

Bulletin of the Mineralogical Society of Southern California

Volume 96 Number 7 –July, 2023

The 1,015th meeting of the Mineralogical Society of Southern California

With Knowledge Comes Appreciation

A ZOOM Meeting

July 14, 2023 at 7:30 P.M.

Program: : "In Search of Blue: Lazurite of Cascade Canyon, CA"

Presented by Paolo Sanchez

In this Issue:

<i>TITLE</i>	<i>Page</i>
Program: "In Search of Blue: Lazurite of Cascade Canyon, CA" Presented by Paolo Sanchez	2
From the Editor: Linda Elsnau	2
From Our President; Angela Guzman	2
Minutes of the June 9, 2023 Meeting	4
List of Upcoming MSSC Events	7
Time to Sign Up for the 2023 MSSC Picnic	8
Other Free Things To Do...by Ann Meister	8
Calendar of Events	9
Mineral of the Month: Anhydrite	10
2023 Officers	11
About MSSC	11

Remember: If you change your email or street address, you must let the MSSC Editor and Membership Chair know or we cannot guarantee receipt of future Bulletins

About the Program: "In Search of Blue: Lazurite of Cascade Canyon, CA"

Presented by Paolo Sanchez

Lazurite, $\text{Na}_7\text{Ca}(\text{Al}_6\text{Si}_6\text{O}_{24})(\text{SO}_4)(\text{S}_3)\cdot\text{H}_2\text{O}$, is a feldspathoid mineral belonging to the sodalite group. Known for its deep blue color, it is often situated with other minerals such as calcite, pyrite and diopside to form the rock lapis lazuli. Lapis has been a prominent gem material and blue pigment for over 6,500 years. A great majority of the world's lapis has been mined from the Sar-e-Sang mine in Afghanistan, with Chile and Russia also providing some of the global supply. One little-known locality is Cascade Canyon, right in the backyard of Los Angeles. For the past couple of years, Paolo has been searching for the elusive lapis of Cascade Canyon. This presentation focuses on lapis as a stone and Paolo's rockhounding excursions in exploring in one of the only localities of lapis in North America.



Paolo Sanchez is a Ph.D. student studying geochemistry at Caltech. His interest in the geological sciences stems from the hobby of rockhounding, where he has numerous excursions across the Southwestern US for minerals. He graduated from UC Berkeley ('22) with B.A.'s in geology and geophysics and is the recipient of the CFMS Deidrick Memorial Scholarship and the Berkeley Earth and Planetary Science Departmental Citation. His previous research has focused on the chemistry behind tektite glass formed from meteor impacts. Today, part of his research under Prof. George Rossman examines the color of benitoite.

How to Join our ZOOM Meetings by Rudy Lopez

MSSC members are automatically included in the invite list each month.

For non MSSC Members who want to join this meeting. You must respond to our Programs chair, Rudy Lopez at programs@mineralsocal.org no later than the Thursday prior to the next scheduled meeting. Please include "current month ZOOM Meeting" in the subject line of your response. This response date will allow time for us to send you the information needed to participate in the ZOOM meeting and also will allow time to get everything organized.

From the Editor: Linda Elsnau.

Happy July 4th to one and all. I'm wishing everyone a safe, sane, and wonderful holiday.

Our Program Chair, Rudy Lopez, has done it again and found what looks to be another interesting program for our enjoyment. Ann Meister has also given us a list of other interesting things to do this month.

Also, don't forget to sign up for the MSSC Picnic. It's usually a great time and the silent auction can have interesting and surprising things to bid on.

From Our President, Angie Guzman

THANK YOU

I wish to extend my personal thanks to all of you! Your support of MSSC's rush to help save 1.6million acres comprising Mojave Trails National Monument and to enable us to legally teach, mineral collect and rock hound has not gone unnoticed and is greatly appreciated. **NOTE: The deadline to submit public comment was extended to July 5, 2023.** You can still participate. If you have questions or you need help, contact me or any Board Member. We're here for you.

A special "Thank You" goes to MSSC member **Gregor Losson** for his tireless commitment, support and guidance regarding the MTNM Plan. He's attended countless meetings and personally reached out to many individuals on behalf of Science Educators (university, college, high school, and lower education institutions), mineral and micro-mineral collectors, all nature of rock hounds and others who share our passion and our "... casual use activity" (per BLM Idaho). Great job! Thanks, Gregor!

