



The CULVER CITY ROCK & MINERAL CLUB, located in Culver City, California, brings together persons interested in the earth sciences to engage in research and study, to assist members in the collection and preservation of rocks and minerals and in the study of lapidary and related arts.



February Virtual Program: Koroit Boulder Opal

Join us on Monday, February 08 @ 7:00pm in our Zoom Room as we hear from Gene McDevitt.



Gene is an American who has been mining boulder opal in Koroit, Queensland, Australia for twenty years. He will be describing and showing photos of his opal mining process and covering topics such as the nature of Koroit opal, underground mining, open cut mining, the challenges of living and mining in the outback, the local wildlife, types of material found in Koroit, and cutting Koroit boulder opal.

Gene started his life in upstate New York, where he was a very inquisitive kid, enjoying math & science, and anything else he could find. He has always tended to be one who wonders and contemplates.

Before getting into the opal business he was apparently a perpetual student, almost trapped in the academic world. He has a Master's degree in mathematics and bachelor's degrees in Biology and Philosophy. He enjoyed being a teacher at both the High-School and college levels and was working on a PhD in neuroscience at The University of Pennsylvania when he decided to exit the academic world and enter the gem world.

Along the way he has been on a winding path. He had discussions and debates with world famous philosophers, set a curling world record, purchased opal mines in the outback of Australia, shared a few scenes with Nicole Kidman, in a film directed by an Oscar winning director, have been enriched by the study of Wittgenstein and calculus, dissected a cadaver and while he was in a tunnel 40 feet beneath the surface of the outback, he has been face to face with the most deadly snake on earth . . . and on more than one occasion.



In This Issue

- 04 **January Program Report**
Where Can Life Exist?
- 06 **Online Tips**
Adding Multiple Cameras for a Zoom Session
- 08 **An Interesting Read**
Tsavorite The World's Rarest Garnet
- 10 **CCRMC News**
General Meeting Minutes
Executive Meeting Minutes
The Lapidary Shop
New Members



a message from the

PRESIDENT

As we go into the tenth month of the pandemic, vaccines are starting to be doled out to healthcare workers and our senior population. With a bit of scrambling on the computer, I was able to get my first shot of Pfizer over at Northridge on January 24th. There were very few cars in line as I drove into the site and only one as I pulled into Line #8 for the injection. Absolutely no reaction or aftereffects, and I have my appointment for the second dose in a couple of weeks.

With the rate of Covid hospitalizations slowing down, one piece of good news is that the Regional Stay at Home Order has been lifted. That means we may have a shot at re-opening our Shop, although at a slightly lower capacity (probably one person plus the shop manager). However, our new sanding stations need to be installed before that can happen. So we're working on it and will let you know soon.

Brad

Brad Smith
President

Upcoming Activities

- February 01 – Executive Meeting
- February 08 – General Meeting & February Program
- March 01 – Executive Meeting
- March 08 – General Meeting & March Program
- April 05 – Executive Meeting
- April 12 – General Meeting & April Program

General Meetings on Zoom

As we continue to navigate through the "Safer at Home Orders" all meetings will be held via video conferencing.

General Meetings are held the second Monday of every month at **7:00 PM on Zoom** until it is safe to resume in person meetings.

Join the Zoom meeting by clicking here:
<https://zoom.us/j/3108364611?pwd=WnRTclZTS3RJMEdWdlV2c01mQWxqdz09>

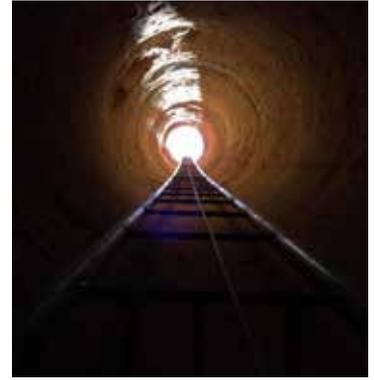
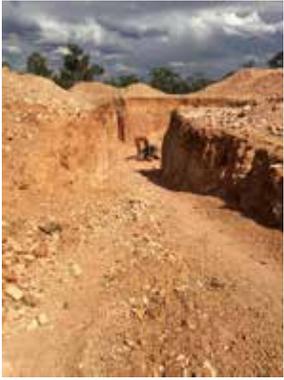
Meeting ID: 310 836 4611
Password: rocks

Guests are always welcomed to join us.

