

## **LAKE HAVASU GEM & MINERAL SOCIETY**

**P. O. Box 990  
Lake Havasu City,  
AZ 86405**

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# **Rocky Tales**

Volume 48, Issue 3

March 2022

The Official Publication of The Lake Havasu Gem & Mineral Society

## **GENERAL MEETING MARCH 11, 2022**

**Mount Olive Lutheran Church  
2170 Havasupai Boulevard  
(corner of Havasupai Blvd. and Acoma Blvd.)  
Lake Havasu City, AZ 86403**

**Visiting @ 6:30 p.m.  
Meeting Begins @ 7:00 p.m.**



## ***INSIDE THIS ISSUE***

2. Lake Havasu Gem & Mineral Society Information
3. President's Message / The Geode's Gift
4. LHG&MS General Meeting Minutes
6. How Do They Get That Color?
7. How to Get an Eye in Tiger-Eye
8. Daffy – Nitons
9. Rhodochrosite
10. Just a Little Dust
11. Keeping Your Machines Running
14. Birthdays / Anniversaries / Blue and Purple Sharpie Markers
15. Hints 'N Such



**We would like to  
offer our most  
sincere sympathy to  
the families of former  
members  
Jerry Viney and  
Al Wakefield**

## CLUB INFORMATION

The Purpose of this Society shall be to:

- A. Increase our appreciation of the beauty and value of the land in which we live.
- B. Foster good fellowship among its members.
- C. Host an annual Gem and Mineral Show for the community.
- D. Foster awareness of the earth sciences by:
  - 1. Increasing knowledge pertaining to minerals, gems, and rocks.
  - 2. Disseminating knowledge of collecting and classification of minerals, fossils and rocks through collection and classification.
  - 3. Improving the practical knowledge of cutting, grinding and polishing materials to use in the design and creation of jewelry and other useful objects.
- E. Provide educational scholarships in the scientific fields.
- F. Procure and improve the Society's property.

The Lake Havasu Gem and Mineral Society meets the second Friday of each month from September through May.

The membership typically votes to eliminate the June, July, and August meetings.

Fiscal Year: February 1 – January 31.

Name badges are required for all members. One time or replacement badge cost is \$12.00

Annual Membership dues are payable on January 1 and are delinquent after the February meeting.

Single membership cost is \$20.00  
Junior membership cost is \$10.00

Please remit payment to:

**Lake Havasu Gem & Mineral Society**  
**Attn: Membership Chairperson**  
**P.O. Box 990**  
**Lake Havasu City, AZ 86405-0990**

**The Lake Havasu Gem & Mineral Society is a member of The Rocky Mountain Federation of Mineralogical Societies (RMFMS) and associated with the American Federation of Mineralogical Societies (AFMS).**

### OFFICERS and DIRECTORS

<b>Rick Kerber</b>	President
<b>Sherrill Mann</b>	Vice President
<b>Sandie Willis</b>	Secretary
<b>Duane Billedeaux</b>	Treasurer
<b>Don Wininger</b>	Sgt at Arms
<b>Joseph Scheyer</b>	Director One Year
<b>Linda Chandler</b>	Director Two Year
<b>Jim Wijnhamer</b>	Director Three Year
<b>Linda Harley</b>	Past President
<b>Kathy Padilla</b>	Director of Operations Havasu Rocks
<b>Al Yanity</b>	Directors of Operations
<b>Mike Bamsch</b>	Lapidary Shop

### COMMITTEES

<b>Communications</b>	Jane Highness
<b>Event</b>	Open
<b>Field Trip</b>	Al Yanity
<b>Gem Show</b>	Sandie Willis
<b>Hospitality</b>	Open
<b>Membership</b>	Rose Mann
<b>Lapidary Shop</b>	Open
<b>Havasu Rocks</b>	Kathy Padilla
<b>Finance</b>	Duane Billedeaux
<b>By-Laws</b>	Sandie Willis
<b>Nominating</b>	Sandie Willis
<b>Scholarship</b>	Sandie Willis

Rocky Tales is published monthly except for June, July and August. The submission deadline is the 3rd Friday of the month by email to: [bartobra@gmail.com](mailto:bartobra@gmail.com)

**Rocky Tales Editor:** Barbara Wiggins

**Website Moderator:** Jane Highness  
<http://www.lakehavasugms.com/>

Facebook Page: Jane Highness  
<https://www.facebook.com/HavaRockShop2017>

**PRESIDENT'S MESSAGE**

At the last General Membership Meeting we voted in the new updated By-Laws and Standing Rules. We were a few years behind on this project but it got done. Thank you Sandie Willis and the other committee members for all of your hard work.