PICNIC

You think July came quickly? Well, next month, on **August 26, 2023, is MSSC's Picnic!** The Ad-Hoc Picnic Committee has done a fabulous job of planning, advertising and procuring a great spot to celebrate our first official, in-person, get-together (post-COVID). The potluck will be held at Caltech's **Tournament Park**. If you haven't already signed up, you can do so on-line through MSSC's website, mineralsocal.org . There will be a Silent Auction and some fun surprises. Guests are welcome, but will still need to register. Stay tuned, there'll be updates during our July and August Membership meetings and, of course, on MSSC's website.

A STUNNING TSAVORITE

I recently came across an interesting article about Campbell Bridges, a respected British prospector and geologist and a very special gemstone, tsavorite. Tsavorite is a calcium-aluminum garnet of the group species grossular. Tsavorite was discovered by Bridges in East Africa, Tanzania, in the 1960's. He also realized the projection he was working on reached into Kenya and, in 1970, after receiving proper permits, found tsavorite there, as well! The gem's green color comes from chromium or vanadium. In 2009, Campbell Bridges was murdered by a gang of illegal prospectors who, *for three years*, had been threatening him, his son and his mine employees. The gang wanted Bridges and his people to vacate the mines. On August 11, 2009, Bridges and his crew were ambushed *on their property in Tsavo East National Park in Kenya*. Sadly, Campbell Bridges was stabbed to death during that ambush.

Campbell's son, Bruce Bridges, said the tragedy was the worst in the history of his family. He said the family wanted to seek justice and then, too, to ensure his father's dream and legacy for tsavorite to live on.

Campbell Bridges had had a long relationship with the Smithsonian that began back in 1967. An early transaction, possibly his first, was when he'd traded some tanzanite specimens for some tourmaline specimens. That was when young Bruce met Jeffrey Post, the curator in charge of gems and minerals at the Smithsonian's National Museum of Natural History.

As referenced above the very special gemstone, tsavorite, was found in 2017. It was cut over a three-month period by Viktor Tzhlukov, renowned gem cutter. It has 116.76 carats and there are 177 flawless facets cut on the vibrant green tsavorite. The quarter (coin) sized gemstone was donated to the Smithsonian by Bruce Bridges and Somewhere in the Rainbow, a private gem and jewelry collection, in honor of Bruce's late father, Campbell Bridges. The Smithsonian added the one-of-a kind gem, technically a garnet, to their gem collection. Post reminds us that their collection also includes the Hope Diamond, the Carmen Lúcia ruby and other spectacular gems. The tsavorite is named for Merelani, the Tanzanian region where the gem was found and, in honor of Campbell Bridges, known in Africa as the "old lion". This absolutely stunning gem is called **Lion of Merelani**. Bruce Bridges said his father would be overjoyed by the donation, and declared, "I can't really think of a much better ending for the journey and story of this gem."

Gabriela Farfan, a Smithsonian curator of gems and minerals, said the "lion" is a giant by tsavorite standards as most specimens are the size of a pinkie nail. This piece is considered, at the size of a quarter, huge! Farfan and Bruce Bridges first saw the tsavorite gem at a gem and mineral show in Tucson in 2020. People were being very hush-hush about it. "It's so valuable. You don't want the world knowing you have a very valuable stone on you", said Farfan. So, it was very secretive. As for Post, he had no idea the stone would ultimately come to the institution. "Where do you put something special where anybody can see it? The Smithsonian is that place... anybody in the world can walk in our front door free of charge." he said.

Post points out that James Smithson (1765-1829), the Smithsonian Institute's founding donor, was a mineralogist whose collection was left, as his legacy, to the United States of America specifically to establish an educational institution. His collection, however, was destroyed by an 1865 devastating fire in what is now the Smithsonian Castle building. "So we basically started over again," Post said. Smithsonite is named after James Smithson.

Ladies and gentlemen, I present the LION OF MERELANI tsavorite gem:



Photo by Jeff Scovil

By courtesy of Bruce Bridger

Full permission for use is on file with MSSC President, Angie Guzman

REMINDER: MSSC's BOARD will meet July 9, 2023 via ZOOM at 1 p.m. Guests are welcome. Contact Rudy Lopez to be put on the invite list.

Happy Independence Day! Be safe and sane this July 4th.

