



Bulletin of the Mineralogical Society of Southern California

Volume 96 Number 5 –May, 2023

The 1,013th meeting of the Mineralogical Society of Southern California

With Knowledge Comes Appreciation

A ZOOM Meeting

May 12, 2023 at 7:30 P.M.

Program: Prospecting Death Valley by Steam Car in 1906 Presented by Bob Thomas

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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: **Prospecting Death Valley by Steam Car in 1906**

Presented by Bob Thomas

This presentation focuses on a journey made by five men into Death Valley in April 1906. The men traveled into Death Valley to inspect a potential gold deposit. The presentation touches on stories about mining in Colorado and Mexico in the early 1900s.

The narrative is taken from notes written during the trip, along with photos taken by Ed Thomas. The photos have not been shared with the public since they were taken almost 120 years ago.



The presentation describes:

- Brief family history
- The Bomb Maker
- Life in the year 1906
- Why the travelers chose a steam car.
- The map used to set the route.
- Visits to the towns of Ballarat and Harrisburg
- Sampling the prospect
- Rescuing a lost prospector
- Murder in the town of Skidoo
- The return trip.
- Epilogue

Bob Thomas grew up in a family that enjoyed collecting minerals. We were lifetime members of the Los Angeles Mineralogical Society, and went on countless field trips around California. It was always a fun time out in the field even if it was too hot or too cold.

After the club dissolved in the 1990s, Bob picked up other hobbies, including auto racing. He was the team captain and chief mechanic of “The Old & The Wreckless,” a team that raced the “24 Hours of Lemons” series.

After moving to Tennessee, Bob rekindled his love of minerals and joined the Middle Tennessee Rockhounds.

Bob is a software development professional in the healthcare industry living in Nashville.

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.

Welcome to May! We have another interesting program to look forward to at the next meeting as well as Mother’s Day and Memorial Day this month.

I want to thank our regular contributors for their work to keep our Bulletin interesting. However, I need the help of you, our membership to keep it so. I know we all enjoy the interesting articles submitted by our members from time to time. I want to extend this prerogative to all of our members. A short article about your favorite mineral & why it is, or how about telling us how you got interested in minerals to begin with. Have you been on an interesting field trip or visited an interesting museum lately? We would love to hear about it..

You can contact me at bulletin@mineralsocal.org if you think you would like to send an article to the Bulletin. I would be more than happy to give you any help and guidance you would like.

From Our President, Angie Guzman

When I was a little kid, I used to love to play in the dirt. To the bewilderment of my mom, I'd throw handfuls of dirt up in the air and take a "shower;" I'd let it rain down on me, it felt clean and pure somehow. Not far removed from those fond memories of my childhood is today's reality. I still love dirt and have surrounded myself with others who also play in the dirt. Mineral collectors, rock hounds and other like-minded people dig in dirt in search of that one "gem" of a find.

For us, collecting is important. We'd climb dirt hills, dig in dirt, sift through and tunnel into dirt seeking our treasures, feeding our passions and learning all we could about minerals, crystals, rocks and geology. And the best part was we got to do it freely on public lands, national forests, parks, beaches and deserts. Now, the rub...

A few years ago, President Obama, under the 1906 Antiquities Act, proclaimed and designated several Federal lands as national monuments. This includes the 1.6 MILLION ACRES of lands of the Mojave Trails National Monument (MTNM), as well as many other areas. The focus, our focus, now is MTNM. The emphasis is to reverse the designation, at best, or to preserve field education, mineral collecting and rock hounding, at the very least. Currently, under a Bureau of Land Management (BLM) Memorandum of Understanding, collectors and rock hounds *are allowed* to collect. However, if we lose this battle after the fall of 2024, we will have lost 1.6 MILLION ACRES of field study, mineral collecting and rock hounding.

The *major drawback* to a "national monument" designation is this: there is **no collecting** – not one grain of dirt, not one crystal, not one rock is allowed to be extracted from any National Monument lands. NONE! Zero. Leave it there, do not even think about picking it up. The impact, from an educational standpoint alone, is devastating. You may be aware that education and science have been integrated into mineral collecting for a very long time. For collectors and rock hounds this "do not touch" regulation is beyond acceptable. How does a collector collect when forbidden to do so? Same for rock hounding.