We had 333 members in our club as of February 11<sup>th</sup> but not all members had updated their dues so I am sure we lost quite a few. This is normal for our club, and although we are probably about 250 members, the number grows from now until next February. If you didn't pay your dues, and are getting this newsletter, it might be your last. For those of you who have paid, and our new members, thank you. Your dues help keep our club financially stable.

Al Yanity is starting a building fund so the club, some day in the future, can buy or build its own building for our lapidary shop. Al donated \$1,000 to the fund so we can open a building fund bank account. The plan is to get donations for this fund from local business and residents. We plan to keep our retail store inside the museum as this has been a great partnership, and a win-win for both us and the museum.

We have started the new electrical work in the lapidary shop but due to some of the needed parts/equipment being unavailable, we are at a stand-still until a ship or two docks in Long Beach. At this point, we are being told we will have what we need by March 21<sup>st</sup>.

We have gone on a lot of field trips the past few months and everyone seems to be having a great time. Although no field trips are planned for March yet, I am sure we will get some scheduled. If you have a favorite place you like to rock-hound, let us know and we will set up the field trip.

Don't forget to come to our club general membership meeting on Friday, March 11<sup>th</sup> at Mount Olive Lutheran Church. Door open at 6:30 and the meeting starts at 7:00 pm. At the request of several members, I will try to shorten these meetings. At our last meeting Don Winger gave a presentation about pseudomorphic rocks. They are rock formations that start out in one form, but are changed by water and/or heat into other mineral forms. Examples are: petrified rocks, that start as wood, and become quartz, and asbestos, which becomes tiger eye. A pseudomorph that looks like garnet is chlorite stone.

Rick Kerber - President

**THE GEODE'S GIFT**

by Tracy Motter

Be it big or be it small, a geode's bounty is worth it all.  
 One never knows what surprise it may hold,  
 And how they're formed, the earth's never told.  
 From quartz to calcite, gypsum to pyrite, each specimen offers a different delight!

Source: Loess Bulletin, 7/2004, via The Pegmatite, 11/2004

**LAKE HAVASU GEM & MINERAL SOCIETY**  
**GENERAL MEMBERSHIP MEETING MINUTES**

Mount Olive Lutheran Church

February 11, 2022

The meeting was called to order by Rick Kerber, President, at 7PM.

The **Pledge of Allegiance** was led by Don Wininger, Sargent at Arms.

Board members present:

Rick Kerber, President  
Duane Billedeaux, Treasurer  
Sandra Willis, Secretary  
Joseph Scheyer, 1 Year Director  
Don Wininger, Sargent at Arms  
Mike Bamsch, Lapidary Shop Co-Director  
Al Yanity, Lapidary Shop Co-Director  
Kathy Padilla, Havasu Rocks, Director  
Rose Mann, Havasu Rocks Assistant Director

The **Minutes** document from the previous meeting, found in Rocky Tales, was approved unanimously, after a motion by Al Yanity, and second by Mike Bamsch.

**Treasurer's Report** was presented by Duane Billedeaux, Treasurer, and is available with the Society's records. The report was approved unanimously, having been put in motion by Kathy Padilla, and second by Mike Bamsch.