February Virtual Program: Koroit Boulder Opal *con't*

Each year, he travels halfway around the world to a remote desert in Australia. He goes there so he can get covered in sweat and dirt, have aching muscles, and so he can have the honor to mine, cut, enjoy and share some of mother nature's most spectacular and beautiful creations - Koroit boulder opals.

Submitted by
Ken Rogers
Programs Chair



Want to see more?
<http://www.koroit.com>
Instagram: [curiousstone](#)
Instagram: [koroit](#)

January Program Report: Where can life exist?



Dr. Aaron Celestian, researcher at NASA's Jet Propulsion Laboratory and the University of Southern California, and responsible for the Gem & Mineral Hall at the Natural History Museum of Los Angeles, discussed where life could exist outside Earth, based on the understanding of where life exists on Earth.

Dr. Celestian began by providing an overview of the space missions that researched the possibility of life outside Earth:

1976: Viking 1 and 2 missions to Mars conducted biological experiments that concluded there is no life on Mars.

1996: Pathfinder found evidence that water used to exist on Mars.

1996: Galileo found an ocean of liquid water in Europa.

2003: Spirit and Opportunity found that Mars used to have wet and warm conditions that could have harbored life.



2005: Cassini's mission to Saturn detected salty geysers on its satellite Enceladus.

2006: Mars Reconnaissance Orbiter identified brine on the planet.

2007: Phoenix landed on the ice cap of Mars and found perchlorate, a form of bleach.

2011: Curiosity found mudstone on Mars containing sulfur, nitrogen, oxygen, phosphorus and carbon.

2021: The Perseverance & Ingenuity mission will land on Mars' Jezero crater, thought to have been once flooded with water.



Dr. Celestian then explained how certain conditions could be favorable to life in other worlds, as they are on Earth. Salts, defined as minerals that grow from evaporating liquids, are a promising condition. On Earth, saltwater lakes that evaporate due to sunlight action leave crystals behind, which grow trapping water and bacteria inside. Several types of salt, such as halite, nahcolite, sulfahalite, hanksite, epsomite, gypsum, mirabilite, thernadite, exist on Earth and could be found in other planets and moons.

Dr. Celestian showed examples of halite crystals over 100 years old with living bacteria trapped inside. Bacteria breaks apart as soon as they are trapped in a crystal, which allows them to decrease energy by reducing surface. It is not known how long they can live; it could be millions of years.

The crystals can be studied in ice moon chambers, which mimic ice moon conditions of -328F. In there, scientists can determine the atomic structure of

