MARCH-APRIL, 2023

NEWSLETTER OF THE

SOUTH CENTRAL FEDERATION

Of Mineral Societies

Member of: American Federation of Mineral Societies

ON THE COVER

Diamonds—From the Smithsonian Institute collection

INSIDE THIS ISSUE

SOUTH CENTRAL FEDERATION OF MINERAL SOCIETIES, INC.

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For more information or to send information to the SCFMS or an officer, please email:

scfmsinformation@gmail.com

PURPOSE

*To promote popular interest and education in the various earth sciences, in particular those hobbies dealing with the art of lapidaries and the science of minerals, fossils, as well as their associated fields.
*To cooperate with educational and scientific institutions or other groups engaged in increasing knowledge in the earth sciences.
*To cooperate with or become members of similar Federations in the United States and elsewhere.
*To assist in the formation of earth sciences societies in localities where public interest justifies their formation.

E-MAIL ADDRESS CORRECTION AND CHANGES

It is each members responsibility to send your email address corrections to the SCFMS Editor:

Susan Burch,
scfmseditor@yahoo.com

NEWSLETTER PUBLISHED BIMONTHLY

DUPLICATION

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A NOTE FROM —THE EDITOR—

THE FINAL DEADLINE, ETC.

For each newsletter the deadline is the 20th of the month prior to scheduled publication. February-April-June-August-October-December all provide the deadline for the following bi-monthly issue. Although, the Editor may chose to adjust the deadline due to circumstances.

As a reminder! Shop hints and tips that are used in this newsletter have not been evaluated for safety or reliability by myself. Please use caution and safety when trying out any new idea. Please, if you have something urgent give me a call, but send newsletter content via email.

ANNUAL SHOW 2023

October 21-23, 2023
Hosted by The Gem and Mineral Society of Louisiana

ANNUAL MEETING

October 22, 2023
Westwego, LA

SCFMS WEB-SITE:
WWW.SCFMS.NET

The SCFMS is a member of the American Federation of Mineral Societies. amfed.org

NEWSLETTER EDITOR/BEAC:

Susan Burch
scfmseditor@yahoo.com

A message from Roger's Desk

Roger Burford
SCFM President

I hope the month of March finds all well, it's been a little rocky in the Burford household with Liz's back and then foot acting up. All will settle down though eventually.

I am glad to announce that our federation has grown by another club with the addition of a new club in Arkansas. Your Federation is a living being and is always changing with the addition of new officers and the unfortunate passing of some of our older members. Now is a good time to take pause and reflect on what we can learn from those who have been in our hobby the longest. We are never too old or smart to learn something new and for us in Baton Rouge, the passing of Joe Samrow our oldest member at 97 reminds us of what we have lost and the questions we never got the answer to.

As we head into Spring, take time to spend with some of the more seasoned members of your club and think also of what you can add to your Federation. This will be an election year for us and we can always use new blood.

I need two members to volunteer to be part of the nominating committee. We will be voting for all positions except Treasurer and Newsletter Editor. Take a look at the new by-laws for changes to the selection for offices and let's pick the best representatives for your Federation.

AFMS SCHOLARSHIP FOUNDATION
Don Shurtz, Scholarship Fund (AFMS) Chair

Don Shurtz, AFMS Scholarship Fund Chair

The AFMS Scholarship Foundation has awarded over $2,000,000.00 (Two Million Dollars!) in scholarships to deserving graduate students in Earth Sciences. Each year they award two scholarships for $4,000.00 each ($8,000.00 total) in each Regional Federation. How does the Scholarship Foundation have that much money to award each year? There are two sources of funding – interest from their endowment fund, and donations from clubs and individuals. Every year, $8,000.00 in scholarships are awarded to colleges or universities in the SCFMS area. It is time that we provide more help with that effort.

The Rollin' Rock Club, a member club of the SCFMS, auctions off a Treasure Chest at every unofficial meeting. All of the money from the auction is donated to the Scholarship Foundation. At the SCFMS Convention, the names of all the winning bids go into a hat and one lucky person's name is drawn to receive the Treasure Chest and its contents. Over the years, the Rollin' Rock Club has become THE MAJOR contributor of donations to the Scholarship Foundation in the SCFMS. In 2022, only two other clubs donated money to the Scholarship Foundation. As clubs, we need to try harder. The goal is for each club to donate $1.00 per member of the club. That really isn't very much – it won't even buy a candy bar or a cup of coffee these days. So that is my challenge to each club - $1.00 per member.

One possible means of generating a donation may be a memorial to a member who has passed. Another way may be to auction mineral specimens, rocks, or finished jewelry pieces at a meeting to donate the proceeds to the Scholarship Foundation. Still another way may be to set up a percentage of your show's silent auction proceeds to donate to the Scholarship Foundation – I don't know about you but I am always more receptive to bidding on something that supports a scholarship. The bottom line is to be flexible and innovative to find a way to donate to a really good cause.

