

Bulletin of the Mineralogical Society of Southern California

Volume 89 Number 6 - June, 2016

The 934th meeting of the Mineralogical Society of Southern California

With Knowledge Comes Appreciation

June 10th, 2016 at 7:30 P.M.

Pasadena City College Geology Department, E-Building, Room 220 1570 E Colorado Blvd., Pasadena

Program: "Calcite" presented by Chuck Houser

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About the Program: Calcite presented by Chuck Houser

Calcite makes up about 4% of the earth's crust. The interesting thing about calcite is the sheer number of crystal forms and habits this mineral exhibits, as many as 3,500, depending on who you ask. Moreover, calcite forms twin crystals....following FOUR twin laws! So building a calcite collection offers virtually unlimited possibilities-crystal forms, twins, localities, associations, color.....it is as close to a "bottomless pit" as any collecting possibility I know of. It also offers an interesting challenge: getting color into the collection. Calcite itself comes in two colors-white (actually colorless), and pale yellow. So getting other than white and pale yellow in your display cabinet requires a little work, but that is part of the fun.

As for calcite localities, they are, like the crystal forms, varied and abundant. Calcite collections will include specimens from every major country (and a number of minor ones), and from a wide array of occurrences. And of course there are those "classics," occurrences and localities that anyone collecting this mineral must have to claim rights as a true calcite collector. This talk presents an expose of this mineral from the standpoint of mineral specimen collecting. We will discuss its crystal forms, twinning, the big challenge to calcite collecting, localities, classics, and finally we will see what happens when six calcite collectors get together and are allowed to have ideas unchecked by reasonable people.

By the way, as you recall from your mineralogy classes, calcite has a hardness of 3 on Mohs hardness scale, so you might consider removing your wedding ring before you handle your fine specimens of this abundant and varied mineral.

About Chuck Houser: In the early 80's, while a student at SDSU working toward a bachelor's degree in geology, I took a mineralogy class with Dr. Richard Berry. Shortly after taking that class, while on a driving trip from Missouri to California, I encountered a mineral and rock shop somewhere in western Missouri. Perusing the fine mineral specimens in that shop, I realized that I recognized many of the species, and so I purchased many of them (thanks Dr. Berry!). At that mineral shop began the Houser Mineral Collection.

There can be a bit of an art to mineral collecting, and only the richest can afford to simply collect EVERYTHING that catches their eye. Most collectors specialize: a specific country, a mining district or even a specific mine, or a single mineral species. Due largely to the influence of a long time neighbor who collected calcite specimens, I began to specialize in calcite from worldwide localities, a specialization that I have continued over a roughly 32 year collecting history, and through several other specializations including San Diego County minerals and minerals from the Elizabeth R Mine in Pala. At one point I even sold most of the calcite collection in order to fund the purchase of one kunzite specimen from the Pala Chief Mine. However, I, kept the twins and some of the unusual and hard to find specimens, which became the basis for eventually rebuilding the calcite collection. Today that collection is around 200 pieces.

In my spare time, I am a hydrogeologist and project manager for SCS Engineers in San Diego.

From the Editor: Linda Elsnau

Happy June! Here's hoping everyone had a safe Memorial Day weekend. Our June program on Calcite looks like a really interesting one, hope to see many of you there. Fred and I have missed several meetings recently but I hope to get to this month's meeting. Lately, everything hinges on Fred's health issues. Nothing life threatening at the moment, but ongoing and exhausting for sure!

It's not too soon to start planning on attending the Annual MSSC Picnic. Our President, Ann Meister has some interesting ideas for the picnic in her Meanderings. If you have any other ideas, be sure to let her know. There will be more about the Picnic in next month's Bulletin. Save the date, Sunday, August 21st for the picnic!

MEANDERINGS FROM THE PRESIDENT by Ann Meister

I was browsing through some old *Bulletins* from the 1970's and noticed announcements for a dinner and auction in June or August at Farnsworth Park in Altadena. The auction included a silent auction as well as an "audible"

auction conducted by Jim Minette. Perhaps this was a variation on what had been the annual banquet and show which had formerly taken place in June since by that time in the '70's we had changed our schedule to have the annual banquet in January and the show in November. How about we include a silent auction as a part of the activities at our upcoming Picnic and Potluck on August 21st? Since there has not been much interest in the "swap" activity recently at what we were calling a "Picnic and Mineral Swap," we can use the tables for a silent auction. We also usually have a theme for the Picnic; what topic would you like? We'll discuss this at the June 10th meeting and make a final decision at the June 12th Board meeting. Or send me an email with your opinions and suggestions.

