



The OPAL EXPRESS

Published monthly by the
American Opal Society...



VOL 22 No 10
October 1990

FROM THE PREZ!

With show time just around the corner, November 3 & 4, I send out a plea, to those who'll give that last minute hand, to carry the show through for the success we have all had in the past.

We'll need sane pick-up truck help, for Harold Umberson to get all the cases to and from the Quality Inn.

We'll need sane help for Mike Kowalsky on electrical hook-ups. Just the physical part of laying and picking up the wiring Friday evening for setup and Sunday evening for break-down.

We' ll need people at the door to work as ticket sellers and to see that the visitors sign the book. People to demonstrate and to man the Society booth. People to watch over and supervise the hands-on booth for grinding and polishing by the visitors. Yes, this year there is something different, we are going to supply sane rough on dop sticks so that those that think it is difficult can see for themselves that it isn't • And they get to keep what they cut. Hopefully this will generate interest and tend to increase our dwindling membership.

Any and all help will be greatly appreciated, just contact the office at (213) 869-0527 and we'll be glad to sign you up.

Thank you, Dick Koch, your Prez.

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GENERAL MEETING

The next general meeting will be held on October 11, 1990 at 7:00 PM, in the Santa Fe Springs Library.

This meeting will center on Dopping. We have a lot of stone to dop for the show. Not only do we have work to do, bit we will get a refresher lesson in dopping. If you have an alcohol burner for dopping, bring it with you, we can use an extra one or two.

See you there. We have the sticks and stones, you bring your bones.

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TREATING OPAL MATRIX

Most of the opal matrix found in Australia originates from an area within the so-called inland sea, but predominately in Andamooka, which contains a varying percentage of salt, varies vastly in porosity, hardness, color and size. The actual size of the matrix is from small pieces which, on an average, contain good color unless otherwise classed as dead matrix, to larger pieces or boulders which have been known to exceed one ton in weight and will either have color in the skin of the matrix blob or right through it or again is classed as dead matrix.

There is always the possibility of color right through the matrix which is large in size, but this is not very common although often it forms in patches or bands usually on the underside of the matrix blob. -

When selecting matrix for treating, use the pieces which appear to be porous but not of great extent so as to make it impossible to obtain a good polish and those with an uneven break. A simple test when the matrix is dry is to lick it and watch how quickly it dries. This will give you an idea of the porosity. Always discard those with a conchoidal fracture as these are usually hard compared to those which are suitable for treating.

A good point to mention at this stage is, when you are buying matrix which is usually in water in a glass container, it will show the colors of the matrix but will not give you any idea of the hardness or porosity as they all appear to be about the same. But, by removing them from the jar and allowing them to dry, it is then possible to see whether it is the type suitable for treating. On the other hand, when buying matrix out of water, it is always advisable to see it in water to see the amount of color which the matrix contains. Also, remember that objects in bottles or jars never seem to be the same size when removed due to slight magnification produced by the container which, in most cases, is very misleading.

To determine whether a piece of matrix can be successfully treated or not can and will take a lifetime of experience. More often than not those that you think are doubtful about taking to the treatment turn out to be perfect and the ones that were supposed to be the best you had ever treated did not turn out so well, but only practice and experience will give perfection of which I am miles behind sane individuals. However, I am always eager to listen, try and learn usually by my mistakes.

Now that the best pieces have been selected for treating, the next step is to determine whether you wish to make doublets, triplets or solids.

Starting with the doublet, first of all orient the piece of matrix which you intend to slab, the reason being that the matrix can be banded or patchy in the same manner as opal and must be cut parallel to the bands or in a manner to gain the best from the matrix where it is patchy. The thickness of the slabs is up to the individual but it is suggested that it not be cut less than one millimeter thick.

By using a flat lap (either diamond or glass plate), face off the slabbed matrix to the equivalent of 400 grit on both sides, remembering the slab must be of equal thickness and be free of any flaws, etc. This procedure is exactly the same for a triplet, the only difference being that the matrix can be slatted to a thickness of approximately 8 thousandths (.008) depending on the type of matrix and the desires of the individual.

The solid matrix is oriented to gain the best features and cut in the same manner as a gemstone cabochon. It is taken only to the stage of prepolish. I prefer to completely finish the cabochon, the reason being that the matrix is usually porous and can be pitted as well as have soft patches which, when polished after treating, will fill all the pits, flaws, etc., with your polishing compound which will be hard to remove. I found it easier to fully complete the cabochon before treating. This saves time in cleaning and gives a better finish to the cabochon.

For sane reason or other, which I cannot fully explain, it has no effect on the treating process whether or not the cabochon is completely finished. This is due mainly to the porosity of the matrix which, when completed and magnified several hundred times, is the same as looking at the end of a bundle of straws and also relies on the sugar ratio,

TREATING OPAL MATRIX (continued)

e.g., how much water to sugar and how quickly it dehydrates under heat.