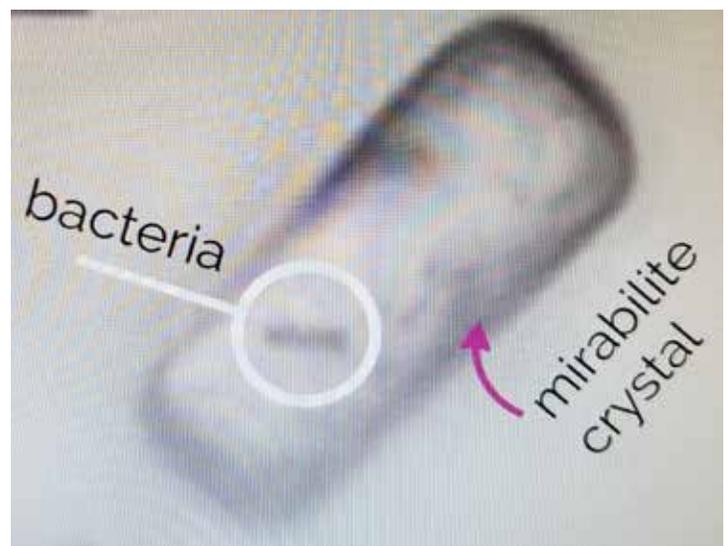
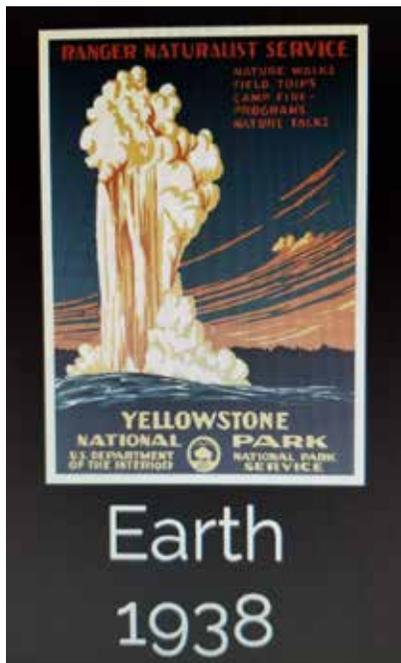
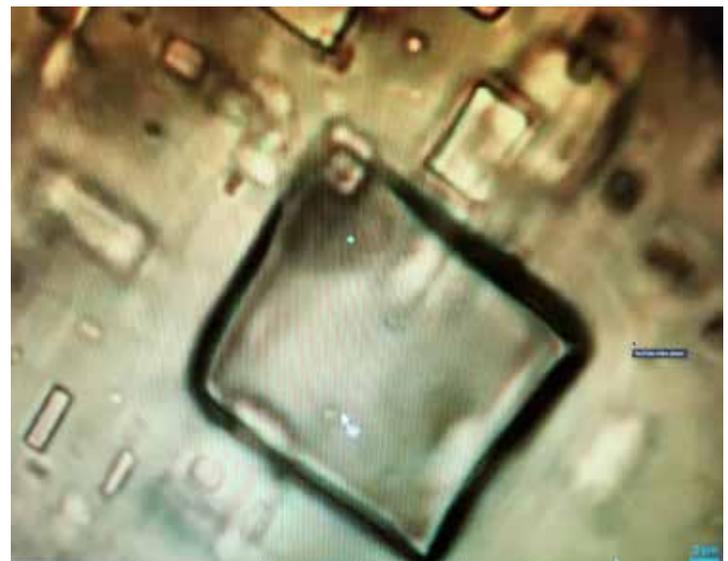
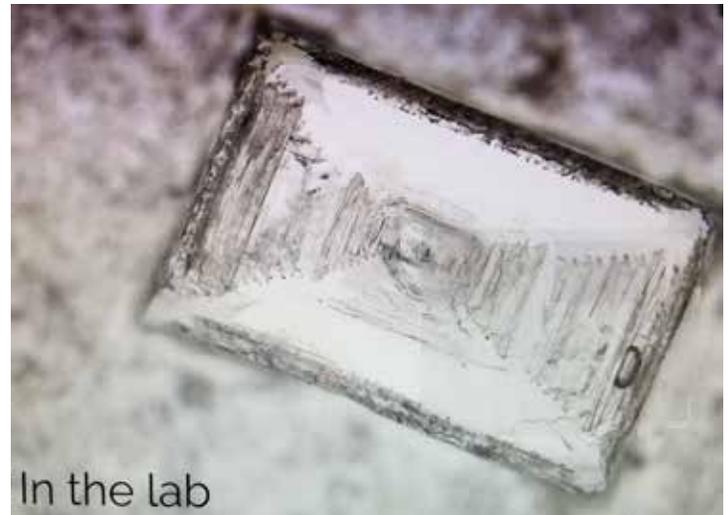
January Program Report: Where can life exist?

brines and crystals. CT scanning can map volume and density of fluids. In fieldwork, digital holographic microscopes can be used to identify crystals a mile below the surface. These microscopes are easy to transport as they have no moving parts and no lenses, and can locate bacteria.