MTNM is 100 miles in width and covers 14 mountain ranges! 14! It encompasses Afton Canyon Natural Area south of I-15, east of Barstow. Along I-40 is Pisgah Crater, Ludlow, Camp Clipper and Goffs Schoolhouse. Southeast on Rt 66 is Amboy Crater, Chambless and Piute Mountains Wilderness. Further south of Amboy is Sheephole Mountain Wilderness and the Cadiz Dunes Wilderness. There are lots more areas, including Snaggletooth off Hwy 95 on the way to BLM office in Needles. The northeastern most boundary is the California-Nevada border up past Camp Ibis (see **Tools** below).

As an example, within the MTNM is the Cady Mountains (elevation 3,517') that are just east of Newberry Springs and west of the Bristol Mountains (elevation 3,980'). Pisgah Crater Lava Flow is just a hair south of the Cady Mountains on I-40. Cady Mountains has traditionally been a popular place to explore, collect and learn about minerals, rocks and geology. Many educators and professors have arranged in-the-field studies for their students and, as class requirements, for those valuable hands-on experiences. Mineral and rock clubs have had many field trips in the range, as well.

All that could change in the fall of 2024.

In case you did not know, *the battle to allow collecting in MTNM* has been going on for some years. However, we are not without representation. MSSC member Gregor Losson, who is also a Board member of Southern California Friends of Mineralogy, is our tireless advocate. He is a member of BLM's Desert Advisory Committee (DAC). His role is to gather *recommendations to allow collecting and rock hounding in the MTNM* to the DAC. Based on the recommendations received, the DAC will make proposals to the BLM, which may or may not consider for access.

What can we do? Well, the recommendations Gregor is seeking to present to DAC are letters of support to mineral collect, rock hound and do in-field education. Additionally, substantive public comments may be made directly to MTNM. The letters and/or comments should include as much information as possible including photos, names of places you want to access, GPS coordinates and/or names of roads to get there, your personal collecting history, if applicable, and any stories about the location or what was collected. As hard as it is to say this, **we must present a strong case for mineral and rock collecting!** What is up with that? Caution: if your letter or public comment just lists one spot for access and it's accepted as a site, it would probably be tapped out

in a few years because everyone will go there. The solution is to list *all* the places you want included for collecting, rock hounding and/or in-field study sites in MTNM. Pre-plan your correspondence; think about it first. If a place is not mentioned, we may lose it for collecting. **1.6 MILLION ACRES are at stake, they could be lost to education, science, collecting and rock hounding FOREVER!**

For our part, MSSC will be sending a letter in support of mineral collecting, in-field education and rock hounding. Personally, I will contact MTNM manager, Noelle Glines Bovio and others with my comments and it is my hope to attend the next BLM meeting in a few weeks, as well. I'll report back to you whatever I learn.

Several organizations have joined the effort to include education, mineral collecting and rock hounding. These include California Federation of Mineralogical Societies (CFMS), Friends of Mineralogy (FM), Southern California Friends of Mineralogy (SCFM), American Lands Access Association, Inc (ALAA), San Diego Gem and Mineral Society (SDGM), other clubs and many, many supportive individuals. Now, we, the Mineralogical Society of Southern California (MSSC) join this effort, as well.

The push is on. BLM is fully funded and backed by deep-pocket groups, foundations and organizations who are not necessarily aligned with our passions and goals. **The BLM will decide once and for all in the fall of 2024.** It is not much time for us overall, that is, to make our case, to convince BLM that our position is important; in fact, needed and will ensure that we leave a valuable legacy for generations to come. But we do have a little time. Mineral collecting, rock hounding and education - at all levels - is important. We have the opportunity to save 1.6 million acres for the science of it. Let's get started now so we can continue to dig, sift, tunnel and play in the dirt!

Tools:

- BLM: For downloadable **MAP** of MTNM, cut and paste or click this link:

https://www.blm.gov/sites/blm.gov/files/documents/2019_CA_MojaveTrails_NM_final.pdf

- American Lands Access Association, Inc.: www.amlands.org

Helpful Tool: On the website, left side, click Fieldtrips Info to locate database downloadable forms. The **Journal** form may assist you in listing and identifying your locations for your Public Comments communication.

Contacts:

- MTNM manager, Noelle Glines Bovio: nlinesbovio@blm.gov

- Gregor Losson: eczlosson@yahoo.com

- Angie Guzman, MSSC President president@mineralsocal.org

Feel free to contact any MSSC Board Member for information or questions you may have. Check the Bulletin for e-mail addresses.