**Membership Chairman**, Gayle Gilpin reported that we currently have 15 new members, making our numbers 333. Last day to renew is February 21. There have been 218 renewals so far. New members present tonight are: Coleen Klatt, Mike Bolliger, Steve Prather, Bruce Davies, and Debbie and Gene Johnston. Guests, Mary Kelly and Jace Upchurch were also present. Each was presented with a polished rock. Gayle will turn the membership duties over to Rose Mann in March, after the busy first of the year. It was with sadness, for Gayle to report the loss of two of our members, Jerry Viney and Al Wakefield. Their families will be sent cards from the Society, by Sandra Willis, Secretary.

It was announced that Linda Harley was voted in **as Past President**, by the Board of Directors, following the loss of Barry Bandaruk.

**Standing Rules and By Laws** were written and in the Rocky Tales newsletter this month. The vote to accept the By-laws as written was unanimous, after motion by Al Yanity, and second by Mike Bamsch. The Standing Rules were unanimously approved as written, with motion by Mike Bamsch, and second by Duane Billedeaux.

**Havasus Rocks:** The store, per Kathy Padilla, is doing great. New items are being purchased and sales are good. Income for January was around \$2400. Kathy had asked for and received Board approval to take the museum store volunteers out for lunch every couple months.

A swap meet table was set up with good sales. Mike cut and cracked geodes, with many takers.

**Lapidary Shop:** Al Yanity reported that questions have come up about wearing masks while working in the lapidary shop. It was part of the terms of the insurance that everyone should wear them for safety reasons while in the shop. The shop needs more monitors—we will train people for the job. It became necessary to close one afternoon, for lack of a monitor. Lapidary passes are available for \$200, for unlimited use of the facility for a year. Lapidary classes are underway. Clip boards are up in the shop and are here this evening. Refresher and safety classes are available.

### **Old Business:**

**Field trips** are scheduled every weekend this month:

Feb 13<sup>th</sup>, Golden Shores

Feb 20<sup>th</sup> and 21<sup>st</sup>, Dinosaur Valley

Feb 27<sup>th</sup>, Aguila, at a different place

We need ideas for March field trips.

### **New Business:**

Al Yanity is donating \$1000 in his late wife's name to start a Building Fund Savings account. LaNetta Jean Yanity had talked about a more permanent location. The fund will be set up to be dedicated to the building only, and he feels we could ask for donations from the city and community, being the oldest non-profit organization in Lake Havasu. A committee consisting of Al, Rick Kerber, and Mike Bamsch, has been formed. Thank you, Al. That is very generous!

**Gem Show** chairman, Sandra Willis, has been contacting members for her committee. She gave a special thank you to Gayle Gilpin for her detailed information notebook, and for the assistance she will give her this coming year.

Don Winger gave a presentation about pseudomorphic rocks. They are rock formations that start out in one form, but are changed by water and heat into other mineral forms. Examples are: petrified rocks, that start as wood, and become quartz, and asbestos, which becomes tiger eye. A pseudomorph that looks like garnet is chlorite stone.

A break was taken and refreshments were served. Thank you to Matt Temkin, who will be in charge of refreshments. Please continue to bring goodies for our meetings,

The cabochon prize winner was Kristy Johnson. She was given the first choice of door prizes.

The door prizes were given out and winners of the 50/50 were Gene Johnston and Elizabeth Giacomi.

Having no further business, the meeting was adjourned at 8:17PM.

Respectfully Submitted,

Sandra Willis  
Secretary

## HOW DO THEY GET THAT COLOR?

According to artist David Patchen, "Multiple colors within a single object increase the difficulty of production, as glasses of different colors have different chemical and physical properties when molten." Color is a striking property of a glass object. It can also be one of the most interesting and beautiful properties. Color sometimes defines the usefulness of a glass object, but it almost defines its desirability. The earliest people who worked with glass had no control over its color. Only through accident and experimentation did glassmakers learn that adding certain substances to the glass melt would produce spectacular colors in the finished product when it cooled. Other substances were discovered that, when added to the melt, would remove color from the finished project.



Photo by David Patchen,  
CC BY-SA 3.0

The Egyptians and Mesopotamians both became expert at the production of colored glass. In the eighth century, a Persian chemist, Abu Musa Jabir ibn Hayan, often known simply as "Geber," recorded dozens of formulas for the production of glass in specific colors. Geber is often known as the "father of chemistry." He realized that the oxides of metals were the key ingredients for coloring glass.