I remember one of these dinners very well because my niece, Kim (perhaps 5 or 6 years old at the time), was going through the buffet line with me. I don't remember the main course (Kentucky fried chicken?), but there was a dish of peas. I was about to put a spoonful of peas on Kim's plate when she announced loud enough for everyone in the hall to hear, "I don't have to eat peas. My mother isn't here to make me." Oh my, how that did embarrass my mother and Kim's grandmother, Edith Meister! The auction was lively and I bought a pair of small smoky quartz crystals from the Saline Valley, matched, left and right handed – perfect for earrings.

For those interested, the **Von Kármán Lecture** on June 16 and 17 is titled "El Niño and California Water: What did we see from space?" Thursday is at the Von Kármán Auditorium at JPL and Friday is at the Vosloh Forum at PCC. Start time is 7 pm. The **UCLA Meteorite Gallery** talk is on Sunday, June 19. The speaker is Nick Gessler, a meteorite hunter and collector. His title is: "Oriented meteorites: Sculpture by fire." The Meteorite Gallery (Geology room 3697) is open with a docent present every Sunday from 1 till 4. The lecture is in Slichter Hall 3853 near the Meteorite Gallery. Website address is: <u>http://meteorites.ucla.edu/</u>.

Who is interested? Nominations for MSSC officers and directors are coming up. We need candidates for 2017. Think about it...

MINUTES of the May 13, 2016 Meeting

The **933**rd Membership Meeting of the Mineralogical Society of Southern California (MSSC) was held at Pasadena City College on Friday, May 13, 2016. The meeting was presided over by President Ann Meister.

Call to order at 7:35 p.m. Ann welcomed guests in attendance and invited all to join in for refreshments and discussion in the office after the meeting.

Regular Business

- Ann Meister asked for approval of the <u>April 2016 Membership Meeting Minutes</u> as published in the May 2016 *Bulletin*. A **Motion** was made by Angie Guzman and seconded by Rudy Lopez. Before the vote, Ann asked if there were any corrections, additions or discussions. Seeing none, Ann called for the vote, which passed unanimously by the members;
- Ann indicated that Linda Elsnau was not in attendance and designated a deadline to submit items for the June Bulletin to be May 22nd;
- The next Board meeting will be June 12, 2016. Among the topics on the Agenda will be officers for the next term;
- Our Annual Picnic will be August 21, 2016;

Announcements

- The Urban Nature Fest will be June 25 and 26 at Natural History Museum of Los Angeles County. If you would like to volunteer for MSSC's booth, which includes admission, free parking, time to explore the Fest and visit the museum, contact Rudy Lopez;
- UCLA Meteorite lecture will be May 15th;
- Upcoming shows include Glendora (June 4-5), Culver City (June 25-26) and West Coast Gem & Mineral Show in Santa Ana (May 13-15). MSSC member Geoff Caplette is a vendor again and says the attendance was down today (May 13) from last year's show;

There was discussion regarding collecting in the National Monument, Amboy Crater, Afton Canyon and other areas. It was suggested that things will probably be alright for 6-9 months due to the master plans not yet complete.

Show and Tell

- Ken Coulson brought some rocks he needs help identifying;
- BJ Ledyard brought a National Geographic magazine featuring Mt. St. Helens (see last month's program in the *Bulletin*).

<u>Program</u>

The meeting was turned over to Rudy Lopez, Program Chair, who is also the featured speaker tonight! By way of introduction and in his words, "...*My back ground is not geology. Through my wife Cheryl, we started our journey into rocks for one of her science classes. In a short time, we became Rockhounds. We did belong to a few clubs prior to joining MSSC."* "Through a friend, who just so happened lived next door to Bruce Carter, we were invited to attend a meeting and have been here ever since." [Bulletin May 2016].