Please join us for our next Membership Meeting, May 12, 2023. I've invited Gregor Losson to give a brief presentation on this very important matter.

MINUTES of the April 14, 2023 ZOOM Meeting

From the President (Angie Guzman)

1. The president called the meeting to order at 7:30 PM. She welcomed all to the 1,012th Membership meeting and MSSC's 35th via our ZOOM Conferencing license.
2. GUEST Introductions; There was one guest present, Bob Thomas from Nashville.
3. President Guzman announced that according to IMA, the International Mineralogical Association, there are 5902 valid species of minerals.

4. She also announced that our very own Dr. George Rossman will be speaking at the 19th Annual Sinkankas Symposium on April 22, 2023, in Carlsbad, CA at the GIA Headquarters. Please check the Symposium's website for more information at sinkankassymposium.net

A. Regular Business

President Guzman called for the approval of the March 10, 2023 Membership Meeting Minutes as published in the April 2023 Bulletin. The motion to approve was made by Rudy Lopez and seconded by Gene Reynolds. There were no corrections or additions. The minutes were approved.

B. Reports/Announcements

1. Update on Speakers and Events (Rudy Lopez): Rudy stated that Bob Thomas will be presenting in May, the topic is Death Valley. He has speakers booked until early 2024.
2. Rudy also reminded members that he is always looking for minerals to give away to kids. The next give away will be at the OC Parks event in October.
3. Other reports or announcements:
 - a. REMINDER: Board Meeting is scheduled for April 30, 2023. Non-Board members and any guests are free to attend. Please contact Rudy Lopez to get put on the invite list for the ZOOM conference. There will be lots of topics discussed including: (a) our August Picnic, (b) Mojave Trails progress, (c) upcoming plans for Field trips, (d) Community events participation opportunities, and others. Your insight and input are welcome!
 - b. David Lesperance gave a short summary of the Tick Canyon field trip. Water was flowing in the canyon. Bob Housley got howlite, colemanite and another strontium mineral. Bert Volger said he thought calcite was found, but it likely was colemanite. Angie Guzman found probertite. She wrote about it in her president's message last month.
 - c. Marcia Goetz said that Gregor Losson would be speaking to the Pasadena Lapidary Society (PLS) about the Mojave Trails National Monument. The meeting is next Tuesday at 7 PM, she invited our members to attend.
 - d. There was some discussion about the MSSC Instagram and Facebook pages. Simona Cianciulli will talk more about her results at the next board meeting. She is posting a new mineral every Monday, and information on field trips and programs.

C. Speaker Introduction Chair (Rudy).

The meeting was turned over to Rudy Lopez, Programs Chair, who introduced the speaker, L. Michael Kaas. Mike Kaas is a retired mining engineer who worked for the US Bureau of Mines and US Department of the Interior.

Program and Q&A, Zinc Mining in the Friedensville Mining District, and the Birth of the U. S. Zinc Industry, presented by L. Michael Kaas.

Mike spent a few minutes orienting us with a map of the border of Pennsylvania and New Jersey where many mines are located. The area in the program, Friedensville, is four miles south of where Bethlehem Steel was located. In the early 1850's the main mine was the Ueberroth which supplied zinc to three smelting operations making zinc oxide for paint.

The genesis of the mine was a farmer's field, where plants would not grow. A Bethlehem chemist identified zinc in the rocks from the field. The two men responsible for the mining were

Samuel Wetherill and Joseph Wharton. Wetherill, a paint company chemist developed a process for roasting zinc ore and collecting the fumes which would condense into white zinc pigment for paint. Wharton was a financier; his company owned the mine and eventually the smelter too. Wharton also figured out how to get zinc metal from the ore. He made his first million dollars from zinc. His fortune was responsible for the founding of the Wharton School of Business at the University of Pennsylvania.

The Friedensville mines operated from 1853-1893. There were three zinc companies and five zinc mines. The largest mine, the Ueberroth, is the topic of this talk. The mine was in vertical veins in limestone and dolomite. At the surface were zinc carbonate minerals (hemimorphite and Smithsonite), and when the mine went underground it was sphalerite. Many of the miners were from Cornwall England.

Water was a problem in the mine, so the world's largest steam engine was installed.

Mike showed some historic mine specimens of hemimorphite and sauconite from the surface; smithsonite, greenockite, and hydrozincite from deeper parts of the mine.