The recipe for producing colored glass usually involves the addition of a metal to the glass. This is often accomplished by adding some powdered oxide, sulfide, or other compound of that metal to the glass while it is molten. The table below lists some of the coloring agents of glass and the colors they produce. Manganese dioxide and sodium nitrate are also listed. They are decoloring agents-materials that neutralize the impact of impurities in the glass.

### **Widely Known Glass Colors**

Some colors of glass are widely known. Perhaps the (best) example of this is "cobalt blue" that is produced by adding cobalt oxide to the glass melt. "Vaseline glass" is a fluorescent yellow-green glass that contains small amounts of uranium oxide.

"Ruby gold" and "cranberry glass" are red glasses produced by the addition of gold. "Selenium ruby" is a red color caused by the addition of selenium oxide, and "Egyptian blue" is produced by the addition of copper. Many of the elements used to produce the colors in glass can also be found in nature, creating the colors of different minerals and their distinctive properties.

### **Metals Used to Impart Color to Glass--**

Cadmium Sulfide	Yellow
Gold Chloride	Red
Cobalt Oxide	Blue-Violet
Manganese Dioxide	Purple
Nickel Oxide	Violet

Continued on page 7

Continued from page 6

Sulfur	Yellow-Amber
Chromic Oxide	Emerald Green
Uranium Oxide	Fluorescent Yellow, Green
Iron Oxide	Greens and Browns
Selenium Oxide	Reds
Carbon Oxides	Amber Brown
Antimony Oxides	White
Copper Compounds	Blue, Green, Red
Tin Compounds	White
Lead Compounds	Yellow
Manganese Dioxide	A decoloring agent
Sodium Nitrate	A decoloring agent

**Vintage cranberry glass bowl.** Gold in concentrations smaller than .001% produces a less intense red than “ruby gold.” It is often marketed as cranberry glass.



from Wikipedia  
Photo by Flickr user Petit Poulailleur

Source: Michigan Mineralogical Society via The Backbender’s Gazette, 1/2017

## HOW TO GET AN EYE IN TIGER-EYE

Al Bodman

Tiger-eye is a hard siliceous or quartz family gemstone, with hardness of 7 on Moh's scale. In cutting parallel to fibers, a difference of 2 or 3 degrees will noticeably reward you. An improper cut is soon recognized. Now look across the slab at a 60-degree angle, a light or dark area should appear, with the dark on the farther side.

China pencil mark a dividing line, each side should be a different color.

1 Hold the slice in the same plane, turn end for end; the light area should prevail nearest you, and the dark farthest away or on the opposite side as before. Again mark a dividing line; it is at the same division area.

2. Turn the slab over, top for bottom, and the reverse lighting is apparent. The dark is on the side closest to you, even if the slab is turned the dark should still be closest.

As in (2) the dark area observed at 60 degrees is the top of the stone you wish to finish.

As in (1) template marking will be where light half and bottom of cab. A floating eye of light will result.

Source: Strata Data, 9/2005, via The RockCollector, 9/2005



## DAFFY - NITIONS

- Agate** - The door in a fence
- Cabochon** - A small French taxi
- Faceting** - A complex way to ruin a good jewel
- Facet** - Australians' answer to a water tap
- Field Trip** - When you fall down outside
- Findings** - Stuff you find!
- Flint knapping** - Sleepy stone
- Fossils** - People on social security
- Garnet** - Something you catch a long fish in
- Geode** - A poem to G
- Grinding Wheel** - A bearing going out in your old truck
- Inclusion** - Unwanted third person on a date
- Lap** - Motherly space between trunk and limbs
- Lapidary** - A Scandinavian milk parlor
- Malachite** - One of the tribes of Israel
- Mexican Lace** - Fiesta clothing
- Petrified Wood** - Wood that has been frightened
- Pseudomorph** - Anything pretending to be a morph
- Quartz** - A bottle size that milk comes in
- Rhodochrosite** - Highway where crows can be seen
- Rock hammer** - The drummer in a modern band
- Semi-precious** - Daddy's little girl
- Silver Solder** - A millionaire's instant lawn machine
- Template** - A little house of worship
- Trim Saw** - A machine that takes the fat off

