The Rockette

JULY 2017
A Publication of the Sequoia Gem and Mineral Society (SGMS)
P. O. Box 1245, Redwood City, CA 94064
http://www.sequoiagemandmineralsociety.org

NO MEETING IN JULY OR AUGUST
We will be having our Annual Summer Picnic and Sale instead.
Date: TBD

Summer Camp, Anyone?
Geology & Geohazards in Denali, Alaska
Geographic Field Institute, Denali, AK

"We got to play scientist for a week, using the Alaska wilderness as our laboratory. It was like going on a geology treasure hunt. Instead of a guide giving us a tour, we were led through the discovery process. We questioned and developed hypotheses, which led us to our own understandings, instead of just accepting what someone else says. We studied slide zones and fault lines, and I came away seeing the world differently. Geology is all around us, so now I can go anywhere and understand what I'm looking at. I can see evidence of geology around my own town that I wasn't aware of before. So in the end, trudging barefoot through icy streams, braving high passes like mountain goats, and sharing space with grizzlies made it all worth it." - Catherine Kershner, Fairbanks, AK. *From $420 for 5 days (as seen in Sunset Magazine)*

SGMS Mission Statement

The Sequoia Gem & Mineral Society serves the community by providing education in the Earth Sciences and training in the lapidary arts and, in doing so, promotes ethical behavior, sound resource stewardship, and good fellowship. The Society fulfills its mission through year-round offerings of field trips, lapidary workshops, outreach presentations, public mineral displays, and monthly informational meetings open to the public.

Member of:
California Federation of Mineralogical Societies, Inc.
American Federation of Mineralogical Societies
North Bay Field Trip Association

Exchange bulletins are welcome. You are free to reprint if credit or citation is noted.

Having rock withdrawals? Not to worry! The new session began July 5. Still the same times, days, and place! Marty and Cathy and Paul and Larry have been cleaning and replacing and tweaking! This week Cathy was the Wed. nite instructor, and Marty was Thurs. Paul is Saturday!

USGS Lecture: Thursday July 27 @ 7:00 PM
Warm Ice - The Dynamics of Rapidly Changing Glaciers

by Bruce F. Molnia, USGS Physical Scientist

Glacier Numerology - The how big, how long, how thick, how much, how often, of glacier science.

Glacier Photography - While a picture may be worth a thousand words, a collection of images may tell a complete forensic story.

- Glacier Geophysics - How new technologies are being introduced to reexamine and refine decades old glacier analyses.

Rambo Auditorium/Bldg. 3, 345 Middlefield Rd., Menlo Park

SAN MATEO FAIR 2017 RESULTS – by Mary Lou Froese

I submitted 2 pieces of jewelry "Not for Sale" and 6 others to sell. My (Not for sale) "Pulsing Heartbeat" won **1st Place!** Yippee! I also sold 3 pieces and then—the cherry on the top—won Best of Show in Jewelry!

Before going further, I want to tell you that Leslie Gordon who is a **FANTASTIC SILVERSMITH** and whom I have great admiration for, won 2nd Place for her Variscite & Tanzanite pendant! She and I have been trading 1st and 2nd places for a few years (a little competition maybe?). Check out the picture I took below. I am sure she made the woven chain as well!

“Pulsing Heartbeat” – Sterling Silver

The stone is Magnesite which I believe Larmie and I picked up in the 70’s at Anderson Dam somewhere on the rim (can’t go there now!). Don’t pooh-pooh Magnesite! It takes a fantastic polish!

I took a course recently at Mission College in Santa Clara. I wanted to learn new things: how to put “rope” around a bezel, and how to rivet. I bought “rope” from Rio Grande (as well as the wire & tube). The rope, however, is very, very stiff and you have to anneal it first before wrapping it around your soldered bezel.

After playing with the riveting on another piece, I went forward with this one, which also has a “spacer tube” in between the wire piece. The wire should fit inside the tube without much play. In this case, each tube is 2mm long and the wires are 2.1mm, or ½ mm on each side of the rivet. Too much longer, and you have to file the top of the wire down more so it doesn’t stick out! Cut a few more of each than you need—they roll off the table and you can’t find them! You need to use a caliper on the wire girth to measure it for the drill size to make the hole needed for the wire, which needs to be snug. Mark where you want to drill, then punch a divot so your drill doesn’t skitter across your metal, then drill. Then, patiently, insert a wire part way, insert the tube into the space between the two pieces, then push the wire up. Tap the wire top all around on a steel block with a small round-tip hammer, but don’t finish. Turn your piece over, tap the other side of the wire, and keep flipping over & over until everything is buttoned down. I used a little 0000 steel wool on the edges to smooth them. Riveting is the last thing you do to your piece!

The piercing on the front of the top piece was done with first drilling a hole (as above), then inserting a 7-0 saw blade into a jeweler’s saw. The red coloring on the back of the top piece seen through the piercing was done by painting it with a red alcohol ink which is what is used in permanent markers. This was the first time I played with this media. Look up alcohol inks online—lots of potential!

This was also my first time at “linking” two items! I learned (after the fact) that the better way to make the attachments is to first make a nice size ring, open & insert the 2 flattened tubes, solder the ring closed, then solder the tubes onto the top and the bottom pieces. I did it in reverse by soldering the 2 tubes onto the two pieces first, then tried to solder the ring which went out of shape, and it was a little messy, but it worked—after many swear words and reworking the ring!

In the News:

Gems and minerals valued at $30,000 were stolen from the Franklin Mineral Museum.

FRANKLIN -- More than $30,000 in precious stones, gems and minerals were stolen early Monday from the Franklin Mineral Museum, and police are asking the public to be on the lookout for someone with a severe laceration.