Guadalupe Island (Isla Guadalupe), 6-Day Fishing Trip to A Volcanic Island presented by Rudy Lopez. The presentation covers the six-day fishing trip Rudy made Nov 18, 2015 through Nov 23, 2015 on the *Shogun* fishing vessel. The trip itself was comfortable, the vessel was well equipped and the meals were great! Once in Mexican waters, Customs inspects vessels for contraband and to collect passports, apparently standard procedure. Rudy told us his story about beef jerky being sniffed out by the customs dogs! He also gave us a tip about where to keep valuables...in your dirty laundry! Passports are returned when the vessels are ready to leave the country.

There are a few villages on the island. Campo Oeste (West Camp) has about 15 buildings. Water (30,000 liters each trip); food and most staples are shipped in by the Mexican Navy monthly. The people of Guadalupe Island fish for tuna, yellowtail, they harvest abalone and trap lobster, although the abalone harvesting is dangerous due to the shark population. When the fishing boats approach Guadalupe Island, the island inhabitants come out in their boats to exchange their fresh caught lobster for beer, t-shirts, sports-drinks and other items. None of the fishermen from the vessel are allowed to go on the island.

150 years ago, Russian whalers and fur traders came to Isla Guadalupe for oil and sealskins. They brought goats to the island for food but the goats soon grew in number, grazed on plant life and, over time, left little vegetation. The Mexican government, in conjunction with Berkeley Seacology, built fences to separate the goats from remaining vegetation in an effort to restore the fragile eco system. Rudy showed us a photo depicting the stark reality of the goats' damage and, the benefit after the fence was constructed: to the left of the fence, vegetation, trees and plants, to the right, dirt and rock – not even a weed! As for Guadalupe Island's plant life, a few of the species went extinct due to goat indiscretion while others are endemic. Many of the plants species are the same as located on Southern California's Channel Islands.

Attempts have been made to eradicate the goats. In 2004, the Mexican government led an effort to remove the goats from Guadalupe Island and in 2006 the eradication was completed. *[Note: In 2009, biologists studied the island and reported that the risk of extinction of the island's cypress trees was reduced considerably and suggested a "promising future"*. Also, most of the goats were relocated to the Mexican state of Sonora.] Rudy tells us that the island now has feral cats!

Guadalupe Island is a volcanic island consisting of two ancient overlapping shield volcanos. There are some cypress trees on the island dating back 4,000 years. The island is 150 miles off the Baja California coast, 250 miles from Ensenada, Mexico. It is approximately the same size as Catalina Island. It's composed of olivine basalt and trachyte. George Rossman brought in some specimens of Guadalupe Island olivine! This volcanic rock island was built by magma flow in an underwater mid-ocean ridge created by plate tectonics, characteristic of ocean floor spreading. It has two large islets in the southwestern portion of the island's area: Islote Afuera (Outer Islet) is the most distant with vertical walls while Islote Adentro (Inner Islet – also known as El Toro) has 2 smaller islets nearby. The separation, between the island and the islets, is a 1.9-mile rift called Tuna

Alley. It all appears very rugged. The conditions for fishing yellowtail here are great! Rudy caught a 132-pound tuna!

By the way, Islote Afuera has a whole ecosystem of plants that are rare even for Guadalupe Island, according to Bruce Carter. The photos Rudy showed are stunning. The lava flows are visible. Bruce identified a late stage cinder cone, that after the lava flows constructed the shields, the last bit of the vent spit out a lot of fluid and chunks of rock that made steep sided cinder cones. BJ pointed out ash layers in the photo. Bruce added that the big rock was a feeder vent to a shield volcano; lava flows up to the surface, now eroded away. More photos, too many to detail here but all great shots of the island and islets. *[Great photos, Rudy!]*

The climate of Guadalupe Island is a very arid, semi hot. The population of the island in 2010 was 213, in 2014 it was 214 and in 2015 there were 243 inhabitants on the island. The government began a desalination system in exchange for an area to designate as a reserve. As of January 2012 fresh water is available on the island and the desalination system was still operational in February 2014. Guadalupe Island is now a protected reserve including certain fish such as halibut, grouper and others. There are still a few goats on the island. There's also an airstrip.

