



Lake City Rockhound News

Newsletter of the North Idaho Mineral Club, Inc.
P.O. Box 1643 Hayden, ID 83835

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We meet on the 3rd Thursday of the month at the Lake City Center, 1916 Lakewood Drive, Coeur d'Alene in the Library, from 6:00PM to 8:00 PM. Visitors and Guests are Welcome.
Our web site: <http://www.northidahomineralclub.com>

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This Month's Meeting

Regular Meeting – August 17, 2017

The Meeting Program:

Wirework Macrame Cabochon Looping

Refreshments: Diane Rose and Mike Burton

There will be a silent auction and scholarship raffle tickets will be sold.

Buy your tickets today.

Meeting Minutes for July 2017

Instead of our normal meeting, the July meeting was our annual potluck picnic, with a silent auction of items. No meeting minutes were taken.



Color Enhancement of Topaz

By Dee Purkeypille



Topaz is one of our most popular and affordable colored gemstones. Blue topaz is one of the most beautiful and commonly marketed colors of this remarkable gem. Although topaz naturally occurs in many different colors, blue topaz has dominated the jewelry market since the 1970's when a large number of deeply colored blue topaz crystals started appearing on the market. At that time there were no new mines or developments in existing mines to explain the sudden availability of this abundance of blue topaz. The production of blue topaz from colorless topaz with irradiation was first reported in 1957 by F.H. Pough, who was a contributing editor of many articles on minerals in the Lapidary Journal until only recently. Kurt Nassau, a research scientist residing in Bernardsville, New Jersey, rediscovered this information in 1974 when he was analyzing a faceted topaz that had been purported to be

quartz. Since that time many hundreds of thousands of carats of treated blue topaz have been marketed by many sources. Nassau's research revealed that both natural blue and irradiated blue topaz are stable to light. This may account for its popularity with both jewelers and the buying public since of the three types of yellow to brown topaz, two fade in sunlight. Natural pink topaz is stable in sunlight but is extremely rare.

The ancient historian, C. Plinius Secundus (born 23 AD and died 79 AD during the eruption of Vesuvius) wrote an epic account of all that was known in his time and which entailed 37 volumes. Plinius reportedly gained his information by traveling and by reading over 2000 books. Some of these books discussed gemstone alterations: "Moreover, I have in my library certain books by authors now, living, whom I would under no circumstances name, wherein there are descriptions as to how to give smaragdus (emerald, in part) to crystallus (rock crystal) and how to imitate other gems: for example, how to make sardonichus (sardonyx) from sarda (carnelian, in part sard): in a word, to transform one stone into another. To tell the truth, there is no fraud or deceit in the world which yields greater gain and profit that of counterfeiting gems."

With the detonation of the first atomic bombs in the deserts of the American west, the course of human civilization was irrevocably changed. That change also brought along with it much experimentation as regards the effect of radiation

on all objects precious or common. It was only natural that man would attempt to alter precious stones with this incredible energy source. None of the many gemstone enhancement processes used on other gemstones appears to have been used on topaz except for the dyeing of water worn pebbles in indigo dye pots.

Typically, colorless or pale-colored topaz is heated to 200 to 300 degrees centigrade for several hours. The longer the stone is heated the deeper the color change will occur in the stone. The stones will turn to a yellow to brownish green to a dark brown color. These colors however are not stable and will eventually fade to clear unless the stones are irradiated. The irradiation process essentially eliminates the yellow-brown and green colors and leaves a stable blue color, which will not fade unless subjected to temperatures of 500 to 600 degrees centigrade.

Topaz is irradiated by one of three energy sources: gamma rays from the mass 60 isotope of cobalt (Co-60), high-energy electrons from linear accelerators, and neutrons from nuclear reactors. Gamma irradiation is the most common and least energy costly method. The other sources of irradiation can produce deeper blues, however, they are very energy consumptive and in the case of neutron irradiation, most often unavailable to commercial interests. Gamma cell devices are commercially available, require little upkeep and continuously produce rays over many years as the Co-60 slowly decays. The gamma rays penetrate the stone very deeply and produce uniform coloration if the stone is uniform. What little heat is generated by the exposure to Co-60 is distributed uniformly throughout the stone, which significantly reduces the chance of cracking the gem material. The heat generated is a function of the time of exposure and the dosage of the radiation source. Cracking will usually be prevented if the dose is kept to less than 5-megarads per hour. The longer the topaz is exposed to the gamma source the deeper the blue can be obtained. However, the typical light blue color is the most often seen result of gamma exposure. The cooling down time for gamma irradiation is on the order of several weeks to several months as opposed to electron or neutron irradiation which may take up to a year and a half to cool down to safe handling levels. Irradiated topaz is so common that it is one of the only gemstone that is consistently checked at U.S. Customs for excess radiation.

Unfortunately, other irradiated stones have been allowed to enter the U.S. simply because Customs has not been aware of the massive abuse of irradiation with other gemstones in foreign countries that do not properly control their irradiation sources. AD in all, topaz is one of our least

expensive precious gems that is still in high demand because of its intrinsic and enhanced beauty.

From The Stone Chipper via AFMS Newsletter, June/ July, 2001.



Geodes

Geodes are like the Tootsie Roll Pop of the geology world because underneath the hard exterior lies a surprise center!

