



# **Bulletin of the Mineralogical Society of Southern California**

Volume 89 Number 10 - October, 2016

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*The 938<sup>th</sup> meeting of the Mineralogical Society of Southern California*

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*With Knowledge Comes Appreciation*

**October 14<sup>th</sup>, 2016 at 7:30 P.M.**

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

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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: The Colors of Topaz:** Presented by Dr. George R. Rossman

Topaz crystals are a favorite of collectors because of their perfect shape, clarity and colors. Topaz is also the basis of a multimillion dollar gem industry based on the transformation of topaz’s color by technological means. To understand minerals and gems, their treatments and synthesis, it is necessary to travel to mines and laboratories around the world to witness, first hand, the true story behind the sparkle and the science. In Dr. Rossman’s presentation, we will hear about the origin of color in topaz, explore a major topaz mine, and take a look behind the technology used in the gem industry to optimize the color of topaz.

MSSC’s Vice President, Dr. George R. Rossman is Professor of Mineralogy at the California Institute of Technology where has worked since receiving his Ph.D. in inorganic chemistry there in 1971. His work addresses problems relating to mineral identification, the origin of color in gems and minerals, and the global repository of water in rocks and minerals. His mineralogical travels have taken him to the jungles of Brazil, Bolivia, and Myanmar. He was an invited participant in the White House conference on conflict diamonds and has been a keynote speaker at several international mineralogical and gemological symposiums. He is a Fellow of the Mineralogical Society of America, the recipient of their inaugural Dana Medal, the recipient of the Richard P. Feynman Prize for Excellence in Teaching at Caltech, and the Friedrich-Becke Medal of the Austrian Mineralogical Society. He was honored by having a new gem mineral of the tourmaline family named after him. He is author or co-author of more than 320 publications in the mineralogical and chemical sciences.

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**From the Editor:**

Wow, last month’s bulletin was a short one and this one...isn’t! Many thanks to Ann and Rudy for their wonderful contributions.

It’s THAT time of year again! It’s soon time for the annual Election of MSSC Officers. The nominations are open for submission and the election will take place at the November meeting. Please consider stepping forward and participating in the management of MSSC. The current list of officers have served longer than anyone should have to. A healthy and vibrant society benefits with the new ideas and energy of new management.

Dues will soon be due (they are late on Jan. 1<sup>st</sup>) A membership form is part of this bulletin so that you can renew your membership sooner rather than later. If you plan to attend the Annual Banquet in January, you can pay both your dues and the cost of the Banquet at the same time. Just add a note to the membership form indicating who will be attending the banquet and add the cost to your check. Linda Elsnau

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**MEANDERINGS FROM THE PRESIDENT** by Ann Meister

“Scientists: Earth Endangered by New Strain of Fact-Resistant Humans,” headline from *The New Yorker*, Andy Borowitz, May 12, 2015 (The News Re-Shuffled) ( [www.newyorker.com/humor/borowitz-report/scientists-earth-endangered-by-new-strain-of-fact-resistant-humans](http://www.newyorker.com/humor/borowitz-report/scientists-earth-endangered-by-new-strain-of-fact-resistant-humans) )

A video posted by a Crimean man and titled “There are no forests on Flat Earth Wake Up!” develops a fantastic theory of pseudo-science (and continues into pseudo-history). The Flat-Earthers have a weird theory about forests – thousands of years ago, a cataclysmic event destroyed 99% of the Earth’s biosphere, including the “real” forests of giant trees. The trees we see now are just 30 meter bushes. As evidence, they offer a great geological formation, the Devils Tower in Wyoming that looks like a giant tree stump, as the remnant of a giant silicon tree. Other geologic features such as the Giant’s Causeway in Ireland, mesas (Monument Valley), plateaus, and mountains all around the world, are shattered, splintered remnants of trees. If you have the time and the patience, google the video (it’s 1 hour 20 minutes long!). It also includes imaginative opinions about other geologic features (the Grand Canyon is an ancient quarry). I became captivated by this when I read an article in *The Atlantic* (September 9, 2016) “Flat-Earthers Have a Wild New Theory about Forests” by Sam Kriss ( [www.theatlantic.com/science/archive/2016/09/flat-earth-truthers/499322/](http://www.theatlantic.com/science/archive/2016/09/flat-earth-truthers/499322/) ) Returning to reality...