NASA defines life as a self-sustaining chemical system capable of darwinian evolution. In terms of signs of life, there are many possibilities to be pursued. Life could be evidenced by something swimming in an ocean. It could be evidenced by fossils, although we may not know what fossils would look like in other worlds. Life can also be evidenced by molecules produced from evolved species. A discrete distribution of metals and minerals could be metabolic byproducts.

On Earth, bacteria trapped in crystals have been found in multiple places. Dr. Celestian provided some examples. In January 2020, rare salt formations were identified in the Great Salt Lake in Utah, which could provide insight about salt structures found on Mars. Scientists have also identified bacteria inside crystals from the Giant Crystal Cave at the Naica mine in Mexico, as well as in salt crystals from the Boulby mine, in England.

Submitted by
Ana M. Strambi Guimaraes
Recording Secretary



Adding Multiple Cameras for a Zoom Session

Many of us are becoming more comfortable using Zoom these days. It works well for a meeting, but often you want to show the details of some object. Webcams don't do this very well. It's really useful to have a second camera for close-ups in chats with family or discussions with other friends interested in making jewelry or minerals.

It's also useful for online teaching. In the last couple of months, I've been adding a few new things to my computer to let me teach online jewelry workshops with Zoom. It may sound complicated, but it turns out to be remarkably easy. The equipment needed is low in cost and simple to hook up. Everything I have unplugs and breaks down for compact storage when the session is over.

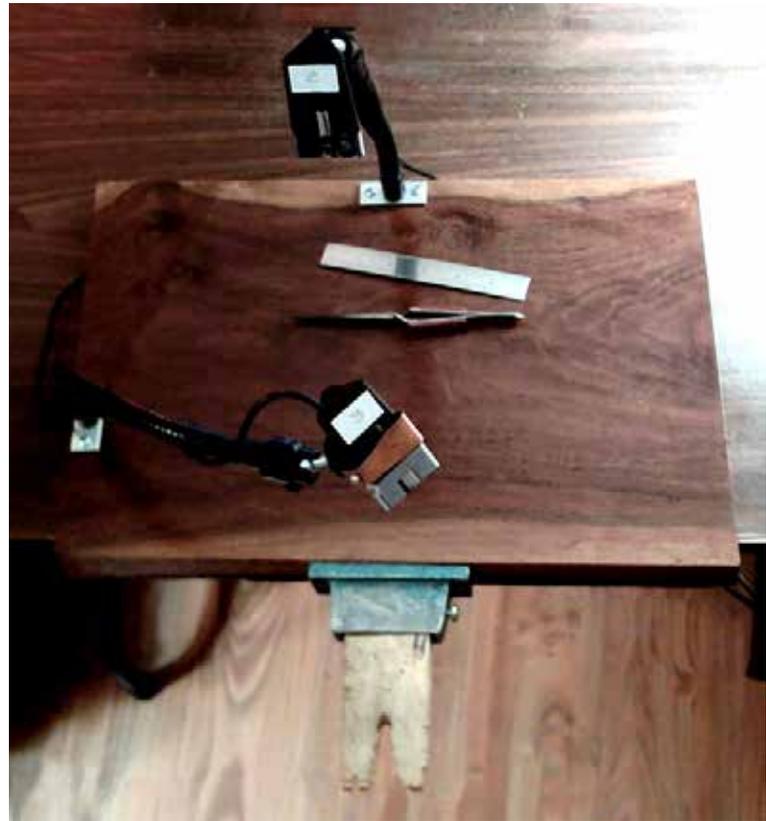
For cameras, I'm using standard [webcam](#) (\$40). They are 1080p HD quality, fairly small, and quite affordable. I started with one for my head shot because my monitor didn't have a built-in camera. Then I added three others to capture the fabrication area, a close-up of the bench pin, and my soldering area.

Windows 10 on my old Dell desktop handles all four webcams nicely. I used an external [4-port USB hub](#) (\$10) since my machine didn't have enough ports available.

When I'm on a Zoom session, I can select which camera to use by clicking the little Camera icon at the bottom left side of the screen. It lets me easily switch back and forth among the four cameras.