Donations to the Scholarship Foundation should be by check made out to the AFMS Scholarship Foundation. The checks should be forwarded to Don Shurtz, 4004 Dublin Road, Allen, TX, 75002. The donation will be recorded and forwarded to the Foundation. You will receive a letter from me letting you know the donation was received and processed. You will also receive a letter from the AFMS Scholarship Fund confirming your donation.

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AQUAMARINE: ULTIMATE GUIDE TO COLLECTING AQUAMARINE (WHAT IT IS AND WHERE TO FIND IT)
by **Jeremy Hall**

Aquamarine is famous among gem enthusiasts. It's a hard gemstone with a sky blue color, often known for high clarity. It's found in many places, in forms of varying quality, but it's highly sought after by many rockhounds. The gem itself is worth enough that there have been many tall tales told about locations and prospectors who jealously guard their location.

So, let's learn about this incredible gemstone in our ultimate guide to aquamarine.

What is Aquamarine?

Aquamarine is a form of beryl, the same family of gemstones as emerald and heliodor. Its light blue color defines it. Most gemmy samples have very high clarity compared to others in the same family.

Aquamarine is most frequently seen as a faceted stone. Like all stones, its value is based on the 4 Cs.

- **Color-** The most important factor for aquamarine's value. Most commercial grade material is

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lightly colored, but in fine jewelry, you'll find much deeper colors. The best is a deep, saturated blue but there are plenty of sky blue pieces of aquamarine set in gold.

- **Clarity-** Clarity is usually high in aquamarine, unlike emerald. Clarity is important for the value of the stone, but some people purposefully use stones with interesting inclusions.
- **Cut-** Stones with a more difficult cut are worth more, it's just how things work. The bottom end of the scale is the normal round cut, at the upper end we have strange fantasy cuts worth an absurd amount.
- **Carat Weight-** Weight is always a factor when selling gemstones since it lets us accurately measure which is the larger stone.

The same thing, minus cut, applies to general samples of the material. The material used to cut the best aquamarine is still *very* expensive before it's ever cut.

The coloring agent in aquamarine appears to be iron molecules. These ions get trapped in the crystal lattice and depending on how things progress from there you'll end up with either heliodor or aquamarine after a few million years.

Aquamarine appears in a hexagonal crystal system. It's very distinctive and the hardness of the stone means that it often makes it through the ages intact. These samples are highly sought after, whether they're highly included or gem-grade spikes of blue crystal.

These crystals can be *enormous*, but they are rarely found terminated.

In truth, not all blue beryl is actually aquamarine. There is also sapphire blue beryl which is usually known as maxixe. The material looks great, but it has a flaw that makes it unsuitable for a lot of decorative uses.

Aquamarine fades in sunlight.

This color instability is caused by the unique coloring agent. Maxixe is actually NO_3, which degrades rapidly when exposed to sunlight and leaves behind colorless beryl.

Beryl, in general, has a hardness of 8.0 on the Moh's scale and is quite brittle. The luster is considered vitreous or resinous. It's an interesting stone in its own right, but aquamarine is one of the best examples of the family.

Oddly enough, emerald and aquamarine are the most well-known beryl gemstones but have different crystal formations. Even world-class emeralds often have inclusions that appear to the naked eye, while aquamarine is actually known for its clarity.

It's just another example of how strange the formation of crystals can be.

Where is Aquamarine Found?

Aquamarine is mined commercially in many parts of the world. It's high cost also makes it something that rock hounds seek out, but the best locations are often hidden from public sight or already claimed in private.

Aquamarine is produced in many countries around the world. China, Brazil, India, and Myanmar all have gem-quality aquamarine for instance. Myanmar is known for producing fine, deep-blue samples of aquamarine but location is no guarantee of quality.

In the United States aquamarine can be found in the following locales:

- **The Mojave in California**
- **Idaho**
- **Central Texas**
- **Georgia**
- **Tennessee**
- **Southern Maine**
- **Northern New York**

Among others. The most famous location is in Idaho.

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Being more specific with locations is hard. Aquamarine in the United States is often gem quality, unlike things like ruby, so the locations are hotly contested. You'll have to do some footwork, and you may be out of luck if you're not a local affiliated with a rock and mineral club.
Southern California's pegmatites are the surest bet, but that involves hard rock mining in the Mojave desert.

How Do I Dig Aquamarine?

There are two main locations where aquamarine is found. The first is the most common: pegmatites. A pegmatite is easy to describe. They're a rock formation that consists of larger mineral samples, making them extremely coarse-grained. Think of a piece of granite and imagine the various minerals seen were 1-6" long and you're on the right track.

Digging pegmatites is hard work, so it's often a good idea to check through any debris nearby. In locations where other people have been mining things can be missed.

You'll want the following:

- **Rock Pick–** For breaking smaller chunks and prying at things.
- **Pickaxe–** To knock off chunks of pegmatite.
- **Pry Bar–** For bigger prying applications that the rock pick can't handle.
- **Shovel–** For moving broken down pieces out of the way.
- **Chisel–** For breaking into medium-sized pieces and knocking stone away from larger crystals.