**Congratulations to Pasadena City College**, one of 10 finalists for the **2017 Aspen Prize for Community College Excellence**. The \$1 million prize is awarded every two years and is the nation’s signature recognition of high achievement and performance among America’s community colleges. According to the press release from PCC, the Aspen Prize highlights the following areas in PCC’s qualifications for the recognition:

- Serving a large, diverse population of students, more than 76 percent of which are students of color and 43 percent are the first in their families to attend college;
- A graduation/transfer rate of 49 percent, well above the national average of 39 percent;
- A program that fast-tracks graduation by providing priority registration to students who are only a few courses short of completing their degree; and
- A leader among California community colleges for the number of associate degrees for transfer awarded, for the number of associate degrees awarded, and for the number of associate degrees awarded to minorities.

The prize announcement is in Washington, D.C. in March 2017. Let’s keep our fingers crossed for PCC! For more information see <http://highered.aspeninstitute.org/aspen-prize/> and <http://pasadena.edu/news-and-events/news/pcc-named-aspen-prize-top-10.php>

**Congratulations to Caltech** – Ranked #2 in the World University Rankings by *Times Higher Education*. And also congratulations to two Caltech professors who are members of the MacArthur Foundation Fellows Class of 2016. Dianne Newman is a microbiologist, and Victoria Orphan is a geo-biologist. This award is also known as the “Genius” award. Fellows are selected for their "exceptional creativity," defined by the MacArthur Foundation as “the drive and ability to make something new or to connect the seemingly unconnected in significant ways.” Recipients have included scientists, historians, poets and novelists, artists and composers, and people working in public service, but many work outside of conventional disciplinary categories. I have never before heard of a geo-biologist, have you? Victoria Orphan is working with microorganisms that live in deep ocean sediment beds and consume large quantities of methane released from seeps in the ocean floor.

**OTHER THINGS TO DO...**

For those interested, the **Von Kármán Lecture** on October 20 and 21 is titled “Asteroid Anchors, Rock Climbing Robots, Gecko Grippers, and other ways to stick in 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, October 16 at 2:30 PM. The speaker is Professor Hilke Slichting. The title of her talk is “Planets around other stars.” 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.

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**NOMINATIONS ARE OPEN FOR OFFICERS AND DIRECTORS FOR 2017**

As required by the Bylaws and Operating Rules, here is the slate of officers for 2017. The nominations are open if you would like to submit an additional candidate for any office. Make sure you have that person’s permission before making the nomination. Directors serve a two-year term; other officers NORMALLY serve a one-year term. Do the names on this list look familiar? Will the President soon become a ranting, raving lunatic? Stay tuned. The election takes place at the November meeting.

President	Ann Meister
Vice-President	George Rossman
Secretary	Angie Guzman
Treasurer	Jim Kusely
CFMS Director	Jo Anna Ritchey
Director #1 2017-2018	Bruce Carter
Director #2 2017-2018	Bob Housley
Director #3 2017-2018	Leslie Ogg

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# **DON'T FORGET SILENT AUCTION DONATIONS FOR THE BANQUET ON JANUARY 14, 2017**

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## **MINUTES of the September 9, 2016 Meeting**

*The 93<sup>rd</sup> Meeting* of the Mineralogical Society of Southern California (MSSC) was held on Friday, September 9, 2016 at the Geology Department of Pasadena City College. President Ann Meister brought the meeting to order at 7:50 p.m.

### **Regular Business**

Welcome to all in attendance at tonight's meeting. Two guest: Donald Hallinger and Jerry Wendt.

### **Minutes:**

President Ann Meister asked for a motion to approve the Minutes of the two Membership Meeting as listed in the August 2016 Bulletin. The Minutes of July 8, 2016 meeting were approved by motion from Rudy, seconded by Laura and carried by membership vote. The Minutes of August 21, 2016 meeting were approved by motion from Rudy, seconded by Laura and carried by membership vote.