Source: Moroks, 8/2012; via The RockCollector, 1/2014

## RHODOCHROSITE

Rhodochrosite is a manganese carbonate mineral with chemical composition  $MnCO_3$ . In its (rare) pure form, it is typically a rose-red color, but impure specimens can be shades of pink to pale brown. It streaks white, and its Mohs hardness varies between 3.5 and 4. Its specific gravity is between 3.5 and 3.7. It crystallizes in the trigonal system, and cleaves with rhombohedral carbonate cleavage in three directions. Crystal twinning often is present. It is often confused with the manganese silicate, rhodonite, but is distinctly softer.

Rhodochrosite forms a complete solid solution series with iron carbonate (siderite). Calcium, (as well as magnesium and zinc, to a limited extent) frequently substitutes for manganese in the structure, leading to lighter shades of red and pink, depending on the degree of substitution. It is for this reason that the most common color encountered is pink.

### **Occurrence and discovery**

Rhodochrosite occurs as a hydrothermal vein mineral along with other manganese minerals in low temperature ore deposits as in the silver mines of Romania where it was first found.

Banded rhodochrosite is mined in Capillitas, Argentina. Catamarca, Argentina has an old Incan silver mine that has produced fine stalactitic examples of rhodochrosite that are unique and very attractive. Cut cross-sections reveal concentric bands of light and dark rose colored layers. These specimens are carved and used for many ornamental purposes.

### **Use**

Its main use is as an ore of manganese which is a key component of low-cost stainless steel formulations and certain aluminum alloys. Quality banded specimens are often used for decorative stones and jewelry. Due to its being relatively soft, and having perfect cleavage, it is very difficult to cut, and therefore rarely found faceted in jewelry.

### **Rhodochrosite and silver mining**

Manganese carbonate is extremely destructive to the amalgamation process used in the concentration of silver ores, and so until quality mineral specimens became highly sought after by collectors, they were often discarded on the mine dump.

### **Culture and legend**

Rhodochrosite is Argentina's "national gemstone." Colorado officially named rhodochrosite as its state mineral in 2002. Large specimens have been found in the Sweet Home Mine near Alma, Colorado.

The Incas believed that rhodochrosite is the blood of their former rulers, turned to stone, therefore it is sometimes called "Rosa del Inca" or "Inca Rose."

Source: The Sierra Pelonagran, 12/2014

## JUST A LITTLE DUST

by Mel Albright, AFMS Safety

Have you ever told yourself "It's just a little" about the dust from some lapidary project you're working?

Yes, I know. Most of our work is done wet and there is no dust flying around. But, not everything! Carving is often done dry - especially sanding and polishing. Knapping arrowheads is almost always done dry. Finished silver and gold projects are often "touched up" with dry sandpaper. Breaking rocks with a hammer or from matrix out in the field is a dry project. Often cleaning fossils for presentation is a dry project - especially when sand blasting. How about trimming up your mineral samples? I bet you can think of other places where a little rock dust flies around. Well. It IS only a little!

BUT, your lungs do not expel silicates from rock dust. So, a bunch of "littles" is as bad as a "bunch." It might take years to get too much, but eventually you may. What's the problem? A disease called silicosis.

"Silicosis, a scarring and hardening of lung tissue, can result when particles of crystalline silica are inhaled and become embedded in the lung. The disease can be progressively debilitating and fatal. In construction, workers can be easily exposed to silica when using rock containing silica or concrete and masonry products that contain silica sand when performing such tasks as chipping, hammering, drilling, crushing, or hauling rock; performing abrasive blasting; and sawing, hammering, drilling, and sweeping concrete or masonry. Even materials containing small amounts of crystalline silica may be hazardous if they are used in ways that produce high dust concentrations." says the National Institute for Occupational Safety and Health (NIOSH)

So, how do you protect yourself? Lots of ventilation is always a good way. However, the ventilation should come from the side or a little behind you so that any dust is blown AWAY from your nose. You can check before working on the rocks to be sure that is going on. Masks work also - if they're good enough.