In addition to the fishing, Guadalupe Island attracts divers. Tuna Alley is one of the places where Great White shark like to linger - - looking for a free meal. It's an awesome cycle: fishermen cut bait (chum) to lure tuna, the shark are attracted by the bait and the tuna and cage divers are attracted to be up close and personal with the Great Whites! The sharks are otherwise unable to successfully hunt tuna because the tuna are too fast so, the sharks go after hooked tuna. Cage divers will pay a lot of money to see the sharks.

In conclusion, odds of being eaten by a shark: 1:9.2 million, but judging by the photo Rudy showed of a cage diver in a very dangerous position, he thinks it's a 50:50 chance. We all agreed! Cage diving tours are big business for Mexico here. Water temperature is generally mid-70 and the conditions are ideal for the Great White.

And that was Rudy's fish tail. Thanks, Rudy, for a great presentation! It was very informative and you showed us lots of great photos!

Reminders: (1) The next regular Membership Meeting will be June 10, 2016 at 7:30 p.m. here at PCC and (2) the Board Meeting will be June 12, 2016 at 1p.m. at the Carter residence.

The door prize drawing was won by Laura Davis.

Adjournment was called at 8:40p.m. Refreshments served after adjournment.

Respectfully submitted, Angie Guzman, MSSC Secretary (Apologies in advance for any misspellings in this Minutes/aag)

List of Upcoming MSSC Events : Mark your Calender!

List of opeoming wisse Events. Wark you calcude:			
Event	Date	Comments / Scheduled Program (if known)	
	July 8, 2016	Justin Seastrand – Monument Part 2	
	September 9, 2016	Gabriel Mosesson - Ethiopian Opals Part 2	
Meeting Dates:	October 14, 2016	Mohamed Elghetari - Mars	
November 11, 2016 December, 9, 2016	Dr. George Rossman – to be announced		
	December, 9, 2016	Leslie Neff & Larry Hoskinson - A Tourists Guide to Finding Opal in	
		Cooper Pedy Australia	
Annual Banquet	January , 2017 Aaron Celestain - LA Museum Director to be announced		
Annual Picnic	August 21, 2016	Bruce & Kathy Carter's House	
Board Meeting	June 12, 2016	Board Meeting at Bruce Carter's house	

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

Update on the L.A. Urban Nature Fest: June 25 and 26, 2016: by Rudy Lopez

We will have a table set up for us again and I am looking for help!

It's a two-day event, we will have a display again of micromounts, also a display case with items found by our members. I need help at our table throughout the Festival. You don't have to be there all day, pick a few hours to help out and go out and look at the Festival. *I will have free admittance and parking for all volunteers. Please let me know what day and times you can help out.*

At the present time I have 5 volunteers, we need more help. Have a free day at the museum to look around, I understand the mineral collections have changed a bit and if you haven't been inside the mineral vault, you're missing out on some great gems.

L.A. Urban Nature Fest: June 25 and 26, 2016 A two-day celebration of Nature in the City!

Coyotes cross Sunset Boulevard. Lizards scale manzanitas, P-22, Los Angeles' resident mountain lion, explores Griffith Park. Vaux's swifts take cover in downtown chimneys. Western gulls steal your beach picnic. Squirrels are doing summersaults in your



front yard. L.A. is a surprising biodiversity hotspot - and it's time to celebrate our urban nature! From the L.A. River rehab, to community gardens, to local collaborations, Angelenos seem increasingly interested in urban nature. Let's take a weekend to see just how green L.A. can get. This festival is packed with hands-on, fun family activities!

Dolomite with Unusual Inclusions John I. Koivula

Dolomite is not often encountered as a gem material, and it is generally known as an inclusion in gems such as emerald, garnet, quartz, and ruby. In view of this, any inclusions found within gem-quality dolomite may be justifiably considered as rare inclusion/host combinations.

One particular area known to produce gemmy dolomite suitable for lapidary work is the Mount Brussilof mine in Radium Hot Springs, British Columbia, Canada. Also found at this mine in direct association with the dolomite are crystals of the relatively rare mineral svanbergite.