MINUTES of the June 9, 2023 ZOOM Meeting

Our President, Angie Guzman was having technical difficulties tonight. Her introductions and remarks were read by vice President Cheryl Lopez.

Welcome to the 1014th Meeting of the Mineralogical Society of Southern California. It is our 37th ZOOM meeting. It's June Gloom and time for Flags, Dads, Grads and Brides...we're half-way through 2023!

Before you know it, it'll be MSSC nominations and elections for officers. Are you ready to roll up your shirt sleeves to pitch in?

Guest: Introduce yourself and tell us what brought you to the meeting tonight. There were no guests present.

List of Minerals: As of May 2023, the **IMA-CNMNC Master List of Minerals** lists **5,941** valid minerals which includes 1,153 pre-IMA minerals that were grandfathered in and 97 questionable minerals. IMA stands for International Mineralogical Association. CNMNC stands for Commission on New Minerals, Nomenclature and Classification. MSSC member, Dr. Tony Kampf is the commissioner representing the United States of America.

Business:

Minutes to approve: May 12, 2023, membership meeting minutes as published in June 2023 Bulletin. I will entertain a motion to approve the referenced minutes. The motion was made by Carolyn Seitz and seconded by George Rossman. Cheryl asked, "Are there any corrections or additions, any discussion?" Hearing none, Vice president Lopez called for the vote. The minutes were approved.

President's Message

As you know, regarding the Mojave Trails National Monument (MTNM), there is an urgency for educators, mineral collectors, rockhounds and other interested parties to submit their substantive (detailed) comments to the Bureau of Land Management. The purpose is to **preserve** the ability to **teach and collect** in the MTNM. Any society, group or individual who enjoys this educational, non-commercial, and recreational activity, *referred to by some as a hobby*, are encouraged to write and submit their comments.

BLM has acknowledged that they have no definition of a "mineral" collector or of a "rock hound". Therefore, public comments BLM wants to see are your *detailed* experiences of outdoor classrooms, mineral and/or rock

collecting. They need to have your **written definition** of what you do, why you do it, what tools you use when you go there, how you get there and any other details you can give them. Honestly, the more detailed, the better. Please include what minerals and rocks you look for. What tools you use? What is the benefit of collecting? Do you do it alone or with a group. How often? BLM will read each and every comment to arrive at definitions of our activities in the MTNM. They don't want to invade your privacy; they just need to know what we do.

*By submitting our comments, we have an **opportunity to participate in the crafting of the MTNM Management Plan - now**. Your help is needed!! If the BLM does not know what we want or how we describe ourselves, they will not know what to include in the Management Plan. If not considered, we all may lose 1.6 million acres of collecting, research, and classroom land for the myriad of enthusiasts who have the same drive as you for learning, collecting and rockhounding, not to mention those generations who will follow.*

There are huge deep-pocketed concerns who are opposed to non-commercial mineral collecting and rock hounding experience. Many environmentalists and conservationists do not understand or "see" our responsible, no-footprint approach. It is up to all of us to ensure those folks *realize our perspective is as valid as theirs*.

We are not alone in this effort. Many schools, colleges, universities, clubs, societies, organizations, and individuals are participating in this BLM scoping process. Join others, submit your substantive (descriptive) public comment(s) by June 20, 2023. MSSC's website, www.mineralsocal.org, has the **email address** and **physical address** where you can submit your comment(s) to Noelle Glines Bovio, Manager of MTNM. The deadline to submit is Tuesday, June 20, 2023. *[Caution: Your comments will become a Public Record. Do not put your personal information (phone number, address, etc.,) in the comment itself. For e-mail, the **subject line** should be **MTNM Plan**.]*

Thank you in advance for your comments and participation.

ANNOUNCEMENTS

Ad Hoc Committee: Cheryl Lopez updated all present on the work of the picnic committee. A site has been reserved. There was a picnic announcement in the June bulletin. Soon a link to the RSVP and the food sign-up will be sent to all members and some guests.

CFMS Show: The California Federation of Mineralogical Societies (CFMS) convention and show will take place June 23-25, 2023, in Lodi, CA. As MSSC's CFMS Director, I (Guzman) will be in attendance representing you and our society.

OTHER: Check the calendar of events in this Bulletin as several local societies and clubs are hosting mineral shows or other events throughout the summer and fall. Since we are not doing shows at this time, it would be great to support our fellow collection and rockhound organizations with our attendance. It's been a long time since we could go out and have a good time with other folks. Enjoy!