Those of you who run club shops should be very careful that dust is controlled. You might get ten exposed rather than one. An exhaust hood would be an excellent investment. A little sheet metal or plywood, a cheap fan, and stovepipe going through a hole to outside would be easy to make. Some equipment may have filters on it. Be sure that a special filter is used and that it is cleaned often. A proper filter is important even if it is more expensive than something from Walmart.

NIOSH recommends the following measures to reduce exposures to breathable crystalline silica in our shops: Breathable silica includes almost every rock or fossil that rockhounds may have.

- Recognize when silica dust may be generated and plan ahead to eliminate or control the dust at the source. Awareness and planning are keys to prevention of silicosis.
- If possible, do not use silica sand or other substances containing more than 1% crystalline silica as abrasive or blasting materials. Substitute less hazardous materials.

Continued on page 11

Continued from page 10

- Use engineering controls and containment methods such as filtering machines and cabinets, wet drilling, or wet sawing to control the hazard and protect nearby friends from exposure.
- Routinely maintain dust control systems to keep them in good working order.
- Practice good personal hygiene to avoid unnecessary exposure to other shop contaminants such as lead.
- Wear disposable or washable protective clothes at the shop.
- Shower (if possible) and change into clean clothes before leaving the shop to prevent contamination of cars, homes, and other work areas.
- Post warning signs to mark the boundaries of shop areas that may be contaminated with rock dust.
- Provide members with training that includes information about health effects, work practices, and protective equipment for breathable crystalline silica.
- If you think I'm exaggerating - more than a few knappers have suffered from this disease.

Reference: <http://www.cdc.gov/niosh/silicupd.html>

Source: AFMS Newsletter, 10/2001 via CFMS Newsletter, 2/2022

### **KEEPING YOUR MACHINES RUNNING: MOTOR CAPACITORS AND WHY YOU SHOULD CARE**

by Neal "shop elf" Immega  
Member of the Houston Gem & Mineral Society

Executive Summary: install old motors only after testing capacitors.

If your shop is full of old motors, like ours is, you need to know about motor capacitors. Capacitors are the most failure-prone portions of a motor. The Houston Gem and Mineral Society gets most of its equipment by donation, and that it still works is because we know how to handle them. We rehabilitate grinders by putting in new bearings. Old oil-lubricated diamond saws usually do not need any work on their arbors. Electric motors, though, frequently do need some work.

I will concentrate on machines where the motor is connected to the arbor by a V-belt and powered by single-phase standard line current (110 volts). The motor has to provide a substantial starting torque to get a grinder or saw up to speed, and this necessitates that there be at least one capacitor in the circuit. If you are installing a machine and are fishing around in your junk bin for a motor, find one with at least one bump on the outside. That is where the capacitor is located. Motors that run off line current and do not have a capacitor are intended for uses like powering a fan where there is essentially no starting load. **DO NOT USE THESE MOTORS** on saws or grinders. Really.

Continued on page 12

Continued from page 11

**One-Bump Motors:** Motors with one capacitor use it to start the rotor spinning. When it gets up to speed, you will hear a "click" when it disconnects from the circuit. Follow this decision tree to detect the reason for a problem.

1. With power applied, motor hums but does not spin up except when it is manually turned -- replace capacitor. I have opened machines and found the capacitor EXPLODED!
2. With power applied, motor does not hum or spin -- likely a bad motor, discard.
3. With power applied, motor spins up slowly -- check and replace capacitor.
4. Capacitor has a blown pressure seal -- replace capacitor.
5. You do not hear a click as the motor speeds up, AND the motor has a capacitor -- open up the housing and clean and lubricate the centrifugal switch (WD40 works fine). Reassemble and retest. **You will burn up the motor if the centrifugal switch does not open after a second.**
6. Measured capacitor rating does not equal the rating printed on the cap. Start capacitors are rated with a range such as 189 - 245 mfd (mfd means microfarad). The capacity you measure should fall in this range, or you should replace the capacitor.