All of the linked tools* are those I've personally used. I stick with Eastwing for my rockhounding gear, for the most part. They're expensive but you'll never have to buy the tool again. Cheaper tools are fine, especially if you're not in the field often.

Since pegmatites are hard rock digging you need to make doubly sure that you have legal permission to dig where you are. It's a lot easier on private property with permission from the land owner, as each state and National Park has their own set of rules when it comes to mining.

Pegmatites form quickly after an eruption. Pegmatite is known for housing high-quality crystals that formed quickly. Most locations that have pegmatite will also have other crystals encased in the stone. It's cool stuff!

Veins are similar, but they'll be present in metamorphic rock instead. Aquamarine has the variety to form in many environments, which is why it's spread across the world. Metamorphic rock is *usually* easier to dig, so you'll be able to recover the crystals faster.

Try not to fall afoul of any laws during your search. Aquamarine claims are actively guarded and you don't want to stumble onto land that you're not supposed to be on. Always get a good overview of who owns which bit of ground when you're out looking.

It's sweat, not knowledge, that's going to open the stones that contain aquamarine.

So, when are you planning on trying to dig some?

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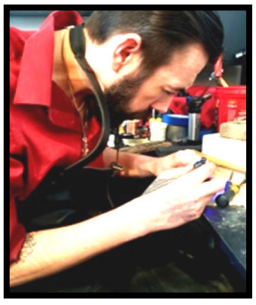
Jeremy Hall



Jeremy is a professional writer, but his real passion lies with stones. With two decades of collecting behind him, as well as a decade of cutting, he loves to share his broad experience and knowledge about rockhounding. These days he can be found in his workshop, setting the stones he dreamed of as a child. You can find his knowledge here (rockseeker.com), and his handiwork at his Etsy shop.

Reproduced with gracious permission from rockseeker.com. *Tool links can be found on the rockseeker site in the original article here: https://www.rockseeker.com/

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THE SCFMS' ANNUAL CONVENTION EVENTS WILL BE HOSTED BY THE GEM & MINERAL SOCIETY OF LOUISIANA, OCTOBER 21-23, 2023

ETGMS Rockhound Of The Year

SARAH HAWTHORNE

Sarah Hawthorne was selected as our **Rockhound of the Year - 2022,** for her continued excellent publication of our newsletter, the **Rock 'n' Rose**. She took over as editor in August of 2020, and is our graphic designer. Sarah has also done the graphics for our flyers and the special publication for new members. She inherited her abilities from her parents and began working in their sign shop in 1994. In 1998, she began working with a T-shirt screen printer and did this for almost nine years. In 2007, she started working at Foretravel Motorcoach, designing their travel magazine, advertisements, and signs. She also manages their website and design graphics for their 45-foot motor coaches. We hope to utilize her talents and abilities for many years to come.

Submitted by Julia Toombs

AFMS CODE OF ETHICS

I will respect both private and public property and will do no collecting on privately owned land without the owner's permission.

I will keep informed on all laws, regulations or rules governing collecting on public lands and will observe them.

I will, to the best of my ability, ascertain the boundary lines of property on which I plan to collect.

I will use no firearms or blasting material in collecting areas.

I will cause no willful damage to property of any kind— fences, signs, buildings.

I will leave all gates as found.

I will build fires in designated or safe places only and will be certain they are completely extinguished before leaving the area.

I will discard no burning material—matches, cigarettes, etc.

I will fill all excavation holes, which may be dangerous to livestock.

I will not contaminate wells, creeks or other water supply.

I will cause no willful damage to collecting material and will take home only what I can reasonably use.

I will practice conservation and undertake to utilize fully and well the materials I have collected and will recycle my surplus for the pleasure and benefit of others.

I will support the rockhound project H.E.L.P. (Help Eliminate Litter Please) and will leave all collecting areas devoid of litter, regardless of how found.

I will cooperate with field trip leaders and those in designated authority in all collecting areas.

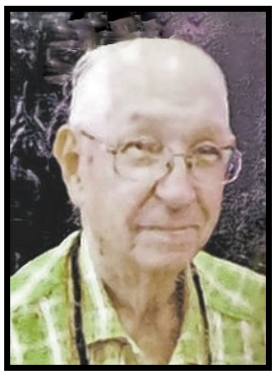
I will report to my club or Federation officers, Bureau of Land Management, or other authorities, any deposit of petrified wood or other materials on public lands which should be protected for the enjoyment of future generations for public educational and scientific purposes.

I will appreciate and protect our heritage of natural resources.

I will observe the "Golden Rule," will use "Good Outdoor Manners" and will at all times conduct myself in a manner which will add to the stature and public image of rockhounds everywhere.