Mounting and aiming an added camera may take a little creativity, but there's a large variety of photographic apparatus to solve most problems. Amazon has many varieties of tripods, clamp-on arms, and adapters to choose from. I chose goose-necks with a [ball heads](#) (\$13) screwed on the top. The [goose neck](#) (\$14) lets me quickly change the camera position, and the ball head provides a fine adjustment.

This is my general fabrication area. It's a piece of 2" thick walnut about 14" x 20". A bench pin is mounted on the front. The camera on the center-rear is mounted to view the assembly area, and another on the front-left provides a close-up of the bench pin.



This is my soldering area, about 15" x 30" with a camera about a foot over the solder pad. The goose-neck screws into a mount on the tabletop that was made from piece of aluminum strip from the hardware store.



This shows one way of mounting the cameras. The strip of copper has a 1/4" nut soldered onto it for connection to the threaded ball head. I use the factory screw to hold the strip onto the camera. This is the button on Zoom that lets me switch between cameras during a session.

Adding Multiple Cameras for a Zoom Session *con't*



Since all my cameras are the same, Zoom shows four copies of the same name. To avoid confusion, I label each camera with a number 1-4 and found that if I connect them to the computer in the right order, they will display with the #1 webcam on the top of the Zoom list.



Submitted by
Brad Smith
President

Crocoite



Dundasite (white) and Crocoite (red orange)
By JJ Harrison (<https://www.jjharrison.com.au/>) - Own work, CC BY-SA 3.0, <https://commons.wikimedia.org/w/index.php?curid=8080888>

Some mineral collectors claim that Crocoite is the most beautiful mineral to be found anywhere on earth. (Diamond Dan agrees!) It has a wonderful combination of long, thin crystals, bright orange to red color and a near-glassy luster.

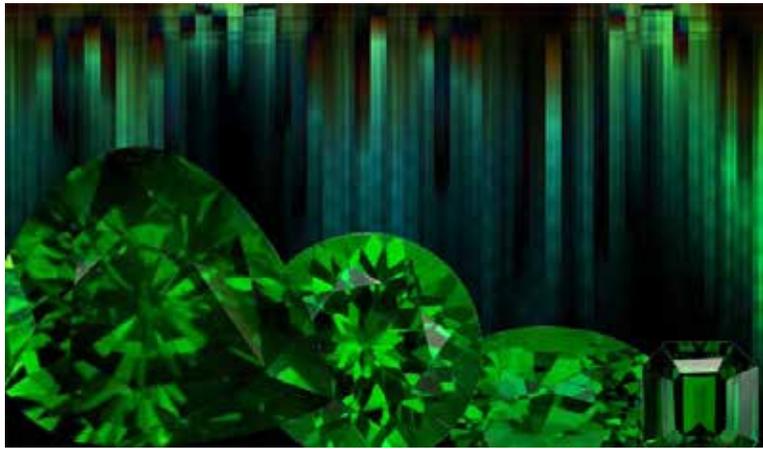
Groups and clusters of crystals are highly desired by collectors because they are so beautiful. On top of this, excellent crystals are rare since they are found in only a few localities. And honestly, only the Tasmania locality produces really, really great specimens! It takes a lot of work and care to mine these special specimens and transport them around the world without damaging the crystals or groups.

Crocoite crystals can be very, very thin and delicate. They can also be thick and sturdy. Today the most famous and bestknown locality for Crocoite is Dundas, Tasmania. However it was first discovered in 1766 at the Berezovsk Mines near Yekaterinburg in the Ural Mountains.

Crocoite is a minor ore of the element chromium (Cr). Early in the 20th century the Adelaide mine provided large quantities of Crocoite which was used as a flux. A flux is something that is added to ores to lower the temperature at which a metal will melt and flow out of the ore. In other words, tons of beautiful Crocoite specimens were melted in ore furnaces!

Mini Miners Monthly, December 2020 Vol 12 No 10

Tsavorite The World's Rarest Garnet



Tsavorite, the world's rarest garnet; A stunningly beautiful green gemstone that rivals any other green gem. Read on to find out why.