### **President's Messages:**

- A Thank You was given to Bruce and Cathy Carter for having the MSSC Annual Picnic at their house. Also, a Thank You to Rudy & Cheryl Lopez and Angie Guzman for helping with the Silent Auction.
- There will be another Silent Auction in January 2017 at the Annual Banquet, so bring some items to sell. The date of the Banquet is Jan. 14, 2017.
- The next **Board Meeting** will be on September 18, 2016 at the Carter residence. Everyone is invited. However, please let Ann know if you plan to attend. Topics are: Nominations for Officers and Volunteers. Nominations will be held at the October 2016 meeting and elections held at the November 2016 meeting.
- Bulletin Deadline is Sept. 22, 2016 or earlier. Please submit any article such as summaries or book reviews to Linda Elsna, she could use some help with articles for the bulletin.
- Linda Elsna has sent out an email with simplified directions for completing a survey on the MOJAVE TRAILS NATIONAL MONUMENT QUESTIONNAIRE. This is very important, please take the time to respond.

### **Announcements:**

- Here are some of the local shows:

**September 16 - 18: PLACERVILLE, CA,                    77th CFMS Show & Convention**

**October 1 - 2: BORON, CA                    Mojave Mineralogical Society**

**October 8 - 9: TRONA, CA                    Searles Lake Gem & Mineral Society**

**October 9: FALLBROOK, CA                    Fallbrook Gem & Mineral Society**

- For those interested, the **Von Kármán Lecture** on September 22 and 23 is titled "Revealing Saturn: Cassini Science Highlights and the Grand Finale." 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, September 18 at 2:30 PM. The speaker is Professor Kevin McKeegan, a meteorite researcher at UCLA who uses ion probes to obtain isotopic compositions of small grains (including comet and solar-wind samples collected by spacecraft). The title of his talk is "Calcium-Aluminum-rich Inclusions: The Solar System's First Rocks." 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.

## Other Announcements:

Rudy Lopez spoke about the following:

- The 3rd LA Urban Festival at the LA Museum of Natural History will be on March 18 & 19, 2017. MSSC will need donations to give out to the kids. Currently there are about 350 give-away bags for the kids. Need at least a total of 800-900 items. Anyone who has small rocks/minerals, please contact Rudy Lopez.
- Grand total from the Silent Auction was \$494.00.
- Bruce Carter and Rudy went to Monte Cristo Mine in the Big Tujunga area. Rudy will follow up on possibly getting a presentation on the mine and what is currently being mined.
- Dr. Rossman would like to share a presentation on a new Quartz Crystal found in Arkansas.

## Program: The Nature of Welo Opals Part 2 - presented by Gabriel Mosesson

Welo opal is the most stable opal find in Ethiopia to date. Welo opals were discovered in 2007 in Welo, Ethiopia. Since then, Welo opals have been captivating the gem world and have risen to the top of the list for most precious gems due to their beauty, depth, fire, diversity and ease to work with. This newly discovered Opal found in the Welo Amhara Regional State Highland plateau 2.500 – 3.200 meters above sea level of Ethiopia is a new find that is quickly gaining the attention of the opal community. Welo opal requires a mountain of patience and some special cutting techniques but the finished result is every bit as stable as the better known Australian opals. The color is brilliant and rivals any top grade opal in the world. This is hydrophane opal which when soaked in water allows the base color to clear up, sometimes highlighting the play-of-color, sometimes making it vanish. The best trait of the Welo hydrophane opal is that when it's dry and polished it can be one of the brightest opals in the world. The Welo opal is found in the same type of geological formations as the Australian opal. The Ethiopian Government does not own any mines. All land is owned by the government: In Amhara it is administrated by the Regional State who does not allow mining by others than registered and licensed farmer co-operatives. Samples of the Welo opals on display included: rough, polished, hand carved, and rare specimens. Gabriel also showed and discussed the green amber that has been found in Ethiopia. He had pictures and some samples of his rare green amber specimens.