In Loving Memory

JOSEPH SAMROW



Joseph Earl Samrow, born on November 4, 1926, passed away at the age of 96 on Saturday, January 21, 2023. He was a native of Slidell, resided in Baton Rouge, and was a current resident of Gramercy, LA. He was a United States Navy Veteran having served during World War II. Joe's work life included working at Canulette Shipyard in Slidell, work in the lab at Crosby Chemical in DeRidder, retiring after many years of service at Kaiser in Gramercy and Baton Rouge, past Mayor of Gramercy and Senior Advocate in the St. James Parish Sheriff's Office as well as being active in the Gramercy Emergency Operations Center. He was also a 3rd Degree Knight of the Knights of Columbus and an Acolyte and Extraordinary Minister of Holy Communion at Sacred Heart Catholic Church. Joe's interests included being co-founder of the St. James Historical Society, Inc. and his longtime membership of the German-Acadian Historical Society. His favorite hobby, though, was being a true rock-hound and gem enthusiast and he could make just about anyone excited about rocks and minerals (especially his grandchildren and great grandchildren) and it wasn't uncommon for one of them to leave with a rock (or two) in their hand. Joe is survived by his sister, Louise Samrow McClelland and his sons George Samrow and Greg Samrow (Puddin'), daughters Kathleen Samrow Deroche (Nolan) and Marie Fuselier (Robert), daughter-in-law Deanie Samrow, 13 grandchildren and 30 great grandchildren. He is preceded in death by his beloved wife, Thekla, his parents George and Viola Nunez Samrow, brothers Steve, Stanley, Sidney, Perry (Buddy) and Tony Samrow, son Joseph Samrow, Jr., daughter-in-law Barbara Samrow and great grandson Logan Landry.

BACK-TO-BACK SAFETY
Ellery Borow, AFMS Safety Chair

Back issues are an all-too-common issue in today's rockhound activity. We carry things, often heavy things. We carry lapidary machines, large rocks, pails of rocks, show cases, meeting tables, boxes of stuff for our dealer booths. On top of that we carry these things upstairs, downstairs, up hills, down hills and across show halls. We are often lifting things from the floor, table, or tail gate. Or we are lowering items down to those levels. One could get tired just thinking of all that work.

Fortunately for us, there are plenty of guides, booklets, instructional videos, and websites with important information on how to lift things.

The human back is a complicated system and an equally complicated geometry. The curious "S" shape of our spine and its movement utilizes a good many overlapping muscles. Stresses on our backs are compounded largely by insufficient exercising of our muscles, most often our lower back muscles. The lower back area is the one most frequented with concerns and complaints.

The first item of business when dealing with any back issue is, of course, to prevent it from happening in the first place. The second item is to seek medical attention and care if there is sufficient concern for evaluation and help with the problem. There is no cents (that is dollar and cents) in making a back problem worse.

The following is a list of back concerns and maintenance ideas complied from several sources:

- Know one's limits and abilities.
- Know the weight of what one is to lift.
- Ask for assistance with moving heavy, bulky items.
- Secure one's grip on the item before trying to lift.
- It is not easy to grip or lift wet and slippery items.
- When two or more people are cooperating in the lift, coordinate the lift with a count-down of, "three, tow, one, lift," or some other coordination.
- When lifting, keep the load close to the body.
- Lift with the legs and brain, not the legs and lack of forethought.
- Before lifting, make sure there is a clear area onto which to lower the item (it is no fun to hold something while waiting for another person to clear the area… I have actually seen that happen).
- Plan the carry route ahead of time. Will someone be walking backwards? Walking backwards should be avoided if possible. Walking side by side is preferable — use careful assessment.
- Does the item being carried contain liquid? Moving liquid can change the balance of an item and cause the losing of one's grip (carrying a saw with a reservoir of oil is such a situation).
- Does the load need to be kept level (such as the saw containing a reservoir of oil)?
- Is the floor clear of obstructions, such as boxes or electrical cables? Forest pathways are particularly vexing for safely carrying items.
- Ensure there are no wet or slippery areas on the floor (or recent waxing).

Ellery Borow
AFMS Safety Chair

- Instead of carrying all the rocks in one pail, try using two pails with approximately 1half the weight in each pail. This helps keep the spine straighter instead of adding another curvature to its already curved shape.
- If one has only one pail, try carrying it for a while with right hand and them switch to the left hand. Alternate the weight from left to right and keep switching.
- Some people like to carry the one pail in front of them using both arms. This, while keeping the spine straight, is harder to balance than a load in a backpack. Use caution.
- Backpacks are sometimes slung over one shoulder. As with a single bucket, try alternating shoulders to keep redistributing the load.
- The metal wire, or thin plastic handle on many five-gallon pails is stressful for the hand. Try replacing a thin plastic handle with a thicker one. If the wire loop has no handle, put on a comfortable handle.
- Some small plastic pails have thin plastic handles that do not have sufficient capacity to carry rocks. If the handle breaks while carrying a load it may shock the spine and cause injury.
- If one has the use of one, use a four or two-wheeled cart for heavy or bulky carries.
- When using backpacks for the carry, check to make sure the straps are no frayed and the stitching is in good order. • Backpacks with padded straps are easier on the shoulders.
- Do not carry too heavy a load in a backpack, pail, or rucksack.
- Take breaks during long carries.
- I saw a fellow carrying two heavy pails using a yoke-like device to distribute the weight across his

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shoulders. I did not ask him about how it worked for him, but it did not look distressful. I did not find out how easy it was to load or unload the two pails from the yoke.