'The Rolls Royce of the Green'
Harry Platt, Tiffany & Co, 1967

A relatively new gemstone in terms of market exposure, but it is one of the oldest forming gemstones in the gem kingdom. Forming 2 billion years ago before the mighty Mt Kilimanjaro, Africa's highest mountain was even formed and before the dinosaurs trekked the earth.



Tsavorite was discovered by British geologist Campbell R. Bridges in 1967 and named by Harry Platt of Tiffany & Company (New York) who immediately recognized its potential due to its gemological pedigree and named it after the Tsavo Game Reserve in Kenya, the area of its discovery. Though Tsavorite is found in both Tanzania and Kenya, the very finest Tsavorite, with the purest green hues is still only found in Tsavo, Kenya. This remote, lion infested bush-land along the



Kenya-Tanzania border, an area of raw beautiful African wilderness has a history of violent volcanic activity and due to these volatile geological conditions under which it forms, Tsavorite is only found in relatively small sizes. Stones over 2.5 carats are considered very rare and valuable.

[The Smithsonian Gem Collection's](#) prize Tsavorite is just 7 carats. The largest, cleanest Tsavorite on record is a 325.14 carat top-color beauty and is valued at over USD\$2 million. At The Rare Gemstone Company we have been cutting Tsavorite for over 30 years and have had the pleasure of cutting and holding a number of exceptional pieces in our [Tsavorite Collection](#).

[Exceptionally rare 10.04 Carat Tsavorite Cushion Cut](#)

Tsavorite has earned its place as one of the world's finest colored gemstones. Its high refractive index and dispersion levels translate into wonderful brilliance and it is far less include than its cousin, Emerald. Its stunning, pure green hues, durability, purity and rareness have attracted gem collectors and jewelry lovers alike.



Emerald



Tsavorite

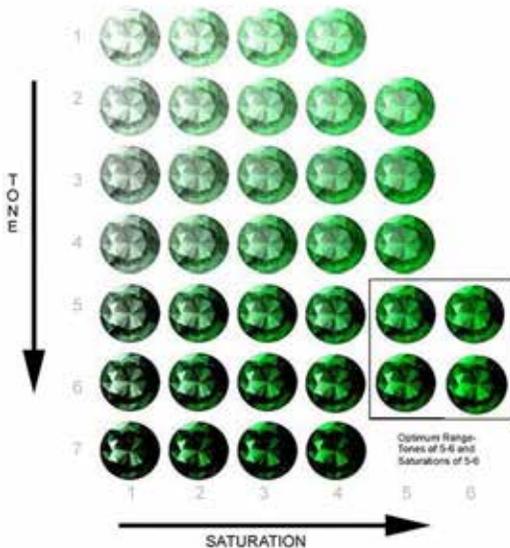
The romance of its origin and the fact that it formed even before dinosaurs trod the earth make it a truly

Tsavorite The World's Rarest Garnet con't

unique and exciting gemstone.

TSAVORITE VALUE AND PRICE

Tsavorite is the highest priced garnet on the market today. In the lower, lighter colored grades it is relatively easy to come by in the up to the one carat size. However, fine, top color, clean Tsavorite is harder to come across, and stones over the two carats are rare, and the price per carat jumps dramatically. Stones with deeply saturate pure green color will command the highest prices. It is vital to make sure you do your [research before buying a Tsavorite](#) as there are so many different factors to consider before you purchase.



TSAVORITE – TREATMENTS AND SYNTHETICS

Tsavorite has yet to be synthesized, its complex chemical and physical properties make it difficult to synthesize and it requires no treatments whatsoever to enhance it.

TSAVORITE IN JEWELRY

Tsavorite has a rating of 6.5 – 7.5 on the Moh's scale of gem hardness and is therefore very durable and suitable for all forms of jewelry. Due to its high refractive index and high dispersion levels, makes this stunning green gemstone incredibly sparkly and eye catching, they really 'pop' when set with Diamonds, as they too have a high refractive index and really compliment each other.

Tsavorite looks stunning in platinum and both white or yellow gold to create some gorgeous [Tsavorite jewelry pieces](#).