Committees:

Field Trips: (Marek) none planned as it is too hot in the desert right now. David Lesperance suggested going to the Jurupa Mountains Discovery Center, and Nevada Books and Minerals in Orange County.

Program – Cheryl turned the meeting over to Program Chair Rudy Lopez who introduced the speaker. There will be a Q&A following the presentation, time allowing.

Rudy introduced Katie Stack Morgan from JPL who gave an update on the [Perseverance Rover mission](#) on Mars. The Rover mission began in 2020, and it has completed its primary mission and is now in the extended mission phase.

She began by asking why Mars? Today it is cold, barren, and dry. Evidence from rover missions have provided evidence that Mars was once quite different, and maybe Earth-like. Around 3.5 to 4 BYA Mars may have had abundant surface water. So, we keep exploring it looking for evidence of life or prebiotic ingredients (chemicals that are in living things).

Perseverance is the first step in a Mars sample return campaign. The mission objectives are:

- A. Geology: Characterize geology & habitability of the landing site.
- B. Astrobiology: seek signs of ancient life (special payload just for this).
- C. Sample caching: rover will collect samples and a future mission will return them to Earth.
- D. Preparation for Humans: all rover missions help scientists move toward landing humans on Mars.

Next, she reviewed the [scientific instruments on Perseverance](#):

RIMFAX- Subsurface Radar to look at geology below the surface.

Mastcam-Z-Zoomable Panoramic Cameras

MOXIE-Produces O₂ from Martian CO₂, test run for a potential larger project to support human life.

SuperCam- Laser micro imager with LIBS and Raman capability and also VISIR

MEDA-Weather Station

SHERLOC-UV Spectrometer with WATSON camera can detect mineral composition and organic compound detection.

PIXL- X-Ray spectrometer

The Rover also carries 38 sample collection tubes for rock and regolith (the layer of unconsolidated rocky material covering bedrock).

The Perseverance Astrobiology mission is to search for ancient signs of life and to collect samples and search for potential biosignatures. This was defined by the scientists as “An object, substance, and/or pattern that might have a biological origin and thus compels investigators to gather more data before reaching a conclusion as to the presence or absence of life.” Dr. Stack Morgan explained that life on Mars was probably microbial. The rover’s job is to identify objects that might contain signs of life and collect samples. The samples will be analyzed much more closely when they are returned to Earth.

The samples will also be used to define the geologic time scale on Mars. Mars is not tectonically active like Earth, so the geologic record is better preserved. Perseverance will also help scientists learn about Mars as a system.

Now on to Perseverance’s Field Site: Jezero Crater, an impact crater in the southern part of Mars. Previous missions have landed here because of suitable terrain for landing, but it’s also very geologically interesting. The crater has a large alluvial fan feature with both an inlet valley and an outlet valley indicating the crater was filled with water for a geologically significant time period. She showed an [amazingly clear photo](#) of this feature. The rover explored the crater floor looking at and sampling, 1. Coarse-grained rocks representing higher-energy river and delta environments, 2. Mudstones or chemical precipitates deposited in the lake, 3. Igneous rocks supporting water-rock interactions and chemical gradients. Future studies may include carbonates from possible shallow lake margin deposition.

Dr. Stack showed video of the rover launch and [the landing on Mars](#) as filmed by the descent stage and the rover. The rover had a 2km drive to the exploration site which it made in one month (due to its autonomous driving feature), it would have taken the Curiosity rover three to six months. The rover is currently exploring the upper part of the fan.

1. Crater floor campaign first year on Mars. Drove away from main target to some good-looking rocks. Rover abraded rocks and collected samples. The sampling showed the rock was igneous and had interacted with water. This was the first successful core and sample collected. Next on to olivine bearing rocks which were shown to project into the ground. The rock outcrop nearby seemed to be sedimentary, filled with large clasts. X-ray spectrometer showed that it was likely an olivine cumulate igneous rock. SHERLOC found that some of the olivine was altered to carbonate by interaction with water. Ten samples were collected from the crater floor 4 basaltic/micro-gabbro volcanic samples, 4 olivine igneous cumulate samples, 1 atmospheric sample and 1 control sample. The mission has a paired sample strategy: the rover puts a set of samples cached on the Martian surface for recovery by a later mission, it carries a second set on the rover for caching a more complete set of samples at a later date.
2. The next year of the mission the [Delta Front campaign](#) focused on sedimentary rocks. The rover cameras took amazing photos that show the stratigraphy expected when a delta formed by rivers enters a lake. [Rock](#)