Hollow Rocks

So, let's start at the beginning: how do you get a hollow rock with lots of sparkling crystals inside? First you need a hollow rock. Geodes start their lives as a hollow bubble inside a layer of rock. The bubble could be from air inside explosive volcanic rock or it could come from the hollow remains of animal burrows or tree roots.

What About The Crystals?

When these rocks form from air bubbles inside of volcanic rock it is pretty easy to picture. Think about the small air bubbles you see in pumice. Now, imagine just one of those bubbles completely surrounded by black or red volcanic rock. As rain pelts down on the hot bubble, the chemicals in the rock are slowly released into the water. Some of the water soaks through the hard, rocky outside of the bubble and is trapped for a moment on the inside. As the mineral-rich water moves on through the bubble, tiny crystals are left behind, clinging to the sides of the bubble. Millions of years pass while this in and out flow of water gradually builds crystals inside the empty space. The crystal formations might become large single crystals or tightly packed micro-crystals, so small that you can't even distinguish one from another.



Quartz, Calcite, Or What?

Most geodes have interiors made of either quartz or calcite. Quartz crystals are silicates. Silicates are the most common mineral in the crust of the earth. Over 90% of the minerals present in earth's crust are silicates. With this said, you can imagine that silicates are a pretty big group with lots of variation in terms of specific chemical composition.

Source: www.rocksandminerals4u.com



Brad's Bench Tips for August

Brad Smith <brad@greenheart.com>

FIND THE BALANCE POINT

With odd-shaped pendants or earrings it's often difficult to find the right place to attach a bail or loop so that the piece is balanced and hangs straight. A quick way to make a tool for this is to modify a set of tweezers. Any set of tweezers will work. Spread the tips, sharpen them with a file, and bend the tips at a right angle to point towards each other. To use the tool suspend the pendant or earring between two sharp points to see how it will hang.



DRILL BREAKAGE

Using a small drill is difficult for a beginner, especially if it is hand held in a flexshaft or Dremel. They are easily broken if you push too hard or if you tilt the drill while it's in the hole.

Most problems, however, are the result of buying cheap drills that suffer from poor quality steel or inaccurately ground cutting edges. A good drill from jewelry supply companies is well worth the price.

Remember that drilling always goes easier with lubrication. A little wax or oil is all you need. Almost anything will work - Three and One, beeswax, mineral oil, injection wax, car oil, olive oil, or one of the commercial cutting waxes. The lubricant helps to move chips out of the hole and reduces friction of the drill against the side of the hole, keeping the drill cooler.

See all Brad's jewelry books at <http://Amazon.com/author/bradfordsmith>



New Method of Tumbling

by Al Nutile in Tulip City Conglomerate

The writer believes that the following idea can take much

of the work from the popular method of tumbling. All of the instructions we have seen state: "Wash stones and tumble very clean between each change of grit or final materials," at the same time stating, "If liquid is too thick add some slurp or grit from previously used material."

We know some will argue against our method, but here goes: Don't wash at all after each week of tumbling with grit! Start with #50 grit, tumbling a week. Then DON'T EMPTY THE TUMBLER, but add 5 teaspoons of new grit [one step finer] to the mixture in the three pound tumbler. Follow this procedure through #190, #320 and #600 grit. Now [finally] thoroughly wash the stones and tumbler before pre-polish and final polishing.

For a really glossy finish, take one or more weeks [after washing out the polishing powder] adding three spoons of sugar, one spoon [level] of Cascade or All or any non-sudsing detergent and add about ten drops of muriatic acid, if you have some, let stand one minute - open, close tub, and tumble for a week.

We have run eleven tubs using this method and found that even ordinary sandstone comes out highly glossed. Except for extra final steps, you save three washings and getting rid of the slurp each time. Saves time, work and mess, and still gets a better polish.

From Pickin's & Diggitis 7/96 via Rock Chips 6/00 & others



Cryptic Quote

Substitute letters to reveal a quotation.
Clue: S equals A

SJMSGP YSLLG S HJSBUV UH MDXPIZG
XV YSPZ UH PVSIZWXQZ, SVK
HNLQDZLFULZ, SJMSGP YSLLG S
PFSJJ PVSIZ.

M.Y. HXZJKP

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Affiliations			
AFMS – American Federation of Mineralogical Societies			
NFMS – Northwest Federation of Mineralogical Societies			
S.C.R.I.B.E.			
ALAA – American Lands Access Association			
Gem Show Schedules			
Jul 21-23	9:00-6:00 9:00-6:00 9:00-5:00	Wash. Agate & Mineral Society	Parkside Elem. School, 301 Central Ave E, Tenino, WA
Aug 12-13	9:00-5:00 10:00-5:00	Maplewood Rock & Gem Club	Maplewood Clubhouse, 8802 196 th St SW, Edmonds, WA
Sep 9-10	9:00-5:00 10:00-4:00	Clallum Cty Gem & Mineral Assoc.	Vern Burton Comm. Ctr, 308 E. 4 th St, Port Angeles, WA
Sep 9-10	10:00-5:00 10:00-5:00	Marcus Whitman Gem & Mineral Soc.	Walla Walla Cty Frgrnds, 363 Orchard St, Walla Walla, WA
Oct 7-8	10:00-5:00 10:00-5:00	Marysville Rock & Gem Club	Totem Middle School Gym, Marysville, WA
Oct 13-15	10:00-6:00 10:00-6:00 10:00-5:00	Portland Regional Gem & Mineral Show	Washington Cty Fair Complex, 873 NE 4 th Ave, Canby, OR