Now that the matrix has been prepared for the treating process, I should, at this stage, mention that it is advisable and more economical to treat as many pieces as possible. This will be understood clearly once you have treated a batch.

TREATING PROCESS

IMPORTANT - The most important governing factor in treating is NEV~ let the temperature change suddenly - IT MUST BE GRADUAL - otherwise you'll find you have a jar full of cracked and broken pieces of matrix.

NO. 1 - DESALINATION PERIOD

As mentioned, matrix contains a certain amount of salt and to allow good penetration in the treating process, the salt must be removed as much as possible. Place the matrix in clean water and allow it to soak for at least two days, changing the water each day. It is hard to determine the percentage of salt in the matrix, but it pays to try and dilute it as much as possible

NO. 2 - DEHYDRATION PERIOD

Assuming that the cabochons and slabs are being treated together, select two glass containers, both of the same size, but be sure that when the matrix is placed in one of these containers that it only fills one quarter of that container. With the other container or jar, fill it with a sugar solution, 1 cut of sugar to 3 cups of water (rainwater if possible). Place both containers in the oven and set the temperature at 150 degrees F to 200 and maintain this temperature for a period of at least four hours. That will, as the heading indicates, dehydrate the matrix allowing easy penetration of the sugar solution in the next stage.

NO. 3 - SUGAR PROCESS

Switch off the oven and allow it to drop to ROOM TEMPERATURE. By using the normal household oven it is possible to open the oven door and pour the sugar solution into the jar that contains the matrix without removing them from the oven. Place a glass plate over the mouth of the jar which contains the matrix and sugar as this tends to slow down the evaporation of the solution. Remove the jar which contained the sugar solution as this has no further use at this stage.

Reset the oven to 150 degrees F to 200 Degrees F but NEVER above 212 degrees F as you will evaporate your sugar solution in almost no time. Maintain this temperature for at least two days. You will probably understand now why there is so much solution compared to matrix as time goes by the solution evaporates but should never go below the level of the matrix. If it does, you are operating on the wrong temperature.

NO. 4 - ACID PROCESS

Once it has reached the required time allowed for the sugar process, turn the oven off and allow to cool down to ROOM TEMPERATURE once again this can take several hours. So, if you become impatient and decide to open the oven sooner, the possibility of cracking the matrix is very high; therefore, I suggest you don't open the oven too soon.

Now that the required balanced temperature has been reached, remove the jar from the oven, take off the glass plate, and tip them into a dish. The sugar solution should run freely from the jar. If it doesn't, either the sugar ratio is incorrect or the temperature is too high.

Wipe the excess sugar from the matrix, then place them in the jar which was removed from the sugar process which has now been cleaned and fill it 3/4 full with sulphuric acid, 90% proof, or battery acid will do the job.

NOTE Before you do anything else, place the remaining sulphuric acid in a sealed container and in a position well out of the reach of children, as well as mark the bottle DANGEROUS

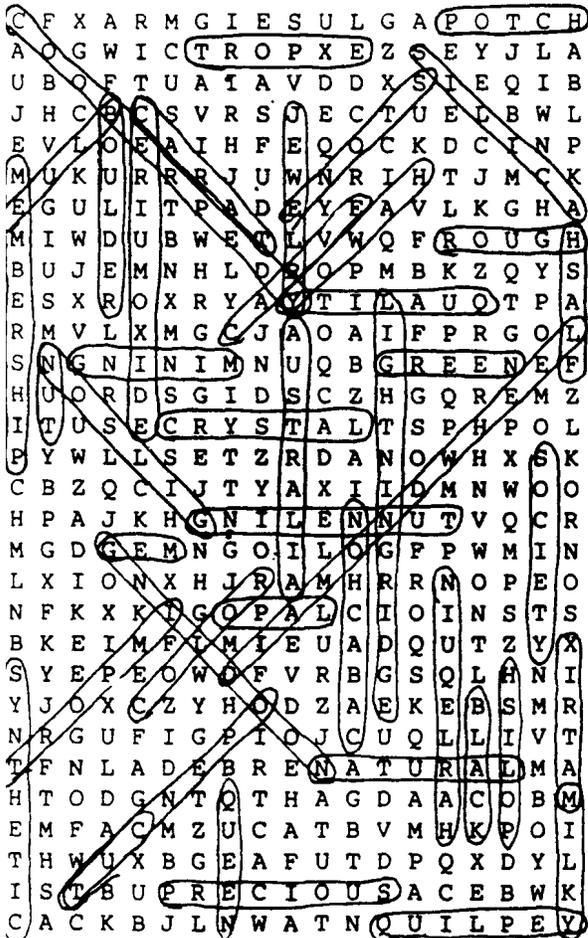
Now place back in the oven and reset to a temperature of 150 degrees to 200 degrees F and leave them there for another two days. Ventilate the room to avoid concentration of fumes.