[sampling by abrasion](#) proved to be much more difficult on sedimentary rocks. Many broke during the abrasion process. Eventually they were able to get samples of:

- a. Laminated siltstone-low energy, fine grained, formed from settling out of a suspension. Sulfate present indicating a possible saline environment.
- b. Laminated sandstone-higher energy, fine to coarse sand, horizontal to sub horizontal layers, fluvial (river) deposition transitioning to lacustrine (lake) environment.
- c. Low-angle cross stratified sandstone-sand with some granules and pebbles, low flow environment.
- d. Thick-bedded pebbly sandstone-high energy, horizontal bedding, no grading, subaqueous deposition.
- e. Thin-bedded granule sandstone-high energy, high density, horizontal to inclined layers, subaqueous deposition.

This portion of the mission collected 2 witness tubes and a selection of 9 mostly paired sedimentary samples. The backup samples from the first two years were cached at the [Three Forks Sample Depot](#) for retrieval by the Mars Sample Return Mission.

3. Year three (2023 Feb. to Fall) exploration of the [upper fan in Jezero Crater](#). The goal is to characterize, interpret, and sample rocks deposited at the top of the upper fan. Two sections make up the upper fan: high energy, large blocky deposits at Fall River Pass and curvilinear deposits (look like meandering rivers on Earth) at Tenby. Once the rover took pictures of the curvilinear deposits some scientists said they looked more like delta deposits than river. The issue has not been resolved. Samples of sandstone from the curvilinear area were collected. Now the rover has moved on to the blocky deposits. They are round boulders that were likely brought into the crater by flooding. They are just starting to characterize the boulder compositions.
4. Jezero Crater Margin Campaign will start in Fall of 2023 and run to spring 2024. The goal is to explore, characterize, and sample the crater rim rocks and the crater margin.
5. The next campaign in spring of 2024 will, if the rover is still healthy, start to explore outside of the crater. In about 7 years, Mars Sample Return will take the cached samples to Earth for further detailed studies.

She spent a few minutes talking about the [helicopter \(Ingenuity\)](#) that accompanied the rover to the surface of Mars. Ingenuity was initially planned to have only 5 flights. It has been so successful that it has made 51 flights so far. After the program there was a short question and answer period.

Thank you, Dr. Stark, for a fascinating presentation. We look forward to a Perseverance update in a few years!
**sec. note, I have linked to some of the NASA images in my notes, take a look at the photos on their website, it's amazing.*

Last Words: (a) Reminder: A Board Meeting will be held at 1pm on Sunday, July 9th via ZOOM. All are welcome to attend. Guests and members are asked to contact Rudy Lopez to be put on the ZOOM invite list; (b) Please join us next month for our next Membership Meeting on July 14th.

Adjournment: The vice-president adjourned the meeting at: 9:00 p. m.

Submitted by Leslie Ogg, MSSC Secretary

List of Upcoming MSSC Events : Mark your Calender!

Event	Date	Comments / Scheduled Program (if known)
Meeting Dates:	ZOOM August 11, 2023	Mike Sanders: "Digging For Blue Barite at Stoneham, Colorado"
	ZOOM September 8, 2023	Nathalie Brandes' "Silver Mines of Kongsberg, Sweden"
	ZOOM October , 2023	Virgil Lueth TBA
	ZOOM November , 2023	Scott Braley: "Herkimer Diamonds and Collecting Radioactive Minerals"
MSSC Picnic	August 26, 2023	12-4:00 PM in the Tournament Park in the Caltech campus
Board Meeting	ZOOM July 9, 2023	ZOOM at 1:00 PM
Field Trip	TBA	

Note: Dates and programs shown above are subject to change. Check your bulletins to confirm final information each month.

The Ride Share Listing is being temporarily discontinued until such time as MSSC starts holding in-person meetings again.

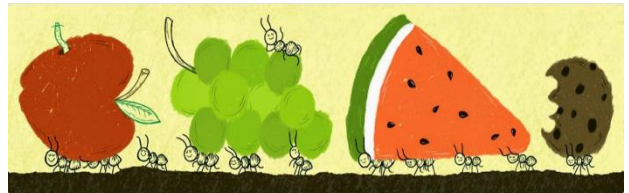
Time to Sign Up for the 2023 MSSC Picnic

Please join us for our annual potluck picnic and silent auction.

