Lake City Rockhound News

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

January, 2017
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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

Contents

This Month's Meeting

Regular Meeting – January 19, 2017
The Meeting Program:
Rock Identification – Bring your rockhounding knowledge
Refreshments: Corey Brenner and Marilyn Kohler
There will be a silent auction and scholarship raffle tickets will be sold. Buy your tickets today. Also, don't forget to pay your dues.

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New Mineral Club Officers

New NIMC officers begin their terms this month. The officers are

President:	Marilyn Kohler
Vice-President:	Mike McConnell
Treasurer:	Carl Chapin
Secretary:	Diane Rose

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Hints and Tips

Cutting Montana Agate

People not familiar with working with Montana Agate have, perhaps, wondered how to set-up to saw the first nodules they acquire. Most Montana nodules are found in two shapes, flat and slightly curving, or round and elongated. As this material probably has rolled hundreds of miles down turbulent streams, nearly all of it is cracked, so take this into consideration when sawing to get the largest slab.

First, look into the rocks with a strong light to determine which way the moss or banding layers lie. Light cuts taken off an end, or side, at right angles to the layers, will then reveal whether you should slab from end to end or side to side. Many people who are used to sawing thundereggs get used to sawing each nodule through the center to expose the pattern. While this method works well with nodules, it cannot be used to the best advantage with Montana material. It will probably ruin the best sprays, as the larger and best ones usually lie toward the center. Sawing across them will render them valueless.

Only a very few specimens carry fine large sprays, so do not be disappointed if the first few do not have them. About the time you are ready to give up, one of the poorest looking pieces may have the fine spray you are looking for.
Grindings via MOROKS January 2007

How can you get rid of the iron stains on your rocks?

Try Iron Out! Members of various clubs have found that it removes stain from quartz, dolomite, fire agate, chalcedony roses, some amazonite, ceramics, cloth, and carpet. Super Iron Out works better than bleach does on rust because bleach oxidizes iron, which turns to rust. Super Iron Out de-oxidizes iron into a clear solution that easily rinses away and will not harm fabric as bleach does.

DELVINGS via Del Air Bulletin January 2007

The Right Thread for the Job

Problem: Silk thread is very strong and is great for stringing but it lacks abrasion resistance. Nylon thread has abrasion resistance but is not as strong as silk. It also stretches with the tension required for beading.

Solution: Use silk on non-abrasive materials such as pearls, turquoise, mother-of-pearl and lapis. Use nylon on abrasive materials such as onyx, metal beads, amethyst and rose quartz. To eliminate stretching, after carefully knotting a strand with nylon, suspend the cord on a doorknob (several loops are okay) then hang pliers from the loops and leave overnight. This will pre-stretch the nylon, so it will not become loose after being strung.
Wasatch Gem Society 01/1995 via Gems of the Foothills 08/1995

Opal Storage

The best way to keep opal jewelry from cracking and crazing is to wear it! Opal picks up moisture from body necessary to keep it in good condition. If you need to store opal, it should not be cushioned in something like dry absorbent cotton. Rather, place it in an airtight jar with a couple of wet cotton balls in it. Do not store opal in a bank vault; pressurization in the vault will tend to separate the layers in triplets. In air travel, take the opal with you; do not let it go in the baggage hold. If the prongs are too tight in a setting, the opal will eventually crack.

American River Currents via Victor Valley Gem & Mineral Bulletin 10/1995

Ooops! Drop a small stone or bead on the carpet?

Can't find it? Place a nylon stocking over the vacuum hose. The stone will adhere to the nylon without going up the hose. Bare feet will work well too. If the rug is a shag, get out the comb or forget it!

via Quarry Quips 10/06

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Star Stones

by Mary Prosek
From The Opal, 10/07 via The RockCollector December, 2007

The optical phenomena of some gem materials to display a single ray of light on their surface is called chatoyancy, a French word meaning cat or cat's-eye. Gems displaying this characteristic exhibit a single undulating narrow band of white light with a changeable luster.