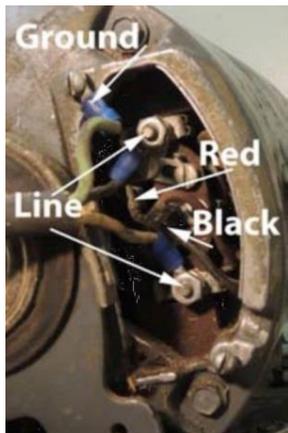
**Testing Capacitors:** This is easy. Buy a cheap capacitor tester off eBay.com and use it. Disconnect the motor and discharge the capacitor with a screwdriver before testing. I test all the capacitors when I am doing an install and whenever there is a problem. The exploded capacitors shown here test to within specifications, but I am discarding them just the same. Caps are cheap compared to motors. I buy replacement capacitors from eBay and from HVAC stores like Johnson Supply.

**Ratings:** Always replace capacitors with identical MFD rated units. If you cannot read the label on the can or on the motor faceplate, discard the motor. You cannot just guess. BUT the voltage rating is not so hard and fast. We have some very old, still working equipment in the shop like the 20" diamond saw that I used as a summer hire in the Mobil Field Research Lab in 1971. It has come back to haunt me. I had the machine apart to work on the motor pulley and tested the capacitor. This is a 50+ year old saw, and the capacitor was fine. The capacitor has a voltage rating of 370 volts, which is 3x the line current and that probably explains its survival. Manufacturers give this rule of thumb for life: 10,000 hours at line current, 20,000 at 2x line current, etc. It is very unlikely that this machine has run 30,000 hours in the past 50+ years. I try to buy capacitors that are rated 220 volts or better, but check the physical size because higher-voltage capacitors are always bigger and may not fit the housing.

Continued on page 13

Continued from page 12

**Two-Bump Motors:** They are called Capacitor Start/Capacitor Run motors and draw less current for the same nameplate rating. Our Super Grinder has a 1 HP motor, and we had to buy one new. Actually, we bought new surplus from Surpluscenter.com. We had to have a more efficient motor because we are right at the rating of the breaker box for the whole shop. If you must buy a motor, get one of this type. You test these capacitors the same way as above.



**Lubrication:** Lubricate old motors as specified on the motor nameplate. Ball bearing motors frequently specify that you use 3 drops of 10-weight oil annually. Sleeve bearing machines frequently specify that you use 30 drops. A new motor should not be lubricated for 5 years. Do not over-lubricate. 3-in-One® oil is good, as is 10-wt motor oil.

**Running Hot:** We have cured some "hot" motors by just blowing the dust out of the vents in the housing! Also, see #5 above about the centrifugal switch. I have had to junk a motor because I could not find why it ran so hot.

**Rotation:** If you are fortunate, the motor will give directions for wiring it for different voltage/rotation direction. Alternatively, many motors have 4 wires in their wiring block. Two are labeled L and are for 110 volt line current. The other two are black and red. You can reverse rotation by reversing the red/black connections. This motor will reverse rotation if the red and black leads are swapped on the push-on terminals.

**Genie, Titan, and other makes with wheels on the motor arbor:** These machines have a start capacitor in the housing which should be tested when a used machine is installed. Since the motor is totally enclosed for protection from water, it runs hotter than other motors with ventilation.

**From Rimstones Review Editor, Phyllis George:** Capacitors have many uses -- not just in motors. My son replaced capacitors in my two 22" monitors, my A/C, and in an electronic micro-grand piano. This has become an essential life skill! He resurrected my dual 22" computer monitors about six years ago -- the office where he worked pronounced them dead after leaving them on 24/7/365 for a few years. They gave both to him to be junked. He merely replaced the capacitors in each. They have worked flawlessly since (I turn them off when I am not using them). The piano was given to my son 10 or 15 years ago for \$50 by the piano dealer because his technicians had no idea how to fix it. David reseated every electronic connection in the unit. And it works -- its value went to \$2000 overnight.