Tsavorite Jewelry By The Rare Gemstone Company

TSAVORITE – ENERGY, HEALING AND SPIRITUAL PROPERTIES

Tsavorite, the stone of benevolence, vitality, prosperity, vigor and compassion.

- ° It is believed to be the gemstone that helps one discover the beauty within themselves and others.
- ° Tsavorite is said to aid in the recovery of emotional trauma or illness and supports the cellular regeneration and growth within the body.
- ° The stone for increasing prosperity and for reducing financial anxieties of the ones who wear it.
- ° Tsavorite is believed to heal the heart chakra, increasing zest and vitality and inducing feelings of charity and benevolence.
- ° Meditating with Tsavorite is believed to facilitate communication with higher spiritual realms and increases psychic awareness and intuition.

BIRTHDAYS AND ANNIVERSARIES

Being a garnet, it is the birthstone for the month of January and the gem for the 25th anniversary.

"Tsavorite, an extremely, rare un-falsified gift of nature."

Antony Zagoritis, GIA Gemologist at The Rare Gemstone Company

Thomas, N. *Tsavorite The World's Rarest Garnet.* [Article] <https://www.theraregemstonecompany.com/gem-blog/tsavorite-the-worlds-rarest-garnets>

Submitted by
Devon Lloyd
Minerals Chair

General Meeting Minutes

January 11, 2020

Meeting called to order by President Brad Smith at 7:06 PM.

- Officers discussed progress in membership renewal and means to facilitate payment of the dues online. Darrell Robb committed to setting up a PayPal account linked to the Club email. Other means of electronic payment were also discussed.
- Jette Sorensen proposed moving the Executive meeting from the fourth Monday of the month to the first Monday, to allow more time for the Recording Secretary to prepare minutes without delaying publication of the Nugget. Officers agreed. The General meeting will remain at the second Monday of the month. The next Executive meeting will be on February 1st.
- The December General and Executive meeting minutes were approved as read in the January Nugget.
- Ken Rogers announced that the Club would hold an auction in February. He and Gary Mitchell were working on the logistics.
- Jette Sorensen suggested that instructors make themselves available to address "how-to" questions from members and held tutorials on Zoom.

The January program took place; two items were raffled in the trading post and the meeting adjourned at 8:18 PM.

Submitted by
Ana M. Strambi Guimaraes
Recording Secretary

Executive Meeting Minutes

There was no Executive meeting held for the month of January. Executive meetings have been moved to the 1st Monday of the month with the next meeting commencing on February 08.

The Lapidary Shop is Closed

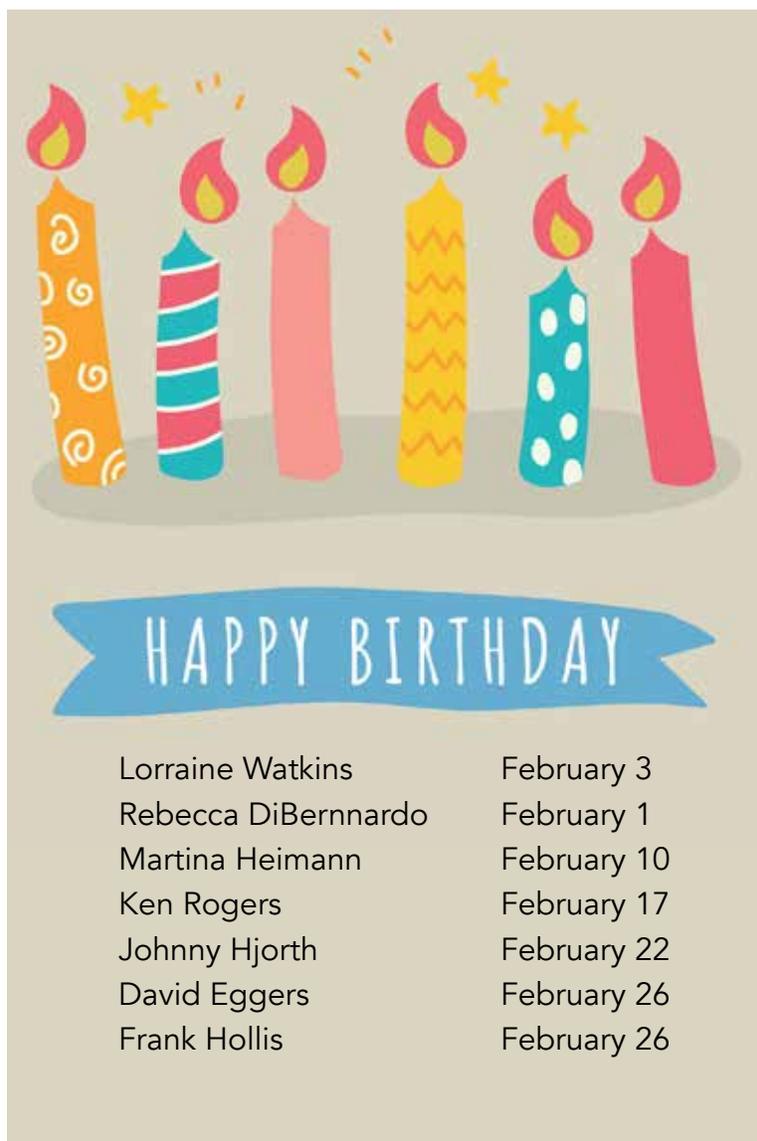
The Shop is still currently closed, pending further guidance from the City of Culver City.

