Minerals - Fine Minerals International Gem & Mineral Forum — N. Granada Ave. & St. Mary's Rd. (Next to the InnSuites Hotel); 450 N. Granada Ave. - Information: Daniel Trinchillo Jr., (917) 295-7141; e-mail danieltr@ix.netcom.com.

Jan. 31-Feb. 16 - Globe-X/Days Inn - Minerals, fossils, lapidary objects, gemstones - Days Inn/Convention Center — S. Freeway Between Congress St. & Starr Pass Blvd.; 222 S. Freeway Ave. - Information: 520-791-7511; fax (520) 622-3481; e-mail globex@daysintucson.com; Web site www.daysintucson.com.

Jan. 25-Feb. 14 - **La Quinta Group** - Minerals, fossils, lapidary objects, gemstones - La Quinta Inn — N. Freeway Ave. & St. Mary's Rd.; 665 N. Freeway Ave. - Information: (520) 622-6491.

Feb. 1-15 - Mineral & Fossil Co-op - Minerals, fossils - Mineral & Fossil Co-op — N. Oracle Rd. & Elm St. (Next to the Vagabond Plaza Hotel); 1635 North Oracle Rd. - Information: Bill Barker, phone/fax (520) 617-0207; e-mail docfossil1@aol.com.

Feb. 1-16 - (Jump start: Jan. 31) - **Rapa River Gem & Mineral Show** - Minerals, fossils, some gems - Rapa River — S. Freeway Ave. Between Congress St. & Starr Pass Blvd.; 292 S. Freeway Ave. - Information: Ray Arriaga, (520) 743-0866; fax (520) 743-0563; e-mail rapagem@yahoo.com; Web site www.rapariver.com.

Feb. 1-16 - Tucson Electric Park Gem & Mineral Show - Minerals, gemstones, fossils - Kino Sports Complex — E. Ajo Way Between Kino Pkwy. & Country Club Rd.; 2500 E. Ajo Way. - Information: Al Sargent, (520) 883-6447; fax (520) 883-0527; e-mail TEPGemshow@cs.com.

Feb. 13-16 - Tucson Gem & Mineral Society - Minerals, gemstones, fossils - Tucson Convention Center — Entrance on Church St. & Granada Ave.; 260 S. Church St. - Information: TGMS, (520) 322-5773; fax (520) 322-6031; e-mail tgms@tgms.org; Web site www.tgms.org.

Feb. 7-11 - Tucson Westward Look Resort Mineral Show - Minerals - Westward Look Resort — A Half-Mile East of Oracle Rd.; 245 East Ina Rd.; (520) 297-1151. - Information: Dave Waisman, (509) 458-2331; e-mail svidave@aol.com.

WHOLESALE & RETAIL BEAD SHOWS

Feb. 3-9 - The Bead Renaissance - Beads, bead supplies - Sabbar Shrine — E. 15th St. & Tucson Blvd.; 450 S. Tucson Blvd. - Information: J & J Promotions L.L.C., (505) 894-1293; (505) 894-4080; e-mail info@beadshow.com; Web site www.beadshow.com.

Feb. 1-16 - A Beaucoup Congé - Beads, bead supplies - A Beaucoup Congé — Ft. Lowell Rd. Between First & Stone Ave.; 355 E. Ft. Lowell Rd. - Information: Tomas Smith, (520) 696-9490; fax (520) 696-0039; e-mail info@beadholiday.com; Web site www.beadholiday.com.

Feb. 5-9 - The Best Bead Show - Beads, bead supplies - Kino Veterans Memorial Community Center — E. Ajo Way & Forgeous Ave.; 2805 E. Ajo Way. - Information: Crystal Myths Inc., (505) 883-9295; fax (505) 883-0056; e-mail crstlmyt@swcp.com; Web site www.crystalmyths.com.

Feb. 5-10 - The Whole Bead Show - Beads, bead supplies - Windmill Inn — N. Campbell Ave. & River Rd.; 4250 N. Campbell Ave.; (520) 577-0007. - Information: Ava Motherwell, (800) 292-2577, (530)

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WHOLESALE & RETAIL — Miscellaneous

Feb. 2-16 - American Indian Exposition - American Indian artifacts, one-of-a-kind art pieces, crafts, and beads - Flamingo Hotel — N. Stone Ave. & Drachman St.; 1300 N. Stone Ave.; (520) 770-1910. - Information: Native American Co-op, (520) 622-4900; fax (520) 622-3525; e-mail info@usaindianinfo.org; Web site www.usaindianinfo.org.

Feb. 7-10 - Rio Grande Catalog in Motion - Gem- and jewelry-related tools, products, services, and demonstrations - Tucson East Hilton — E. Broadway Blvd. & Kolb Rd.; 7600 E. Broadway Blvd., Tucson, AZ 85710; (520) 721-5600. - Information: (800) 396-9896 ext. 13247; fax (505) 839-3248; e-mail marketing@tbq.riogrande.com; Web site www.cataloginmotion.com.