Another optical effect is shown when some gem materials exhibit more than one ray of light. These rays will cross or intersect each other at some central point or points on the surface of a cut and polished gem. This phenomena is called asterism or is more commonly known as a star.

The cause of asterism or chatoyancy is attributed to tubes, or needlelike inclusions within the gem. When these foreign inclusions are highly uniform in alignment within the gem, they will be capable of concentrating and reflecting or transmitting the light which enters the gem. However, this potential will not be effectual in the form of a ray or rays if the gem does not have the optical shape necessary for focus and magnification of the light. When the foreign inclusions are aligned only in one direction with the gem, a single ray of light will be possible. If the alignment is in two directions, then the gem will have the potential of emitting two rays of light which will intersect each other at a central point or points on the gem creating a star with four legs. When the alignment is in three directions, three intersecting rays can be emitted which will produce a six legged star.

Gem materials which are capable of displaying a ray or rays of concentrated light will usually show some indication of this phenomenon in the form of a satin sheen or silkish luster while in the rough state and when exposed to a incandescent type of light. The area in which the sheen or silk is most intense will usually yield a star or cat's-eye effect. This area should be tested with a testing fluid such as STP motor oil and marked prior to shaping. The gem is shaped so that this area will become the approximate apex of the gem' s dome or curved surface. Approximate is mentioned because the ray or rays will tend to shift their location slightly as shaping progresses. This shifting is attributed to the relationship between the gem's physical shape and optical properties. Any change in the physical shape of the gem will also exert a change in directions, focus and magnification of the ray or rays. Special care and star-making cups must be used when lapping the stones in order to achieve the desired effects. Read up on this technique before attempting to cut a star stone.

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Safety In The Shop

by Owen Martin, AFMS Safety Chair
AFMS Newsletter – Dec. 2009 – Jan. 2010

A note on safety in your shop, lab, work room, basement, etc. As a fossil hunter sometimes the thing that I most look forward to and likewise dread the most is getting my "stuff" back to the house.

I may have to use a pressure washer to blast off mud from my fossilized wood or 40 pound ammonites, use some chemicals to clean lime off some invertebrates or maybe use some tools, be they hand or pneumatic, to chip off the tougher crust. Maybe if I 'm lucky I found a good "round" of pet wood that I want to cut and polish down at the club. Ooooh, and I just found my first agate ever and I don't even know what I can do to that yet! What ever it is that I do there is almost always some inherent risk in the process. Below is a list of different hazards to consider in the lab.

Eye protection. As I mentioned above power washing is a good example of something a lot of us do that can potentially injure your eyes however certainly not the only thing. Almost every type of prep-work that we practice necesitates eye protection: grinding, polishing, cutting, shipping, sand blasting, soldering, chemical cleaning, etc. Different types of eye protection should be used depending on your activities. For most of us protective glasses are good, however, goggles may need to be worn when using chemicals or when grinding certain materials. As co-worker of mine once said to a lady that liked to put on makeup while driving, "no matter how advanced modern medicine has become, glass eyes still don't look real."

Respiratory protection. Similar in some ways to eye protection respiratory protection can be very important when handling certain cleaning chemicals and when dealing with certain dusts. Asbestos is a common example of a respirable dust that although not inherently toxic can cause cancer, especially with smokers. Other dusts can temporarily clog breathing passages thus impacting, sometimes critically, the body's ability to get oxygen into the blood. Chemicals can be very bad, too, as the lungs can quickly introduce toxins into the blood. Of note some of the oils that we use in our cutting saws can be dangerous. Keep in mind that dust masks may not stop some dusts and certainly no airborne chemicals.