As soon as we are able to, we will re-open the Shop and will modify the rules, to ensure that we are keeping our members safe.



to the Culver City Rock and Mineral Club

- Cyndy Mandell
- Lois Papner
- Elyse Pasquale
- Caitlin Scott
- Courtney Starbird
- Ben Utigard
- Emily West
- Brooks Yeager



the Nugget - Submissions

Submissions deadline is on the 15th of every month. Articles or notes without a byline are written by the Editor. Photographs without credits are shot by a CCRMC member.

Email submissions to Janet Gampe, Editor: nugget@culvercityrocks.org

the Nugget - Advertisements

The Nugget accepts paid advertisements. The cost for an eighth of a page (approx. 2" high x 3.5" wide) is \$7 per insertion, payable in advance. Ad location is at the discretion of the Editor. Ads, copy, or business cards must be received by the 10th of the month.

Send materials to:
Culver City Rock and Mineral Club
Attn: Editor
P.O. Box 3324
Culver City, CA 90231

Club General Meetings

Culver City Veterans Memorial Complex
Multipurpose Room
4117 Overland Avenue
Culver City, CA 90230

Lapidary Shop

10866 Culver Boulevard
Culver City, CA 90230
The shop is located behind the Scout House.

Mailing Address

Culver City Rock & Mineral Club
PO Box 3324
Culver City, CA 90231
310-836-4611



Frances Aldrich

Stay In Touch



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2021 Elected Officers

President
Brad Smith

Vice President
Steve Dover

Treasurer
Darrell Robb

Recording Secretary
Ana Maria Strambi Guimaraes

Corresponding Secretary
Véronique Gautherot

Parliamentarian
Jon P. Gowling

2021 Committee Chairs

- Education – Alexa Hunter & Karen Wallen
- Federation Director – Rick Shaffer
- Field Trips – Devon Lloyd
- Historian – Virginia Hollis
- Librarian – Andrea Fabian
- Membership – Jette Sorensen
- Membership Co-Chair – Stephanie Dangott
- Minerals – Devon Lloyd
- Photography – Pam Leitner
- Programs – Ken Rogers
- Publications – Janet Gampe
- Publicity – Janice Metz
- Show – Adrienne Louie
- Shop Committee – President, Vice President & Shop Instructors
- Social – VACANT
- Sunshine – VACANT
- Trading Post – Gary Mitchell
- Webmaster – Jette Sorensen
- Workshops – Janice Metz

Board of Directors

2021
Franne Einberg
Gary Mitchell

2022
Virginia Hollis
Janet Louie

2023
Adrienne Louie
Jette Sorensen

The CCRMC is a non-profit 501(c)(4) organization.