Zinc mining at the Ueberroth started in 1853, by 1872 a Cornish pumping engine, named The President had been installed to remove groundwater that was hindering the mining. The mine was up to 200 feet deep. The huge steam engine weighed 675 tons. The flywheels were 30 feet in diameter, and steam was used to push the pump piston up and down. He explained how the Cornish Beam engine worked. In short, a steam cylinder drives the beam, the pump rods drive the pumps in the mine shaft, and the lift pumps move the water up to the surface in stages. When the mine closed the steam engine was scrapped. All that remains is the stone engine house.

All the zinc mines in the area closed in 1893, then were sold to New Jersey Zinc and reopened in 1899. The Ueberroth mine was not reopened, the water pumping costs outweighed the value of the zinc they could mine. By 1910, the President pumping engine was sold for scrap and all the mine that was deeper than 65 feet was underwater. Mike showed a postcard of the mine from 1910. The water filled mine was used as the town swimming hole.

In the early 1900s, zinc was mined in the New Hartman mine. Later geologic studies in the 1960s showed that all the mines in the area were on a dolomite limestone bed anticline full of faults where the zinc was located. The early mines were in an area of the anticline where the faults were vertical. The later New Hartman mine was on a more horizontal area of the anticline (dip about 22°). New Jersey Zinc owned but did not operate the mines between 1899-1945. In 1945 they decided to develop the Friedensville mine. The shaft was originally 1261 ft. deep, later deepened to 2072 ft. They were pumping out 35,000 gallons of water per minute! Mike said that when he worked in the mine in the early 1960s, they had a three-hour power failure, it took almost a week to remove the water so the mine could be worked.

The mine closed in 1983 due to depressed zinc prices. Over the 130-year history of the mine a total value of 3 billion dollars' worth of zinc (2018 prices). In the 1853-93 workings 800,000 tons of ore was recovered; the average grade of the ore was 30%, with handpicked sphalerite at a grade of 45%. In the period from 1958-83, 900,000 tons of ore with an average grade of 5.5-6.5% zinc was mined.

All 1600 acres of the mining area was sold to a land developer. He repurposed some of the mine buildings, built an office park, shopping center and golf courses. He sold some land to Penn State University for a Lehigh Valley campus. When he died, he left the rest of the land to Lehigh University.

They are now working to preserve the old pump house as an historic monument. Mike gave us a pictorial tour of some of the old buildings: miners housing, mine supervisors house, and the beautiful stone pump engine house. He showed a drone flyover of the pump house. A professor and his students at Lehigh University got blueprints of the old pump engine and made a digital model and later a physical model. Another scale, working, model of the President was built by a man from Cornwall, it is now in the National Museum of Industrial History in Bethlehem Pennsylvania. There is a You- Tube model of the mines and pumping engine https://youtu.be/EKXMmYa_UtM

The next step is to make an historic park at the site. Lehigh University, which owns the site wants to do this but there is no money for the project. They hope that this site will eventually be part of a UN Global Heritage site in the UK that covers Cornish mining technology. There are Cornish pumphouses all over the world, as the miners left England for economic reasons and took their mining skills and technology all over the world. Students are working on mockups of the historic park. If you are interested in helping fund this project, there is the *President Pump Preservation Fund*, <http://give.lu/prespump>

Lastly Kaas reviewed the zinc specimens online from Mindat, etc. most specimens are small and old. Most of the zinc went to the smelter. There are no minerals left in the area to be collected. There was a question-and-answer period at the end of the presentation.

Sec. note for a History of the Friedensville Mining District by L. Michael Kaas, click here <https://www.mininghistoryassociation.org/Journal/MHJ-v23-2016-Kaas.pdf>

The Silver Hill Mine <https://www.mininghistoryassociation.org/Journal/MHJ-v16-2009-Kaas.pdf>

Richard W. Pascoe: Mine Superintendent <https://www.mininghistoryassociation.org/Journal/MHJ-v21-2014-Kaas.pdf>

D. Adjournment The president adjourned the meeting at 9:03 PM.

Submitted by Leslie Ogg, MSSC Secretary

List of Upcoming MSSC Events : Mark your Calender!

Event	Date	Comments / Scheduled Program (if known)
Meeting Dates:	ZOOM Jun9. 2023	Dr. Milkovich, Sarah: MARS UPDATE
	ZOOM July 14. 2023	Paolo Sanchez “Lazurite of Cascade Canyon, California”
	ZOOM August 11. 2023	Mike Sanders: “Digging For Blue Barite at Stoneham, Colorado”
	ZOOM September 8. 2023	TBA
Board Meeting	ZOOM TBA	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.