Chemical safety. The most common chemical accidents usually have something to do with the above mentioned issues and involve acids, soaps, other caustics and solvents. PLEASE READ the safety notes or MSDS (Material Safety Data Sheets) on all chemicals you may use. Some need to be used in areas where there is good ventilation, others require high-end respirators and still more may necessitate protective clothing. Not common in the shop, but you never know! Also, be aware of the potential danger of mixing chemicals and as a general rule don't do it. Most of us have probably heard that mixing chlorine and ammonia, two of our most common household chemicals is bad. Essentially the mixing of the two releases chlorine into your air - very bad.

Hearing protection. What? You didn't hear me the first time? Do you remember the pictures of all the trees blown down in the same direction after Mount St. Helens erupted? Loud noise does the same thing to the ear and much like the trees once the filia (hearing fibers) are damaged they don't stand themselves back up. If you think 'maybe I should be wearing ear plugs' then it's usually a good indication that you already answered the question.

Electrical and Fire hazards. If your shop is like mine then it can get pretty cluttered. Bottles of flammables may end up next to overloaded electric outlets or boxes of old journals. Cleaning up the clutter has two (or more) benefits by reducing fire hazards and making it more obvious where potential problems exist - like damaged electrical cords or overloaded outlets. Ideally flammable liquids will be stored in a flammables storage cabinet. If you have a pretty good sized shop then one of these is a good investment. For most clubs the local fire code will require enough to handle what you have on site.

The hazards involving fire and electrical vary in type and risk level. Having been "grounded" on four different occasions I can tell you that water and electrical cords do not mix! I used to work as a caretaker for saltwater fish tanks and it had its challenges... Overloaded plugs can be a problem in our shops. Keep in mind that just because a tool isn't turned on doesn't necessarily mean that electricity still isn't running through it. Fire and shock are both risks in this situation. It's safer to keep your equipment unplugged and properly stored when not in use.

For some general rules: Always wear eye protection. Keep your shops cleaned and well organized. Make sure electrical chords are in good condition. Keep reactive things away from each other, be they chemicals, electrical, fire hazards or combinations of each. Don't mix chemicals. Practice safety in your shops!

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Bezel Setting Problems

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

When bezel setting a cab that has rather sharp corners, have you ever had problems pushing the metal down at the corners? If not done right, it's easy to get a wrinkle there.

In order for a bezel to capture the stone, the top edge of the bezel must be compressed and become shorter to lay down onto the stone. With a round or oval stone this naturally happens as you push and burnish the bezel. But when setting a stone with corners, the tendency is to push the long sides of the bezel down first. No compression occurs along the sides, and all excess metal is left at the corners. Compressing everything there is difficult. Often the only way to remove the extra metal at the corner is to make a saw cut and fold the two sides in to touch.

If you want a smooth bezel all around the corners, the simple solution is to set the corners of the bezel first. Then push in and burnish the sides. In this way the necessary compression is distributed along the length of all sides and not forced to occur at the corners. With the corners set first, the top edge of the bezel can easily be compressed along the sides.

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Faceting On A Shoe String Budget

by Bill Harbour
via Cabber Gabber, 12/08

I'd like to talk to those folks who are thinking about taking up faceting, but are afraid that there's just not any material available that's worth cutting. Most of those arguments are oriented around the fact that most hobbyists won't be able to afford to purchase high quality sapphire, ruby or emerald rough. True, most of us will never be able to afford a $4,000 per carat crystal of Columbian emerald, but there are many alternative materials to cut, both man-made and natural. I'd like to talk about a few of them. While they might not be as valuable, they are very much desirable. If you keep desire in mind, you'll have many more possibilities for cutting materials that will appeal to a broad range of folks.

There are several man made processes that will yield emerald rough that's very hard to differentiate from that perfect natural Columbian emerald. I've heard some cutters (faceters) say that they refuse to cut lab grown materials. They consider the material second rate. Is the lab material worth as much? No! Is it still desirable? Yes! I can't think of any female that I know of that would refuse to wear a beautiful ring made from hydrothermal emerald (some of it recrystallized throw away mine run natural emerald). Never underestimate the bling factor in anything that you might cut. The lab grown emerald isn't worth as much as the natural material, but it still has some value. I've seen that material go for as much as $400 per carat. There are also many other species of man-made materials, such as sapphires, rubies, and garnets that won't have a lot of value, but will be very desirable.