Crystallizing in the trigonal crystal system in a rhombohedral to pseudocubic habit, svanbergite is not a widely known mineral associate of dolomite or any of the other



These brownish orange cubic to rhomb-shaped inclusions were identified by Raman analysis as svanbergite in dolomite. Photomicrograph by Jonathan Muyal; field of view 14.52 mm.

common carbonates. It is a member of the beudantite mineral group and is composed of basic phosphate and sulfate of strontium and aluminum phosphates and sulfates. Svanbergite colors range from reddish brown to orange; there is also colorless material.

Recently we had the opportunity to examine a cluster of inclusions surrounded by numerous tiny fluid inclusions within a colorless gem-quality dolomite. It came as a delightful surprise when laser Raman microspectrometry revealed these crystals to be svanbergite, an inclusion-to-host pairing we've never previously encountered.

This article originally appeared in the Spring 2016 issue of Gems & Gemology. Permission received 5/13/16

Featured Mineral: Hydroxylherderite

Formula: CaBe(PO₄)(OH,F)

Crystal System: Monoclinic

Color: Colorless, gray, brown, pale yellow, greenish white, light blue, purple; colorless in transmitted light.

Name: Named "hydro-herderite" in 1894 by Samuel L. Penfield. Named changed to "hydroxyl-herderite" by Palache, Berman, and Frondel in 1954. Originally named for Siegmund August Wolfgang von Herder (1776-1838), Mining official in Freiberg, Germany. The "Hydroxyl-" prefix signifies the dominance of hydroxide over fluorine.



Hydroxylherderite : CaBe(PO₄)(OH,F) Locality: Shigar Valley, Skardu District, Baltistan, Gilgit-Baltistan, Pakistan 3.7 cm x 3.2 cm x 3 cm



Hydroxylherderite : CaBe(PO₄)(OH,F), Quartz : SiO₂ Locality: Waisanen Quarry, Greenwood, Oxford Co., Maine, USA 3.2 cm x 3 cm x 1.6 cm



irocks.com photo

Hydroxylherderite: CaBe(PO₄)(OH,F), Muscovite: KAl₂(AlSi₃O₁₀)(OH)₂ Albite: Na(AlSi₃O₈)

Locality: Virgem da Lapa, Jequitinhonha valley, Minas Gerais, Brazil 4.2 cm x 2.1 cm x 1.4 cm



irocks.com photo **Hydroxylherderite :** CaBe(PO₄)(OH,F) **Locality:** Divino das Laranjeiras, Doce valley, Minas Gerais, Brazil 5.9 cm x 3.7 cm x 2.7 cm



irocks.com photo

Hydroxylherderite : CaBe(PO₄)(OH,F), Quartz : SiO₂ Locality: Waisanen Quarry, Greenwood, Oxford Co., Maine, USA 2.3 cm x 2 cm x 1.5 cm



irocks.com photo Hydroxylherderite : CaBe(PO₄)(OH,F) Locality: Dara-i-Pech pegmatite field, Chapa Dara District, Konar Province, Afghanistan 7 cm x 6 cm x 4 cm

Potential Upcoming PCC Class Schedule: "California Geology"

If you have been looking for a class on California Geology at PCC, now may be the time to try to get them to schedule one. One of our members, Bonnie Ledyard notified me that If enough people sign up they will add a California Geology Class to the schedule. I don't know how many are "enough" but if you are interested in such a class, now may be the time to let them know. Please contact the PCC registration office for more information. Linda Elsnau

Monoclinic Crystal System What does that mean?

According to "Mineralogy" by John Sinkankas, a monoclinic crystal is a three axis mineral where all axes are of different lengths with the c axes the longest. The a and b axes are at 90° to each other but only one of them is at 90° to the c axis, while the other is NOT at 90° to the c axis

Because the tilt is in one direction the term monoclinic comes from mono for "one" and clinic for "incline" The list of Monoclinic minerals in mindat.org is over 1,900 minerals! Here are a few for your consideration:





Orthoclase : K(AlSi₃O₈) Locality: Karlovy Vary, Karlovy Vary Region, Bohemia, Czech Republic 6.3 cm x 3.6 cm x 1.8 cm



irocks.com photo Hübnerite : MnWO₄ Locality: Huayllapon Mine, Pasto Bueno, Pampas District, Pallasca Province, Ancash Department, Peru 2.7 cm x 2.2 cm x 2 cm



irocks.com photo

Neptunite : Na₂KLiFe²⁺₂Ti₂Si₈O₂₄ Locality: California State Gem Mine, Dallas Gem Mine area, San Benito River headwaters area, New Idria District, Diablo Range, San Benito Co., California, USA 2.4 cm x 1.6 cm x 1.0 cm

Ride Share Listing

Can You Provide A Ride? Would You Like Company On The Drive To Meetings?