X Dana Spreadsheet by Leslie Ogg, MSSC Webmaster

A feature on our website that you may not be aware of is the X Dana or XD spreadsheet. MSSC member Bob Pedersen built this sheet in 2008 and has updated it every year since. The most recent version (2022) is now available for download on the front page of the MSSC website. It is full of data about almost every mineral that exists (5906)! If you would rather have the spreadsheet on a CD, you can email our programs director and he will send you a copy for a small fee.

The link is located on the bottom of the MSSC homepage, or here <https://mineralsocal.org/398-2/> there is an editable preview of a small part of the spreadsheet.

I encourage you to download it and take a look. Below is an excerpt from the preface of the first edition.

Preface To 2008 Edition:

Dana Collectors were quite prevalent in the 1950's and 1960's. However, they gave way because the Dana System (7th Edition) was not totally completed. In 1997 Dana's New Mineralogy System (8th Edition) was rewritten and completed. Expanded Dana System (XD) is a revised Excel spreadsheet that allows updating as new minerals are introduced and revised. This introduction will focus on the changes to the system and how to interpret the spreadsheet. This is an unprotected spreadsheet which means it can be downloaded, sorted, modified, added to, portions deleted, etc. at the "users" discretion.

OTHER FREE THINGS TO DO...by Ann Meister

The **Watson Lecture** at Caltech's Beckman Auditorium is on Wednesday, **May 10** at 7:30 PM, or you can view the livestream at [Caltech Watson Lecture Series - YouTube](#). By entering the auditorium, attendees attest to being fully vaccinated or having a legal medical exemption. Masks are optional inside Beckman Auditorium. The speaker is Chiara Daraio, Professor of Mechanical Engineering and Applied Physics, Caltech. The title is "**Making Wearable Materials Smarter.**" Advances in materials science, manufacturing, and computer science have enabled transformative innovations in wearable materials, with designs that that can monitor metabolic activity, change stiffness on command, and even interpret our mood. These new materials will allow garments and fashion to bring together the physical and digital worlds. In this lecture, Daraio will show examples of how these materials will help us stay healthy, how they will revolutionize the way we communicate, and how they will adaptively support our everyday needs. *Find more past Watson Lectures on [Caltech's YouTube channel](#).*

The **UCLA Meteorite Gallery** is open. Check the website for hours. The monthly lecture will be presented via Zoom on Sunday, **May 21** at 2:30 PM. The speaker is Dr. Edward Young, Professor of Geochemistry and Cosmochemistry, UCLA. The title is not yet available. 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>

The **Von Kármán Lecture** is on Thursday, **May ??** at 7:00 PM. Available live on YouTube at [NASA Jet Propulsion Laboratory - YouTube](#). Date, speaker and topic were not available at time of publication. Check website for information and past lectures [Lecture Series \(nasa.gov\)](#).

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/>

May 5-6, 2023 – Yucaipa

Yucaipa Valley Gem and Mineral Society
Yucaipa Blvd at Adams Street, Yucaipa, CA 92399
Hours: Fri 6 PM - 10 PM, ; Sat Noon to 10 PM
Website: <https://www.yvgms.org/>

May 6-7, 2023 – Lancaster, CA

Antelope Valley Gem and Mineral Club
Antelope Valley Fairgrounds,
2551 West Ave. H, Lancaster, CA 93536
Hours: Saturday & Sunday 10 AM – 5 PM
[flyer: antelopeshow](#)

June 10-11, 2023 – Escondido, CA

Palomar Gem and Mineral Club
The Convention Center at the California Center for
the Arts – 340 North Escondido Blvd,
Escondido CA 92025
Hours: Sat 10 AM – 5 PM, Sun 10 AM – 4 PM
Website: <http://palomargem.org>

June 17, 2023 – Bellflower, CA

Delvers Gem & Mineral Society
DELVERS PARKING LOT SALE,
14515 Blaine Ave., Bellflower, CA 90706
Hours: 10 AM – 4 PM
Website: <https://delversgemclub.wordpress.com/>

JUNE 23-25, 2023 – LODI, CA

CFMS Show And Convention
Lodi Grape Festival Grounds,
413 E. Lockeford St., Lodi, CA 95240
Hours: Fri & Sat 10 AM – 5 PM,
Sun 10 AM – 4 PM
Adults \$6, Kids 12 & under FREE
Free admission to Military.