NO. 5 - DE-ACID TREATMENT

continued on next page

After the required time has been reached, turn off the oven and allow to cool to room temperature. Remove the jar from the oven and tip the contents into a dish of lukewarm water. (Note: Always put acid into water. Never water into acid!) Place the dish under the tap and turn it on slowly so that the water continually overflows in the bowl. This should be done until a piece of litmus paper can be placed in the dish without changing color. This will give the indication whether there is any acid still present. once all signs of acid have been removed, take the pieces out of the dish and wipe them on a clean rag, and you should find that the operation has been a success.

SOLUTION TO THE WORD SEARCH PUZZLE



- | | | | |
|----|-----------------|----|------------|
| 1 | AUSTRALIA | 23 | MATRIX |
| 2 | BLACK | 24 | MEMBERSHIP |
| 3 | BLUE | 25 | MILKY |
| 3 | BOULDER | 26 | MINING |
| 5 | CABOCHON | 27 | NATURAL |
| 6 | CARAT | 28 | NOODLING |
| 7 | CARVE | 29 | NUT |
| 8 | CERIUM OXIDE | 30 | OPAL |
| 9 | COLOR | 31 | OPEN CUT |
| 10 | COOPER PEDY | 32 | POLISH |
| 11 | CRYSTAL | 33 | POTCH |
| 12 | CUT | 34 | PRECIOUS |
| 13 | DIAMOND WHEEL | 35 | QUALITY |
| 14 | EXPORT | 36 | QUEEN |
| 15 | FLASH | 37 | QUILPEY |
| 16 | GEM | 38 | ROUGH |
| 17 | GILSON~ | 39 | SILICA |
| 18 | GREEN | 40 | SOCIETY |
| 19 | HARLEQUIN | 41 | STONE |
| 20 | IMPORT | 42 | SYNTHETIC |
| 21 | JEWELRY | 43 | TUNNELING |
| 22 | LIGHTNING RIDGE | 44 | YOWAH |

Karats, Carets, Carrots and Ounces

Once in a while it is interesting to review some of the terms which are used in connection with precious metals and gemstones. They may be a little confusing, since they are a combination of commonly used terms, and less well known terms, but a few definitions will likely help clarify them. So let's concentrate on Karats, Carats and Ounces, and leave the carrots to the rabbits.

Since precious metals are usually priced by the ounce, it is necessary to understand that the ounce weight used for gold, silver, and platinum is not the common everyday ounce. The common ounce, which we are all accustomed to, is the avoirdupois ounce. It is usually just referred to as "ounce," although, when necessary, it is specified avoirdupois, or abbreviated "av." The ounce weight used for gold, silver, or platinum is the troy ounce, which is equal to 1.0971 avoirdupois ounces; so it is about 10% heavier. If silver is listed at \$10.00 per ounce (troy) it would cost about 10% less, or \$9.00 if we think of it in terms of the common, everyday ounce.

Pure silver, usually called "fine silver," is used for applications where its properties of softness and good malleability are desired. For use where greater strength and hardness are desirable, an alloy of silver and other metals is employed. Sterling silver is 92.5% silver and 7.5% copper. Coin silver is 90% silver and 10% copper. Mexican silver, used by sane Mexican and Indian craftsmen -for jewelry, contains at least 90% silver.

The common av. ounce is used as a measure of weight for selling sane kinds of rough gemstones. Due to the sharp increase in price, more of them are being sold by the grain. In order to convert a grain price into the price per ounce, simply multiply by 30. This will be about 6% too high, but it is easy to use a round figure like 30, and the answer is close enough for the purpose of translating the grain price into the more familiar price per ounce.

Pure gold is very soft, and is not suitable for jewelry, or for most other uses. It is alloyed with other metals to enhance its physical properties, to obtain desired color, to reduce its cost, and still retain its beauty and freedom from tarnishing so desirable in jewelry. The alloying metals usually are silver, copper, and zinc for all shades of gold except white, which used nickel, copper, and zinc.

The term karat is used to designate the percentage of pure gold in an article. In some cases the term carat is also used for this purpose, but the usual designation is karat, abbreviated K. A 24K gold article would be pure gold, a 12K article would contain 50% gold, an 18K article would contain 75% gold, and so on.

Cold filled material, usually abbreviated G.F., consists of gold covered, or gold clad base metal. The gold cladding is very much thicker and more durable than gold plating and is, therefore, greatly superior. The thickness of gold cladding varies with the thickness of the sheet, or the size of wire, being thinner on thin sheets, or small size wire. For sizes generally used in jewelry, the cladding would be at least 25 to 50 times thicker than plating.