To give you an example...I don't really care that the center stone of my ring is composed of synthetic YAG (Yttrium Aluminum Garnet). My 'desire' in creating the ring was to have something with emerald green flash that would be very durable. YAG met those requirements with a hardness of 8.25 (diamond is 10) and a refractive index of 1.83 (quartz is 1.54). True, I won't have to take out an insurance policy on the ring, but it'll cost you a little bit if you like it enough to want to talk me out of it. In fact, a good bit more than it cost me to make it!

Regarding natural faceting rough, it is true that it is becoming more difficult and expensive to obtain. Many mines are closing or have closed, and much of the rough being found is being kept close to the source for the native cutting houses. I read where the Chinese are especially buying large quantities of natural rough. Suffice it to say, that as worldwide demand for jewelry grows, the availability of quality natural rough will decrease. Natural rough is less available and more expensive, but not impossible to get.

New sources of emeralds, tourmalines, sapphires and rubies are being found in Africa and in Vietnam, and they are on the market in small to large quantities. Of course, some of this material isn't considered to be top color, but it still cuts a very desirable stone. Top quality material is available at a top price but it is generally more affordable than material from Sri Lanka or Columbia. Sapphires are available in good quantities out of Australia....again...you pay more for top quality, but it's more affordable. This Australian material tends toward blue-green in color and will yield some beautiful and desirable stones.

There are sources of relatively new gemstone species on the market that give us faceters a new niche or two to trod. Take for instance, Oregon Sunstone which is gem grade feldspar. It ranges in color from champagne clear to cherry red. Sunstone is one of my favorite cutting materials, and it just pops with sparkle when it comes off the dop. It's just now gaining some notoriety on the market and will only grow in value as others find out about it. The rough is relatively inexpensive, especially if you can afford to take a trip to Oregon to mine it yourself. I've seen top quality faceted cherry red sunstone go for $500 a carat. This particular stone was over 10 carats! Do the math. My bag of sunstone rough is just going to get more valuable over time.

I've gone all this way to say that everything you cut as a faceter will be desirable and hence valuable. All of it will be beautiful and will make someone else's day. Hopefully one day you'll cut that Ceylon sapphire, but until then, there's a lot of material out there, both natural and synthetic, that can be cut....just the mere fact of cutting it renders it valuable.

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Tumbling Tips

By Dan Imel lapidry@aol.com

How do you know when to change grit size?

In a vibratory tumbler you start out with medium (220) grit, not course (100), and then go to 600 grit then polish. If you ever buy a grit kit, make sure it's for vibratory, no 100 grit. You can add a step and go to 320 or 400 before 600. It saves a little time, not much.

The way you know when to change is when you've gotten them as smooth as you want them to be. That means removing pockets, chips, etc. If most of the pieces you are tumbling look good but there are just a few that need more work, go ahead and switch to the next grit. Run the ones that need more work through the next batch to finish them. You want the stones to be pretty good before switching from the 220 grit or they'll take forever in the 600. This is the long step.

My two vibratory tumblers usually take about 3-4 days on 220, 12 hours on 400, 1 to 1 1/2 days on 600 & 1 day (change polish at 12 hours) for the polish. I change the grit/polish every 12 hours, washing the muck out into a 5 gallon bucket to settle/ evaporate. You can pour off the clear water on top after it sets several days. You don't want to dump the muck down the drain unless you like plumbers. The rest will evaporate and can be put in the trash.

Can you save the grit and use it again for the next batch of rock?