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/>

WEST COAST GEM & MINERAL SHOW

Holiday Inn-Orange County Airport

2726 South Grand Avenue ♦ Santa Ana, CA 92705

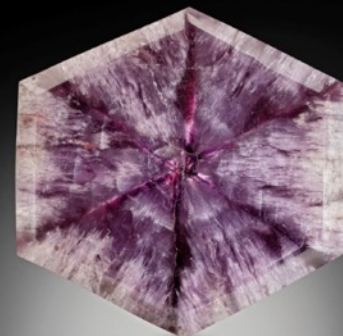
May 5, 6, 7, 2023

10 am – 6 pm Friday & Saturday | 10 am – 5 pm Sunday
(Wholesale closes at 4 PM on Sunday)

FREE ADMISSION ♦ FREE PARKING ♦ OPEN TO THE PUBLIC

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Trapiche amethyst from Rondonia, Brazil. Photo: Jeffrey Scovil.

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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 MSSC Treasurer 13781 Alderwood Lane, #22-J, Seal Beach, CA 90740</p>			

MINERAL OF THE MONTH: (repeat from September, 2017)

Featured Mineral: **Erythrite**

Formula: $\text{Co}_3(\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}$









Color: Crimson to peach red, pale rose, pink

Crystal System: Monoclinic

Luster: Sub-Vitreous, Waxy, Pearly, Dull, Earthy

Member of: Vivianite Group

Name: Named in 1832 by François Sulpice Beaudant from the Greek $\epsilon\rho\upsilon\theta\rho\omicron\varsigma$, "erythros" for "red"

 <p><i>irocks.com photo</i></p> <p>Erythrite : $\text{Co}_3(\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}$ Locality: Jáchymov, Jáchymov District, Krušné Hory Mts, Karlovy Vary Region, Bohemia, Czech Republic 5.7 cm x 4.3 cm x 1.2 cm</p>	 <p><i>irocks.com photo</i></p> <p>Erythrite : $\text{Co}_3(\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}$ Locality: Aghbar Mine, Aghbar, Bou Azzer District, Tazenakht, Ouarzazate Province, Drâa-Tafilalet Region, Morocco 2.7 cm x 2.3 cm x 1.6 cm</p>	 <p><i>irocks.com photo</i></p> <p>Erythrite : $\text{Co}_3(\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}$ Locality: Mount Cobalt Mine, Selwyn District, Cloncurry Shire, Queensland, Australia 1.6 cm x 0.9 cm x 0.6 cm</p>	 <p><i>irocks.com photo</i></p> <p>Erythrite : $\text{Co}_3(\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}$ Locality: Bou Azer, Bou Azzer District, Tazenakht, Ouarzazate Province, Drâa-Tafilalet Region, Morocco 3.9 cm x 2 cm x 1.3 cm</p>
 <p><i>irocks.com photo</i></p> <p>Erythrite : $\text{Co}_3(\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}$ Locality: Bou Azzer District, Tazenakht, Ouarzazate Province, Drâa-Tafilalet Region, Morocco 4.2 cm x 3.5 cm x 2.4 cm</p>	 <p><i>irocks.com photo</i></p> <p>Erythrite : $\text{Co}_3(\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}$ Locality: Sara Alicia Mine, San Bernardo, Mun. de Álamos, Sonora, Mexico 7.5 cm x 5.3 cm x 3.5 cm</p>	 <p><i>irocks.com photo</i></p> <p>Erythrite : $\text{Co}_3(\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}$ Locality: Mount Cobalt Mine, Selwyn District, Cloncurry Shire, Queensland, Australia: 3.9 cm x 2.9 cm x 1.8 cm</p>	 <p><i>irocks.com photo</i></p> <p>Erythrite : $\text{Co}_3(\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}$, Quartz : SiO_2 Locality: Schneeberg District, Erzgebirge, Saxony, Germany 4.2 cm x 3.8 cm x 3.0 cm</p>

2023 MSSC Officers:

OFFICERS		
President	Angie Guzman	president@mineralsocal.org
Vice President	Cheryl Lopez	vicepresident@mineralsocal.org
Secretary	Leslie Ogg	secretary@mineralsocal.org
Treasurer	Carolyn Seitz	treasurer@mineralsocal.org
CFMS Director	Angie Guzman	
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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:

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To:



**With Knowledge Comes
Appreciation**

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