The daring theft is believed to have occurred sometime after 4:40 a.m., when the burglars,

after climbing a barbed wire fence, forced their way into the museum through a second-story window. According to Franklin Police Detective Sgt. Nevin Mattessich, the thieves used a ladder on the property to reach the window, then rappelled down to the main floor at which time one of them suffered a severe cut.

Bloodstains were found throughout the museum, he said.

The burglars ransacked the shelves and displays and several of the museum's display cabinets were shattered, causing substantial damage, he said.

The stolen merchandise is a unique part of the mineral history within Sussex County. Mattessich said the items stolen include emeralds, diamonds, topaz, opals and other precious stones and gems.

The theft was discovered by an employee who was opening the museum for the day about 9:30 a.m., Mattessich said. The facility has an alarm, which did go off at about 4:40 a.m. A police officer responded and checked the building, but did not notice anything amiss, Mattessich said. Police do not know if the burglars' entry triggered the alarm, or if they took an action that triggered the alarm and then entered the building after the responding officer left, Mattessich said. The museum building looks low from the front, but in the back where the window was broken, the ceiling rises to a lofty height, Mattessich said.

"We are asking any doctor, medical facility or hospital who treated someone with a significant cut to contact us,"

Police are also asking people to be on the lookout for anyone who might have an unusual amount of precious stones or gems.

The theft occurred just after a weekend event in a long-vacant lot off High Street where members of the Franklin Ogdensburg Mineralogical Society got a chance to prospect a previously untouched area of the Franklin zinc ore body. The event was filmed by a documentary crew.

In July 2011, more than $400,000 worth of gold was stolen from the Sterling Hill Mining Museum in Ogdensburg. The gold was never recovered.

The Franklin Mineral Museum opened in the 1960s as a museum dedicated to local minerals. It recreates and tells the story of the Franklin zinc mine, which closed in the late 1950s. The museum contains a replica of the Franklin mine for exploration, exhibits of local minerals, fossils and American Indian artifacts. Its worldwide mineral exhibit numbers 5,000 items in all, according to the museum website.

Human activity is creating new minerals on Earth

by *Adam Wernick*

Scientists have discovered about 200 new mineral compounds, created accidentally as a result of human activity.

The new minerals were identified by research scientist Robert Hazen and a team from the Carnegie Institution for Science in Washington, D.C. Their study is published in the journal *American Mineralogist*.

"This is the greatest 'punctuation event' in the evolution of minerals," Hazen says. "If you can imagine a future geologist — a hundred million years from now, a billion years from now — coming back to Earth and studying the various strata that have been laid down, perhaps going through a Grand Canyonlike structure that cuts through the strata of our time, [they] could see this rich layer with all of these unusual crystals. These are things that are going to persist for hundreds of millions of years, so, in a sense, humans are creating their own geological time strata."

One of the big questions occupying geologists is what epoch humanity currently lives in — whether we've transitioned from the Holocene era, which began some 12,000 years ago

after the last ice age, into a new period known as the Anthropocene, or the Age of Man. The discovery of new chemical compounds that did not, and could not, exist before the Age of Man makes a strong case that Earth has, indeed, entered a new era, Hazen believes.
"I do think that there's a very distinctive horizon of human-made crystals, unlike anything that's occurred before in the 4.5-billion-year history of Earth," he says. "Now, it's up to the stratigraphers, who are the official guardians of nomenclature, to decide this, but it certainly seems to me that from a mineralogical point of view, at least, we're in a new era of mineral evolution."
So, how does human activity create new minerals where none existed before? Primarily by disrupting the "near-surface environment," Hazen says.
"We dig mines. We have ore dumps. We have smelters," he explains. "We have ships that sink and then the artifacts on those ships get exposed to seawater, and that creates new kinds of crystals. That's why there are hundreds of minerals we think are 'human mediated.'"
Minerals form when they are "subjected to various physical, sometimes chemical, sometimes biological, processes that help to rearrange those atoms into a new crystal structure," he continues. In order to qualify as a mineral, a substance must be crystalline, meaning its atoms are arranged in a regular, repeating pattern, and it must have a distinct chemical composition. "If you have that combination, then you have a new mineral," Hazen says.
Some minerals are ephemeral, Hazen points out. Ice, for example, is a mineral: It is water, in a particular crystal structure; other minerals disappear every time it rains — Hazenite, for example, a mineral named after Hazen himself.
"Hazenite, I have to confess, is microbial poop," he explains. "It occurs in only one place in the world, Mono Lake in California, and it only occurs during the dry season. Every time the lake level rises or it rains, all of the world's supply of Hazenite disappears, only to [return] when the microbes get busy making more Hazenite in the next dry season." The scientist jokes: "People tell me, 'Hazenite happens.'"
While some may feel alarmed by the idea of human activity creating new substances on Earth after the planet did just fine on its own for billions of years, Hazen sees it differently. "As someone who loves crystals and the diversity of crystals, it's rather marvelous to see," he says. "At a time when we worry about biological extinction and a real decline in the variety of species of plants and animals, we're seeing this unprecedented explosion of new kinds of crystals. We're exploring nature in a way we've never been able to explore it before, and that's very exciting to me."
This article is based on an interview that aired on PRI's Living on Earth *with Steve Curwood. This article originally appeared at PRI's The World*

Dates of SGMS FALL meetings for 2017:

Sept. 18, October 16, November20.

Unless specified, the meetings will be held at the usual place, The Sequoia Gem and Mineral Society holds its General Meetings from 7-9pm on the third Monday of the month (with exceptions for holidays, or during July and December). Each meeting features a presentation, raffle drawings for specimens, a member Show & Tell, and access to the club library. Guests are welcome to join us!
Community Activities Building, 1400 Roosevelt Ave., Redwood City, CA 94062