As one might guess, lifting is not the only back injuring activity rockhounds experience. People overreaching, twisting the spine to reach an item that rolled under a table, or wrenching backward while using a pry bar, gad bar, crowbar as they extract their prized specimen are also back stressing activities. With any activity that uses one's back it is wise to position the body and footing thoughtfully. It is also wise to keep the spine straight, and think first - before engaging one's back.

Your safety matters. So do back injuries. Please be careful and have fun with all you do.

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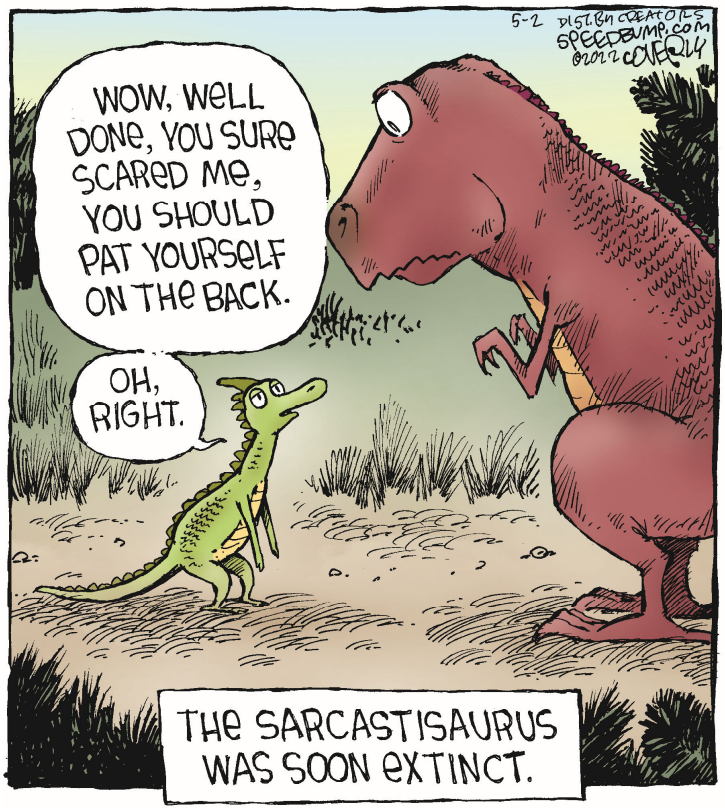


Link to Speed Bump: A 25th Anniversary signed book by Dave Coverly.

AFMS LAND USE POLICY

1. Adherence to the AFMS Code of Ethics assures compliance with most statutes and regulations governing collecting on public lands and encourages respect for private property rights and the environment. Clubs are urged to read the AFMS Code of Ethics in at least one meeting every year, to publish the Code frequently in the club newsletter, and to compel compliance on club field trips.

2. Individuals and clubs are urged to write their elected representatives and land use management agency supervisors regarding issues of rule making, legislation and enforcement affecting field collecting of minerals and fossils.

3. Individuals and clubs are urged to join and support activities of the American Lands Access Association (ALAA), a sister organization with responsibility for advancing the interests of earth science amateurs with legislatures and land use management agencies.

4. The AFMS will receive a report from ALAA at its annual meeting.

5. The AFMS endorses the principle of multiple use of public lands as a guarantee of continuing recreational opportunities.

6. Wilderness and monument designations are inconsistent with the principle of multiple use. In view of the vast amount of public land already designated as wilderness and monuments, future such designations should be minimal, taking into account the increased demand for recreational opportunities, including rockhounding, created by a growing population.