Date: Saturday- August 26, 2023

Time: 12:00 noon-4:00 pm

Location: Tournament Park on the campus of CALTECH.
1200 E. California Blvd.
Pasadena, CA 91125



Now it is time to sign up for the MSSC Picnic, even if you indicated previously before in an email you would attend. You must complete the RSVP and then select and sign up for the food item you will bring. Use this link to RSVP/potluck sign-ups: <https://mineralsocal.org/sheet/mssc-picnic-2023/> . If you are a guest, you do not have to sign up to bring food (you can if you want).

Directions: Park & Parking To reach Tournament Park (see ←) you can insert the name “Children’s Center at Caltech” in Google Map, and you will be directed to the parking lot 6 (see picture). There is also a small parking lot inside Tournament Park off S Wilson Ave.

Questions: contact any of the MSSC Picnic Committee:

David Lesperance:

dlesperance@signalgeoscience.com,

Simona Cianciulli- simonacian@gmail.com

Cheryl & Rudy Lopez: rclopez002@verizon.net



OTHER FREE THINGS TO DO...by Ann Meister

The **Watson Lecture Series at Caltech is on hiatus until the Fall semester**. Stay tuned until October! Find past Watson Lectures on [Caltech's YouTube channel](#).

The **Von Kármán Lecture** information for July is not available yet. See [Lecture Series \(nasa.gov\)](#) for program information. You can view past presentations of the livestream on YouTube at [NASA Jet Propulsion Laboratory - YouTube](#).

The **UCLA Meteorite Gallery** is open. Check the website for hours. The monthly lecture will be presented on Sunday, **July 16** at 2:30 PM. The speaker and title have not been announced. To join via Zoom, click [here](#). If clicking the link does not work, please open your zoom app and enter the meeting ID: 983 0252 9304. Then click "join meeting in progress" (there is no password). If you need further instructions on how to join our meeting via Zoom, click [here](#) or contact Kevin McKeegan at mckeegan@epss.ucla.edu. This meeting is only accessible through the desktop and mobile client. Visit the website and check on events and videos and other neat things about meteorites, go to <https://meteorites.ucla.edu>

With Knowledge Comes Appreciation !

Calendar of Events:

Only S. CA shows are listed here. Other CFMS Club shows can be found at: <http://www.cfmsinc.org/>

July 8-9, 2023 – Culver City, CA

Culver City Gem and Mineral Society
Culver City Veteran’s Memorial Auditorium, 4117
Overland Ave., Culver City, CA 90203
Hours: Sat 10 AM – 6 PM, Sun 10 AM – 5 PM
Website: <http://culvercityrocks.org/fiesta/>

August 4, 5 & 6, 2023 – Nipomo, CA

Orcutt Mineral Society
Nipomo High School, 525 N. Thompson Ave.,
Nipomo, CA 93444
Hours: Aug 4 & 5: 10 AM/5 PM, Aug 6: 10 AM/4 PM
Free Admission and Free Parking
Website: <http://www.omsinc.org>

August 19-20, 2023 – Tehachapi, CA

Tehachapi Valley Gem and Mineral Society
500 East “F” Street, Tehachapi, CA 93561
Hours: 9 AM – 5 PM. Free admission.
Website: <https://www.tvgms.rocks>

August 26-27, 2023 – Arcadia, CA

Pasadena Lapidary Society
Arcadia Masonic Lodge, 50 W. Duarte Rd., Arcadia
CA 91007
Hours: Saturday 10 AM/5 PM, Sunday 10 AM/4 PM
Website: <https://pasadenalapidary.org>

September 16-17, 2023 – San Luis Obispo, CA

San Luis Obispo Gem and Mineral Club
San Luis Obispo Veteran’s Memorial Building, 801
Grand Avenue, San Luis Obispo, CA 93401.
Admission: \$5, Children 12 and under Free. Free
parking.
Website: <http://slogem.org>

October 7-8, 2023 – Signal Hill, CA

Long Beach Mineral & Gem Society
Signal Hill Library, 1800 E. Hill Street, Signal Hill,
CA 90755
Hours: Sat 10 AM – 5 PM, Sun 10 AM – 4 PM
Website: <http://www.facebook.com/LBMGS>