- **Door Prize Winner:** Jerry Wendt
- **Show & Tell:** Jerry Wendt shared a mineral thought to be a meteorite

## Adjournment

The meeting was adjourned at 9:30 p.m. After the meeting, refreshments were served.

Respectfully submitted, Cheryl Lopez

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## **List of Upcoming MSSC Events : Mark your Calender!**

Event	Date	Comments / Scheduled Program (if known)
<b>Meeting Dates:</b>	November 11, 2016	Chuck Hawser: Geology from So Cal up the Owens Valley to the Bishop/Mammoth area, from a small plane.
	December, 9, 2016	Leslie Neff & Larry Hoskinson - A Tourists Guide to Finding Opal in Cooper Pedy Australia
	February, 2017	Alan Rubin - Solar System
	March, 2017	Denise Nelson - Precious Heirlooms
<b>Annual Banquet</b>	January 14, 2017	Aaron Celestain - LA-NHM: Minerals with the unique ability to selective remove toxic metals
<b>Board Meeting</b>	November 20, 2016	Board Meeting at Bruce Carter's house
<b>Pacific Micro - Mount Conf.</b>	January 27 & 28, 2017	Hold this date for the next upcoming Micro-Mount Conference

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

**MSSC Board Meeting**, Sunday 9/18/16, 1:00 pm at the home of Bruce Carter

Ann Meister called the meeting to order at 1:04 pm. Attendees: Ann Meister, George Rossman, Jim Kusely, Bruce Carter, Jo Anna Ritchey, Geoffrey Caplette, Pat Caplette, Bob Housley and Pat Stevens and Committees: Rudy Lopez. We had a quorum

**Minutes of June 12, 2016:** motion was made by George Rossman and seconded by Bruce Carter to approve the minutes as printed in the bulletin.

**Old Business and Committee Reports:**

**Picnic:** There was an excellent turn out at the picnic. Ann Meister thanked Rudy Lopez for setting up and running the Silent Auction. The Board decided to have 2 annual Silent Auctions, 1) Banquet and 2) Picnic.

**Treasurer's Report** noted that there has not been much change in our investments from 2011 through 2016 even though we have had normal withdrawals for club expenses.

The following motions we brought before the Board for approval

- Approval renewal of Directors & Officer Liability Insurance, \$275.pp for year beginning 10/16/2016. Motion made by Pt Stevens and Seconded by George Rossman. Passed.
- Approval of donation to Field Science Scholarship Fund at PCC. Motion made by Bruce Carter, Seconded by Pat Stevens. Passed
- Donation to mindat.org for \$500.00. Motion made by George Rossman and Seconded by Bruce Carter. Passed.
- Discussion whether we made a donation to San Bernardino Museum the donation of \$292.50 was made on 2/26/2016.

**Membership:** Rudy Lopez reported for Cheryl (who was absent) that we had one new member, Don Hallinger. Visitor Garry Wendt in a possibility.

Program Chair, Rudy Lopez reported that

- Annual banquet will be held on January 14, 2017and will cost \$39.00. The speaker will be The Associate Curator of the LA Natural History Museum., Aaron Celestian, Ph.D.
- Urban Fest will be on 3/18-/3/19/2017
- He has speakers lined up through September 2017.

**Pacific Micromount Conference** will be held on 1/27-1/28, 2017 with a field trip on 1/29/2017.

Update on publishing **Paul Adams Silver Coin Mine pictures**. Bob Housley has all 500 pictures on his computer. Paul Adams is creating an index.

The Proposed Slate of Officers for 2017

Office	Current	Proposed 2017
<b><i>These Positions are to be voted on in the 2016 election:</i></b>		
<b>President</b>	Ann Meister	Ann Meister
<b>Vice President</b>	George Rossman	George Rossman
<b>Secretary</b>	Angie Guzman	Angie Guzman
<b>Treasurer</b>	Jim Kusely	Jim Kusely
<b>CFMS Director</b>	Jo Anna Ritchey	Jo Anna Ritchey
<b>2017-2018 #1</b>	Bruce Carter	Bruce Carter
<b>2017-2018 #2</b>	Bob Housley	Bob Housley
<b>2017-2018 #3</b>	Leslie Ogg	Leslie Ogg
<b><i>The following Board Positions will be replaced in the 2017 elections:</i></b>		
<b>2016*2017 #1</b>	<i>Pat Caplette</i>	
<b>2016*2017 #2</b>	<i>Pat Stevens</i>	

The next Board Meeting will be held on Sunday 11/20/2016 at the home of Bruce Carter at 1:00 pm.