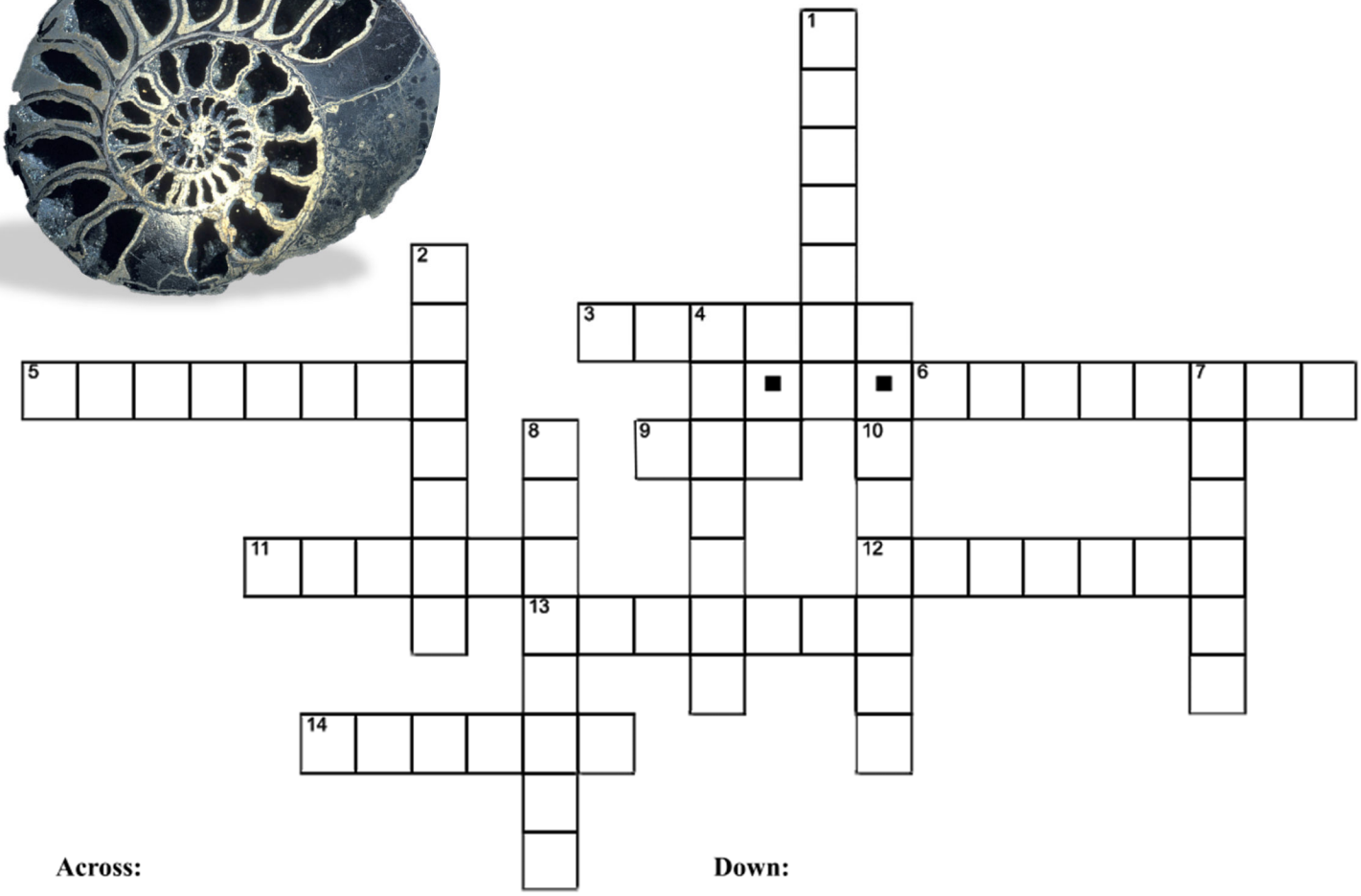
7. In furtherance of the principle of multiple use, the AFMS believes that laws, regulations and rules established by relevant governmental authorities should be designed to allow freest possible access to all public lands, coupled with minimal restrictions on the recreational collection of minerals, fossils, gemstone materials and other naturally occurring materials.

8. A right to collect minerals and fossils on public lands should be protected by statute.

9. The AFMS urges its members to work with any or all government authorities to achieve a good working relationship in order to improve the public image of recreational collectors.

GEOLOGY CROSSWORD PUZZLE

By Susan Burch



Across:

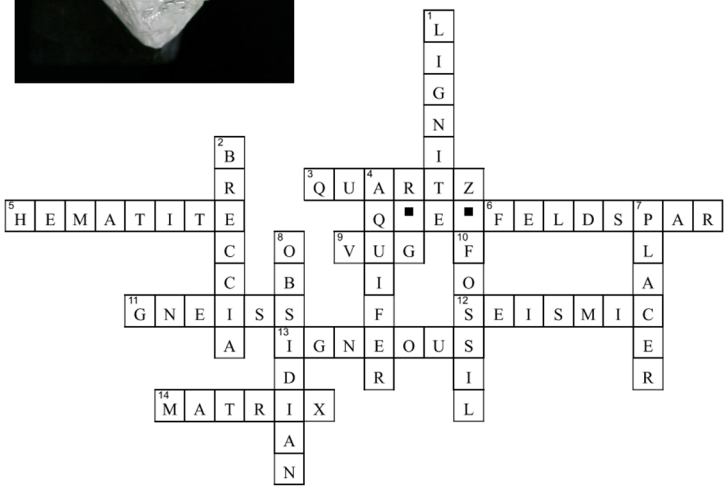
3. Silicon dioxide. The only silicate mineral consisting entirely of silicon and oxygen. Synonymous with crystalline silica
5. An oxide mineral composed of oxygen and iron
6. A group of abundant silicate minerals
9. A small cavity in rock, commonly lined with crystals of a different mineral composition from the enclosing rock
11. common and widely distributed type of metamorphic rock which forms at higher temperatures
12. Pertaining to an earthquake or Earth vibration, including those that are artificially induced
13. Describes a rock or mineral that solidified from molten or partly molten material
14. The fine-grained material between coarse grains in an igneous or sedimentary rock (not the movie)