October 8, 2023 – Fallbrook, CA

Fallbrook Gem and Mineral Society
123 W. Alvarado St. (show on street a& in parking
lot), Fallbrook CA 92028
Hours: 9 AM – 4 PM
Website: <http://www.fgms.org>

October 28-29, 2023 – San Diego, CA

San Diego Mineral & Gem Society
Liberty Station Conference Center/Point Loma
Nazerene University,
2660 Lanir, San Diego, CA 92106
Hours: Sat 10 AM – 5 PM, Sun 10 AM – 4 PM
Website: <http://SDMG.org>

October 28-29, 2023 – Orange, CA

American Opal Society
Velvet Rose Event Center, 300 S. Flower St.,
Orange, CA 92868
Hours: Sat 10 AM – 6 PM, Sun 10 AM- 5 PM
Website: <http://opalsociety.org>

MSSC Advertisement Policy:			
Mineral-related ads are allowable in the MSSC bulletin. Below is the price per month			
	Business Card	\$5.00	
	1/3 page	\$10.00	
	1/2 page	\$20.00	
	Full Page	\$35.00	
<p>In addition, any advertiser who purchases 12 months of space in advance will receive a discount of 12 months for the price of 10 months. The copy for the ads should be mailed to the editor at bulletin@mineralsocal.org and the payment should be sent to the</p> <p>MSSC Treasurer 13781 Alderwood Lane, #22-J, Seal Beach, CA 90740</p>			

MINERAL OF THE MONTH: Anhydrite

Formula: CaSO₄

Crystal System: Orthorhombic

Name: Named in 1804 by Abraham Gottlieb Werner from the Greek άνυδρος ("anhydros") meaning "without water", in allusion to the lack of water in its composition, in contrast to Gypsum, which contains water.



irocks.com photo

Anhydrite CaSO₄

Locality: Simplon Railway tunnel (north section), Simplon pass area, Brig, Wallis (Valais), Switzerland

2.6 cm x 2.0 cm x 1.9 cm



irocks.com photo

Anhydrite CaSO₄

Locality: Naica, Mun. de Saucillo, Chihuahua, Mexico

8.6 cm x 6.4 cm x 2.2 cm



Anhydrite : CaSO₄

Locality: Naica, Mun. de Saucillo, Chihuahua, Mexico

12 cm x 7.7 cm x 2.1 cm

irocks.com photo



Anhydrite : CaSO₄

Locality: Naica, Mun. de Saucillo, Chihuahua, Mexico

11.8 cm x 9 cm x 5.8 cm

2023 MSSC Officers:

OFFICERS		
President	Angie Guzman	president@mineralsocal.org
Vice President	Cheryl Lopez	vicepresident@mineralsocal.org
Secretary	Leslie Ogg	secretary@mineralsocal.org
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CFMS Director	Angie Guzman	
Past President	George Rossman	
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2022-2023	Ahni Dodge	
2023--2024	Simona Cianciulli	
2023--2024	David Lesperance	
2023--2024	Pat Stevens	
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About the Mineralogical Society of Southern California

Organized in 1931, the Mineralogical Society of Southern California, Inc. is the oldest mineralogical society in the western United States. The MSSC is a member of the California Federation of Mineralogical Societies, and is dedicated to the dissemination of general knowledge of the mineralogical and related earth sciences through the study of mineral specimens. We are a scientific non-profit organization that actively supports those endeavors through public outreach, field study and related programs. The Bulletin of the Mineralogical Society of Southern California is the official publication of the Mineralogical Society of Southern California, Inc.

The MSSC meetings are usually held the second Friday of each month, January, February and August excepted, at 7:30 p.m. in Building E, Room 220, Pasadena City College, 1570 E Colorado Boulevard, Pasadena, California. However, due to current health considerations, MSSC meetings are held via ZOOM conferencing until further notice. The annual Installation Banquet is held in January, and the annual Picnic and Swap Meeting is held in August. Due to PCC holidays, meetings may vary. Check the Society website for details.

The Society also sponsors the annual Pacific Micro mount Symposium held at the Fallbrook Mineral Museum during the last weekend of January.

Annual Membership dues for the MSSC are \$30.00 for an individual membership, \$40.00 for a family membership. Bulletins are delivered by email, there is an additional annual fee if you prefer paper bulletins mailed to your address. The Society's contact information:

Mineralogical Society of Southern California

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To:



**With Knowledge Comes
Appreciation**

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Here!**