Thanks Bruce and Kathy Carter for the use of their home for the meeting.

Meeting was adjourned at 3:42 pm.

Respectfully submitted: Jo Anna Ritchey

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**LA URBAN FESTIVAL Update: March 2017: By: Rudy Lopez**

**CHILDREN MINERAL BAGS**

We had a great time at the 2016 LA Urban Festival at the Natural History Museum last year. We had over 1000 attendees stop at our tables and ask a bunch of questions and enjoy our mineral display.

We made about 800 children happy by giving them a mineral to start their collections. Robert Housley gave a few boxes of quartz from Thousand Oaks Blvd. in Agua Hills make a big hit. Leslie send boxes of Fluorite pieces that kids learned was in tooth paste.

It's not too early to start getting donation started for next year.

We need small minerals that we can bag up to give away, if they are identified and where they came from it helps make it more collectable to the children.

So! Please look around and see if there is a box of minerals taking up space in your closet, garage, storage shed, under your bed or where ever you hide them that you don't want.

You can bring all donations to a meeting and give them to me or if there are too many I will pick them up. Never too early to start collecting for next year, I this we will need about 1000 pieces. We already have about 200 items already.

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**2017 MSSC Annual Banquet: Saturday, January 14, 2017**

The MSSC Annual Banquet is right around the corner.

We will have Aaron Celestain the curator of the Natural History Museum as our guest speaker: Topic: Minerals with the unique ability to selective remove toxic metals from solutions are an increasing area of technological, environmental, and energy-related interests. However, these nano-porous minerals are exceedingly rare and uneconomic to mine for large scale applications.

We will have a silent auction and items are needed for the auction. We had a great success at last year's auction. So let's all bring items for the auction that others will want to bid on.

The date of the banquet is January 14, 2017, starting at 5:30pm for social hour, dinner being served at 6:30pm and our speaker at 7:30pm.

The price will be \$39.00 for a buffet dinner that will include soft drinks, ice tea and coffee. All alcoholic beverages are not included in the meal price.

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*With Knowledge Comes Appreciation!*

## **Make your Reservation to attend today!**

### **MSSC 2017 Banquet**

**Saturday, January 14, 2017**

The cost of the Banquet will be **\$39.00**.per person

**Make your reservation with Rudy Lopez ([programs@mineralsocal.org](mailto:programs@mineralsocal.org)).**

There is plenty of seating available. If you made a reservation and circumstances change where you or your guests cannot attend, please notify **Rudy Lopez before Wednesday, January 11<sup>th</sup>, 2017**. Thereafter you will be responsible for paying \$39.00 for each individual reservation regardless of attendance. It would be a shame to miss this event because you delayed making that reservation.

**Call or email Rudy Lopez to make your reservation today!**

[programs@mineralsocal.org](mailto:programs@mineralsocal.org)

*Mail Checks to:*

*MSSC*

*1301 Leonard Ave*

*Pasadena Ca 91107*

**If you haven't done so already, plan to pay your dues at the same time.**

**Dues are officially due 1/1/2017.**

**Aaron Celestian**, of the Los Angeles County Natural History Museum will present:

**Minerals with the unique ability to selective remove toxic metals from solutions** are an increasing area of technological, environmental, and energy-related interests. However, these nano-porous minerals are exceedingly rare and uneconomic to mine for large scale applications.

**Social Hour 5:30 pm: Dinner 6:30 pm; Speaker 7:30 pm**

**Oak Tree Room (next to Coco's)**

**1150 West Colorado Boulevard**

**Arcadia, CA 91007**

**Items for the Silent Auction are always needed.**

**What is gathering dust in your home will be treasured in someone else's home.**

**The deadline for reservations for the Banquet is Jan 11th!** Don't miss out on a great evening because you delayed contacting **Rudy Lopez** for a reservation.