Down:

1. An organic sedimentary rock, referred to as brown coal
2. A coarse-grained, generally unsorted sedimentary rock consisting of cemented angular clasts more than 2 mm (0.08 in) across.
4. A rock or sedimentary unit that is sufficiently porous to hold water, sufficiently permeable to allow water to move through it, and saturated to some level.
7. A concentrated deposit of minerals, usually heavy, such as gold, cassiterite, or rutile, in a beach or stream deposit
8. A black or dark-colored volcanic glass
10. IE dinosaur bones, old shells

GEOLOGY CROSSWORD PUZZLE-Solution

Photo at left: Diamond-mindat.org
Mirny Mine, Mirny, Mirninsky District, Sakha, Russia



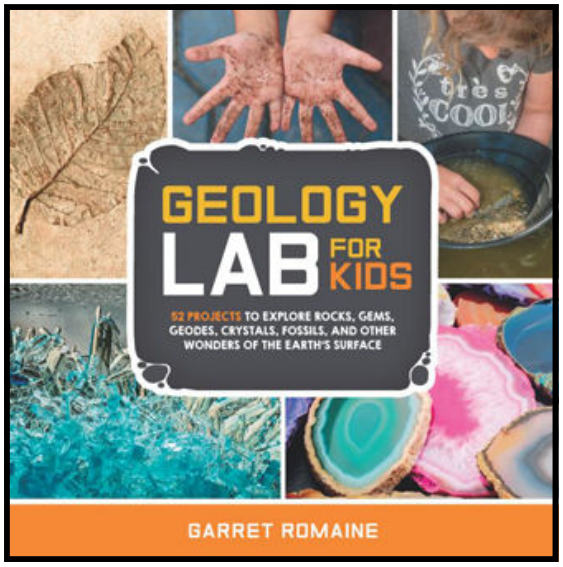
ROCKSEEKER.COM

Tips and Tricks: Photography

There's a lot of us who enjoy sharing pictures of our most recent finds. Unfortunately, pictures almost never do it justice...even good pictures! But the fact is, anyone can take stunning shots that showcase their natural beauty, regardless of skill level or experience...and all you need is the phone in your hand. Here are some tips to help you out:

- **Your Background-** Choose something that will help the specimen pop. Don't use loud colors or patterns that distract from the stone. A few good backgrounds to consider are white paper, tissue paper, cardboard, paper towel, etc.
- **What's in the Foreground?-** Note what's in the foreground, or in front of the mineral. Because that's what your camera, and people, are going to want to focus on. Are you holding the stone? Make sure your fingers are not in front and that they're neat and clean!
- **Size Reference-** It can be difficult to tell just how big, or small, a rock is when looking at a picture. Place something in the photo that everyone else is familiar with to reference the size. A penny or quarter works well. Have a large object? Use a banana for scale. □

Learn more about taking better pictures of your collection: **8 Tips For Photographing Rocks and Minerals**



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https://www.amazon.com/Garret-Romaine/e/B0037I87T8

LAB 16 COLLAPSING CALDERA

Some volcanoes erupt by belching out clouds of ash that blanket the land around them. Then they collapse and form a caldera—a large, circular crater. In this lab, you'll create your own collapsing caldera by making a soufflé.

MATERIALS

- 10 3⁄4-ounce (318 ml) can of reduced fat reduced-sodium condensed cream of mushroom soup, undiluted
- 1 cup (115 g) of shredded reduced-fat cheddar cheese
- Electric mixer
- 3 eggs, separated
- 3 additional egg whites (total of 6)
- 2-quart (2 liter) straight-sided baking dish
- Cooking spray
- 1 tablespoon of fine dry bread crumbs

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Safety Tips

- Use the usual safety precautions in the kitchen: avoid burning yourself on the stove or in the oven.
- Ask an adult for help using the stove and oven.

PROTOCOL

STEP 1: In a saucepan, combine soup and cheese. Cook and stir over low heat until cheese is melted. Cool.
STEP 2: In a bowl, beat egg yolks until thick and lemon-colored; stir into soup mixture. In another bowl, beat all six egg whites on high speed until stiff peaks form; fold into soup mixture.
STEP 3: Spoon into a 2-quart (2 liter) straight-sided baking dish coated with cooking spray and dusted with bread crumbs. Bake, uncovered, at 375°F (190°C) for forty to forty-five minutes or until the soufflé has risen and is golden. Once you take it out of the oven, pay close attention—the soufflé should start to collapse as it begins to cool.