The amount of gold in the cladding of a G.F. article is specified by a rather cryptic formula, such as 1/20 12K G.F. This means that the cladding is 12 karat gold, and weighs 1/20 of the total weight of the article. Since 12K gold is 50% gold, the weight of pure gold is equal to 1/40 of the weight of the article.

So much for the karat. Now we go to the carat.

The weight of such gemstones as diamonds, rubies, or emeralds is expressed in carats. A carat is a specification of weight, not size or shape. One carat equals 1/5 gram, so a one grain stone would weigh five carats, or it would require five stones of one carat to equal one gram. Since there are 28.35 grams in one ounce, it would require 141.75 gems of one carat each to weigh one ounce. How much would one ounce of one carat perfect flawless diamonds sell for today? The price would run into the millions of dollars.

Since many gemstones are less than one carat in weight, it is convenient to have a smaller unit of weight to describe them. For this purpose the term point is used, which equals

1/100 of a carat. Therefore a 1/4 carat stone would be designated as 25 points, and a 1/10 stone would be 10 points.

Some time ago the Lapidary Journal showed a picture of a faceted blue topaz, measuring 6 1/8 inches on a side, and weighing 21,327 carats. This would be equal to: 2,132,700 points; 21,327 carats; 4,265.4 grains; 150.5 ounces; 9.4 pounds.

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" C O N T E S T "



American Opal Society, Inc



P.O. Box 1384 South Gate. California 90280

OPAL CUTTING COMPETITION

RULES

1. Competition is open to anyone, member and non-member alike.
2. There are two (2) categories:
 - A. Finished stones, unmounted only.
 - B. Carvings, unmounted only.
3. All entries must be opal, doubles and triplets are acceptable.
4. All entries must be entirely the work of the person entering the stone.
5. Entries are limited to three (3) per parson, total, rot per category.
6. There will be an entry fee of \$5.00 per stone entered.
7. All entries must be turned in by 12:00 noon on Saturday. Judging will be at 4:00 p.m. Saturday by a panel of Judges, none of whom will be eligible to enter the competition. All entries must remain on display until 4:00 pit Sunday. -
8. No entries will be returned without the receipt given at time of entry.
9. There will be cash awards in each category as follows:
 - 1st Place will receive \$50.00 in each category.
 - 2nd Place will receive \$25.00 in each category.
 - 3rd Place will receive \$15.00 in each category.
10. All judging will be on the point system, 1 - 10, 1 being low, 10 being high. Areas of concern will be; quality of finish, imagination, proportion and over-all workmanship.

COLOR, SIZE QUALITY OF SOME STONE ARE NOT FACTORS FOR THIS COMPETITION.



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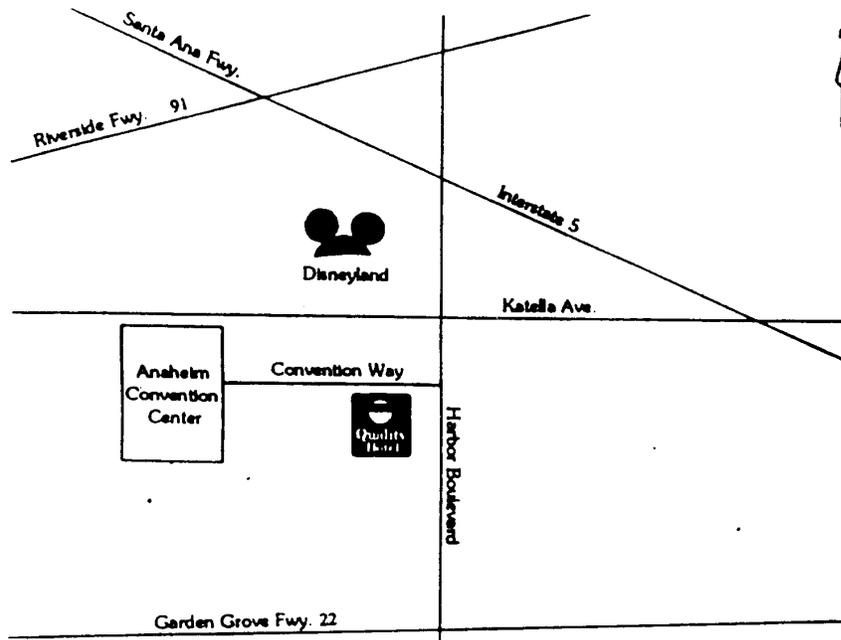
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DISCOUNT COUPONS AND A MAP WITH DIRECTIONS !!!

Yes these coupons will honored at the door. Now that that excuse is covered, we hope to see all of you there. If you need more fliers/discount coupons just call the office (213) 869-0527 and we'll see that they are put in the mail the same day.

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