Ann Meister says: "Everyone is invited to join us and have a great time. This is our premiere social event of the season!"

**Make your Reservation to attend today!**

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**OCTOBER FIELD TRIP SUGGESTION: SEARLES LAKE** by Ann Meister

**75th Annual Gem-O-Rama** sponsored by the Searles Lake Gem & Mineral Society, **October 8-9, 2016**

**If you've never been to Searles Lake, go this year.** "Rumor has it" that this might be the last year or that the show will be cancelled because of water shortage. Of course, rumors have made the rounds before – sometimes it's because of liability issues or changes in ownership or a new geologist who "can't be bothered" or you name it. This is private property mined by Searles Valley Minerals; the parent company is Nirma Ltd. of Ahmedabad,



India. Collecting is strictly controlled and registration is required. For schedules, rates, detailed information, geology, and more pictures, see the website: <http://www1.iwvisp.com/tronagemclub/GEM-O-RAMA.htm>

I used to go to Searles Lake every year, the first time being my first MSSC field trip in the 1950s. Each year was different. At one time, I had quite a collection of the various crystal habits of hanksite, some extremely rare. I put together an exhibit and displayed it at the Pasadena Show and was subsequently invited to bring it to Tucson where I entered it into competition in the “Educational” division. The judges commented, “This exhibit shows everything there is to know about hanksite, but who cares?” I was devastated! I cared!

Searles Lake is a unique collecting experience. Though this is primarily a dry lake, the surface floods with winter rains and some areas have a firmer crust than others. Back hoes, mining equipment and cars have sunk to their demise. This is one reason why you must always follow the guide. It can be dangerous out there!

The minerals grow in brine which is what is mined by Searles Valley Minerals (SVM). There are three primary collecting environments: the blow holes, the halite pools, and the mud piles. According to [mindat.org](http://mindat.org), there are 35 valid minerals found including borax, gaylussite, halite, thenardite, and trona in addition to 10 that are the type locality of the mineral, including burkeite, galeite, hanksite, northupite, pirssonite, schairerite, searlesite, sulphohalite, tinalconite, and tychite. There are lots of pictures on mindat. This is just a sampling

**The Blow Holes:** The lake brine level is almost at the surface and the minerals occur at a depth of 25 to 40 feet beneath the salt surface. So, SVM drills holes and blasts the minerals to the surface specifically for collectors. Most commonly found here is hanksite, halite, borax and (hopefully) sulphohalite. The hanksites are often floaters from about 0.5 cm to about 4 cm. The sulphohalites are often floaters and usually small, about 0.5 cm. Garden tools such as a 3-tined cultivator and a trowel are useful.



*Jolyon Ralph photo*

Hanksite from the blow holes  
 $\text{Na}_{22}\text{K}(\text{SO}_4)_9(\text{CO}_3)_2\text{Cl}$   
 Pale yellow/amber hexagonal prism with pyramidal terminations is typical of the blow hole.



*Rock Currier photo*

Hanksite cluster from the blow holes  
 Ex. Vince Morgan collection (1974).  
 Scale at bottom of image is an inch with a rule at one cm.



*irocks.com photo*

Sulphohalite  $\text{Na}_6(\text{SO}_4)_2\text{FCl}$  on borax  
 $\text{Na}_2(\text{B}_4\text{O}_5)(\text{OH})_4 \cdot 8\text{H}_2\text{O}$   
 8.3 x 7.9 x 4.9 cm  
 sulphohalite is 2.4 cm (large!)  
 Ex. Al Ordway collection

**The Mud Piles:** SVM uses a track hoe to dig into the top layer of mud, where the exceptionally large specimens of hanksite are found. Because they are found in mud, they usually have mud inclusions that have a slight greenish tinge. Some samples are intergrown clusters, and others are single crystals. The form is often a prism with basal pinicoids with very little of the pyramidal faces showing. I have also found pyramidal crystals with almost no prism showing. You can also find thenardite and trona. This is dirty collecting. Wear old clothes and shoes that you can throw away. For collecting, bring a 3-tined cultivator (garden) tool to dig through the mud and a tooth brush to clean the crystals in brine.