CREATIVE ENRICHMENT

Some chefs use cream of tartar, sugar, or dried egg whites to stiffen the soup mixture and try to prevent the soufflé from falling.

THE SCIENCE BEHIND THE FUN

The truth is that almost all soufflés fall, sometimes within seconds of pulling them out of the oven. The beating of the egg whites causes air, in the form of tiny bubbles, to be trapped in the egg foam; as the soufflé bakes, the air expands, causing the soufflé to puff dramatically. When the soufflé cools, the air contracts, making the soufflé fall. But that's okay for this lab, because that's what we want. When you see a little wisp of steam rise and the crusty structure begin to sag in, you have created almost the same conditions as when a large volcano bulges up and then collapses. Only instead of a little harmless steam, super-volcanoes let go with a tremendous outpouring of volcanic ash, then collapse just like your soufflé.

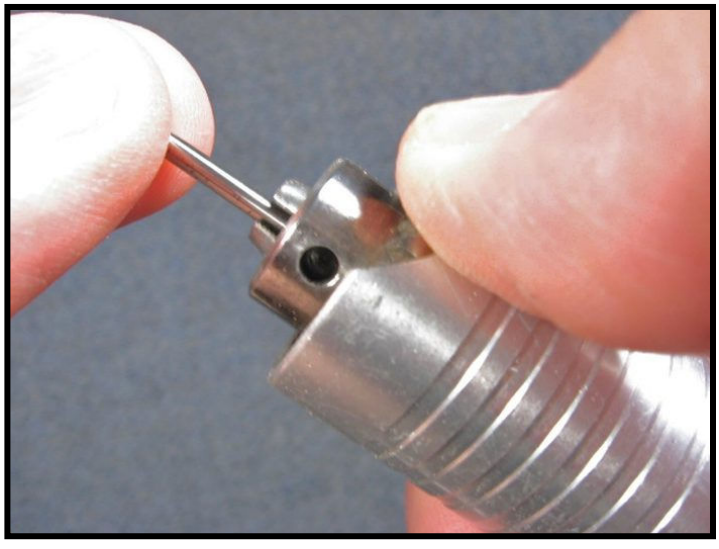
Calderas can be quite messy. In the case of a caldera like the one in Yellowstone National Park, which is about 30 x 45 miles (48 x 72 km) across, geologists think that an eruption 640,000 years ago caused such an outpouring of ash that it circled the world and piled up several feet thick in parts of the Midwest. Calderas may be some of the most dangerous geological features on the Earth, because they kick out a lot more ash than volcanoes do. People in Hawaii have learned to live with lava flows that move several feet in a day and creep downhill in predictable ways. Giant clouds of hot ash, on the other hand, can blanket entire states or even continents, ruin car engines, foul water supplies, kill livestock, cover farms and ranches, and block out the sun.

BENCH TIPS BY BRAD SMITH

CUTTING MOLDS —Cutting molds is easier and more precise with a sharp blade. A new Xacto blade is sufficient for cutting RTV molds but is usually not sharp enough for vulcanized rubber molds. For that it's best to use scalpel blades available from most jewelry supply companies. The #11 blade is triangle shaped, and the #12 is hawksbill shaped. I find the hawksbill is particularly nice for cutting the registration keys of the mold.

USING YOUR THUMB—When using multiple bits in a Foredom, we often have to deal with several different shaft sizes - the usual 3/32 inch burs, the larger 1/8 inch shafts sizes and of course the many different sizes of drills. For some reason I really dislike having to turn the key multiple times to open or close the jaws of the handpiece chuck.

So I have two ways to speed up that task. For opening up the jaws, I just remember "four", the number of turns I have to make to open the chuck just enough from the 3/32 bur shaft size to the larger 1/8 bur shaft size.



For closing the jaws around a smaller shaft, there's a neat trick. Hold the new bit in the center of the open jaws of the chuck, put your thumb lightly onto the outer toothed collar of the chuck, and gently start up the Foredom. As the chuck turns, it will naturally tighten the jaws around the bur shaft or the drill bit. Then all you have to do is a final tightening with the key.

BRAD SMITH

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UPCOMING SHOWS 2023

March 17-19	Pasadena, TX —Clearlake GMS
April 1-2	San Antonio, TX—Southwest GMS
April 14-16	Alpine, TX— Alpine GMS
May 6, 7	Waco, TX—Waco GMS
May 27-28	Fort Worth, TX—Fort Worth GMS
June 17-18	Grapevine, TX—Arlington GMC

DEADLINE FOR THE
MAY-JUNE, 2023 NEWSLETTER
WILL BE
APRIL 20, 2023

To those who helped make this issue possible...

Roger Burford
Don Shurtz
Jeremy Hall
Rockseeker.com
Julia Toombs
Ellery Borow
Dave Coverly-Speed Bumps
Garret Romaine
Brad Smith