If you are doing it right, there won't be much grit left to save. The grit should break down as you tumble the material. I always had a little grit left on the 220 run that just didn't go away until I paid a little extra for a graded 220 from Ebersole's in Wichita, KS. It's about 50 cent a pound more than ungraded and worth it for me.

Other vibratory tumblers may not have this same problem. You'll find out. I buy 5 pound boxes which do quite a few loads and only pay about $3/pound. Not worth saving any that doesn't break down. If you try to use course (100 grit), it will sink to the bottom and stay there in just about every vibratory I've seen.

Why do they recommend that a separate barrel be used for polishing?

Contamination from the grit. Somehow you almost never get it all, no matter how hard you try washing it out. Contamination between grit size changes isn't as crucial but try to wash your stones & barrel well anyway.

Do you put polyethylene pellets in the final polishing stage with a vibratory tumbler?

You can. Always change the pellets between different grit sizes. Re-use the pellets only with the same grit size. The grit becomes imbedded in the pellets and, again, you get contamination. I bought a bag of pellets several years ago. Before I started to use it, I mentioned to a dealer friend that I'd bought them. He went out in his garage & came back with a gallon milk jug full of 1/4 to 1/2 in pieces of agate screened from the 'good stuff'.

I have yet to open the bag of pellets. You want small stuff to help the tumbling, as long as you have that, you don't need pellets. I've added to the gallon jug and my wife sifts through & takes out stuff to make things like gem trees if I let her near it. It gives you a reason not to throw away the small pieces when you are out hunting. You may never need the pellets. The chips don't have to be changes between grits. One caution, you should always tumble stuff of like hardness. Don't tumble obsidian with agate, etc. The most common thing people tumble are quartz-based. Agate, jasper, quartz, etc which are all pretty much the same hardness.

North Idaho Mineral Club
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First Class Mail

NIMC Officers

President: Marilyn Kohler (715-827-0933)
Vice-President: Mike McConnell (406-360-4944)
Treasurer: Carl Chapin (208-772-9049)
Secretary: Diane Rose (208-659-6173)

Other Positions

Show Chair 2017: Dale Ruperd/Dean Hutchinson
Newsletter: Michael Burton (208-772-9347)
Federation Director: Dale Ruperd
Federation Delegate: Bill Johnson (208-765-3099)
Webmaster: Michael Burton
Programs/Membership: Bev Bockman (208-773-5384)

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

Dec 10-11	9:00-6:00 10:00-6:00	Maplewood Rock & Gem Club	Maplewood Rock & Gem Clubhouse, 8802 196th St SW, Edmonds, WA
Feb 11-12	9:00-5:00 9:00-4:00	Whidbey Island Gem Club	Oak Harbor Sr. Ctr., 51 SE Jerome, Oak Harbor, WA
Mar 11-12	10:00-5:00 10:00-4:00	Magic Valley Gem Club	Twin Falls Cty Frgnds, 215 Fair Ave, Filer, ID
Mar 24-26	10:00-6:00 10:00-6:00 10:00-4:00	Rock Rollers Club of Spokane, WA	Spokane Cty Fair & Expo Ctr, N. 604 Havana, Spokane, WA
Mar 25-26	10:00-6:00 10:00-5:00	Mt. Baker Rock & Gem Club	Bloedel Donovan Comm Ctr, 2214 Electric Ave, Bellingham, WA
Apr 7-9	9:00-6:00 10:00-6:00 10:00-4:00	Golden Spike Gem & Mineral Society	Golden Spike Ctr, Weber Cty Frgnds 1000 N 1200 W, Ogden, UT
Apr 8-9	9:00-6:00 10:00-6:00	Maplewood Rock & Gem Club	Maplewood Rock & Gem Clubhouse, 8802 196th St SW, Edmonds, WA
Apr 22-23	10:00-6:00 10:00-4:00	Yakima Rock & Mineral Club	Centrl WA St. Frgnds, 1301 S. Fair Ave, Yakima, WA