#### Resources:

Tutorial on motors: <http://www.allaboutcircuits.com/textbook/alternatingcurrent/chpt-13/single-phase-induction-motors/>

Capacitance meter: search for "Digital Capacitor Meter" on eBay, and you will find any number of satisfactory units.

Motors: surpluscenter.com -- better and cheaper than Harborfreight.com

Source: Rimstones Review, 12/2015, via The RockCollector, 12/2015

HAPPY MARCH BIRTHDAY

- Kathie Bryson
- David DeRisio
- Mary Hasselbring
- Lynne Jacobson
- Tom Knie
- Carolyn Lewis
- Terry McKeever
- Chris Muse
- Jennifer Neumann
- Nan Russell
- Mark Sears
- Hank Smedley
- Kathryn Storm
- Jason Upchurch
- Sandie Willis

HAPPY MARCH ANNIVERSARY

- David DeRisio
- Ed & Rose Guzman
- Carolyn Lewis
- Rick & Sherrill Mann
- Rebecca Pinnell
- Michael Ridenour
- C & Nan Russell

**BLUE AND PURPLE SHARPIE MARKERS**

Blue and purple sharpie markers? They're not new. They're not high tech. Other than color coded labeling, how could they possibly help with rockhounding? When combined with tape and your cell phone, it can help those of you looking for fluorescent minerals.

Place a small piece of tape (transparent is best) over your phone's flashlight, and color it with a blue sharpie marker. Place a second small piece of tape over your phone's flashlight, and color it blue too. Add a third small piece of tape over your phone's flashlight, and color it with the purple sharpie marker. Now you have a small portable blacklight to help you find specimens with the best fluorescent properties in the field.



Source: MAGS Rockhound News, 1/2016

## Hints n' Such

*These hints were gathered primarily from the bulletins and web sites of other clubs. You should always use them with caution because some are untried and others may not be tried and true. Just ideas!*

Polishing psilomelane: Use 100,000 diamond on canvas to get good results.

Source: Ed Hansen's Time-Tested Shop Tips via The Pegmatite, 4/2004

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Polishing fire agate: Use tin oxide on leather, dry. Polishes in a heartbeat! Heat causes the top surface of the stone to flow, making it glassy.

Source: Ed Hansen's Time-Tested Shop Tips via The Pegmatite, 4/2004

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If your turquoise doesn't respond to polish on a felt or linen wheel, try organdy material.

Tripoli is said to be a good polish for petrified wood.

Use Linde on a canvas to polish jadeite, hickoryite & blood stone.

Use Linde on a leather to polish jade, garnet, peridot, rhodonite, apatite, cinnebar and tourmaline.

Source: LHG&MS member, Bernie Sporre

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Two ways to hold small specimens while washing them with a high water pressure washer:

1. Purchase some lead buckshot at a gun shop. Put the buckshot in an appropriate container (with drain holes in the bottom) and

imbed the specimens in the buckshot. The lead buckshot may have enough weight, when packed around the specimens, to hold them.

2. Imbed the specimens in Silly Putty, again placed in an appropriate container to hold things from blowing around from the spray. You will have to relocate the specimens multiple times, but at least your hand will be out of the high pressure blast.

Remember to wear safety goggles to protect your eyes and breathing protection so you don't inhale mists and dusts.

Source: Ken Ronney posting on LA-Rocks@yahoo groups.com

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A cheap version of a high pressure gun can be made from a brass cap that fits a standard garden hose male connection. These are generally available at hardware stores for a very low price. Just drill the smallest hole possible in the cap and you will get a fairly high pressure stream of water when the faucet is turned on. Plus you don't need electricity and the mobility of the gun is only limited by the length of the hose! This is safer for many crystals, as the water gun can remove crystals from a plate, even if one is careful.

Source: John McLaughlin, Arizona Leaverite Rock & Gem Society

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Variscite is heat sensitive. Don't get it too hot when dopping and avoid overheating when polishing. Use plenty of water when grinding.

Source Calgary Lapidary Journal, 12/1991, via Moroks, 2/2002, via Breccia, 4/2002

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