We have heard from several of our members that they would like to ride-share with someone to the meetings. We will list the names, general location and either a phone number or an email address of anyone who would like to connect for a ride-share. If you would like to catch a ride or would like company for the trip, let me know at <u>msscbulletin@earthlink.net</u> and I'll put the information in this section of the bulletin. After that, any final arrangements made are up to you. Also, If you make a connection that works for you, let me know so that I can remove your information from the bulletin. The Editor

Looking for	Who	Where	Contact at
A ride	Richard Stamberg	North Orange County, near Cal State Fullerton	
A ride	Catherine Govaller	San Bernardino, CA	cgovaller@msn.com



Calendar of Events:

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

JUNE, 2016

June 3 - 5: LA HABRA, CA

North Orange County Gem & Mineral Society La Habra Community Center 101 W. La Habra Blvd. Hours: Fri 5 - 8; Sat 10 - 6; Sun 10 - 5 Website: www.nocgms.com

June 4 - 5: GLENDORA, CA

Glendora Gems & Mineral Society Goddard Middle School 859 E. Sierra Madre Avenue Hours: Sat. 10 - 5; Sun 10 - 4

June 18 - 19: CAMBRIA, CA

San Luis Obispo Gem & Mineral Club Cambria Vets Hall (new show location) 1000 Main Street Hours: 10 - 5 daily Website: <u>www.slogem.org</u> Show Page

June 25 - 26: CULVER CITY, CA

Culver City Rock & Mineral Club Veterans Memorial Auditorium 4117 Overland Blvd (@Culver Blvd, Near the 405 & 10 Freeways) Hours: Sat 10 - 6; Sun 10 - 5 Website: www.culvercityrocks.org

JULY

No Shows Listed for July, 2016

AUGUST

August 13 - 14: SAN FRANCISCO, CA

San Francisco Gem & Mineral Society San Francisco County Fair Building 9th Avenue & Lincoln Way Hours: Sat. 10 - 6; Sun. 10 - 5 Website: www.sfgemshow.org Show Page

SEPTEMBER

September 16 - 18: PLACERVILLE, CA

77th CFMS Show & Convention

Hosted by El Dorado County Mineral & Gem Society El Dorado County Fairgrounds 100 Placerville Drive Hours: Fri - Sun 10 - 5 daily Website: www.cfms2016show.com

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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	
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 <u>bulletin@mineralsocal.org</u> and the payment			
should be sent to the			
MSSC Treasurer 1855 Idlewood Road, Glendale, CA 91202			

2015 MSSC Officers:

OFFICERS		
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Vice President	George Rossman	vicepresident@mineralsocal.org
Secretary	Angie Guzman	secretary@mineralsocal.org
Treasurer	Jim Kusely	treasurer@mineralsocal.org
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Program and Education	Rudy Lopez	programs@mineralsocal.org
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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. The MSSC is a scientific non-profit organization that actively supports the geology department at Pasadena City College, Pasadena, California. Support is also given to the Los Angeles and San Bernardino County Museums of Natural History. 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. 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 San Bernardino County Natural History Museum during the last weekend of January.

Annual Membership dues for the MSSC are \$20.00 for an individual membership, \$30.00 for a family membership. Bulletins are delivered by email, there is an additional annual \$20.00 fee if you prefer paper bulletins mailed to your address. The Society's contact information:

Mineralogical Society of Southern California 1855 Idlewood Rd., Glendale, CA 91202-1053 E-mail: <u>treasurer@mineralsocal.org</u>

Website: www.mineralsocal.org The Mineralogical Society of California, Inc.

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MSSC Bulletin Editor 3630 Encinal Ave. Glendale, CA 91214-2415

To:



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