*irocks.com photo*

Hanksite 18.2 x 15.9 x 12.3 cm  
Typical cluster from the mud. This has been lightly oiled with mineral oil to preserve it.  
Ex. Al Ordway collection (1960s or 70s)



*irocks.com photo*

Hanksite  
5.8 x 2.2 x 2.2 cm  
The elongated prism with basal pinicoids is an uncommon habit.  
Ex. Martin Zinn collection



*irocks.com photo*

Hanksite 8.5 x 5.5 x 5 cm  
The mineral was first described in 1885 and thought to be unique to Searles Lake. It has now been found in Argentina, China, Sweden, NV, and 3 additional places in CA. It is named for Henry Garber Hanks (1826-1907) for service as the first state mineralogist of CA.

**The Halite Pools:** You will get wet! and when the salt dries on your clothes, they may crack! But this is fun. Gloves are useful because the salt has sharp edges. The reason why the halite is pink is a bacteria that lives in the brine. In some cases, dealers have added red food coloring to ponds to enhance the color. Halite crystals may also be colorless translucent, white or dirty from mud inclusions. You may also find the pseudomorph burkeite after halite. The matrix in the ledge deposits is nahcolite.



*Rock Currier photo*

Halite showing hopper growth  
Scale at bottom of image is an inch with a rule at one cm.  
Ex. Jim Minette collection (1970s)



*irocks.com photo*

Halite NaCl on Nahcolite NaHCO<sub>3</sub>  
13.5 x 11.5 x 4.8 cm



*Ann Meister photo*

Edith and Gus Meister (1963) collecting colorless or white halite in holes rather than pools.

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According to Wikipedia, Searles Lake is a huge resource of [sodium](#) and [potassium minerals](#) of the [carbonate](#), [sulfate](#), [borate](#) and [halide](#) classes of mineralogy. The manufacture of industrial minerals involves a complex solution mining operation in which naturally occurring brines are pumped from wells completed in several salt beds. The [brine wells](#) range in depth from near-surface to over 100 meters below the salt pan. A network of production wells, injection wells, solar ponds and piping are used in the production and treatment of the brines.

[https://en.wikipedia.org/wiki/Searles\\_Lake](https://en.wikipedia.org/wiki/Searles_Lake)

***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 [msscbulletin@earthlink.net](mailto:msscbulletin@earthlink.net) 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	

\*\*\*\*\*

**WEST COAST GEM & MINERAL SHOW**

**NOV. 11 - 13, 2016**

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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 <a href="mailto:bulletin@mineralsocal.org">bulletin@mineralsocal.org</a> and the payment should be sent to the</p> <p><b>MSSC Treasurer 1855 Idlewood Road, Glendale, CA 91202</b></p>			

\*\*\*\*\*

## Calendar of Events:

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

### OCTOBER

#### October 1 - 2: BORON, CA

Mojave Mineralogical Society  
Boron Recreation Park  
26998 John Street  
Hours: Sat 9 - 5; Sun 9 - 4

#### October 1 - 2: VISTA, CA

Vista Gem & Mineral Society  
Antique Gas & Steam Engine Museum  
2040 North Santa Fe Avenue  
Hours: Sat 10 - 5; Sun 10 - 4

#### October 8 - 9: TRONA, CA

Searles Lake Gem & Mineral Society  
SLGM Show Building  
13337 Main Street  
Hours: Sat 7 - 5; Sun 7 - 4  
Website: [www1.iwvisp.com/tronagemclub](http://www1.iwvisp.com/tronagemclub)

#### October 9: FALLBROOK, CA

Fallbrook Gem & Mineral Society  
Fallbrook Gem & Mineral Building  
123 West Alvarado Street  
Hours: 9 - 4  
Website: [www.fgms.org](http://www.fgms.org)

#### October 15: WEST HILLS, CA

Woodland Hills Rock Chippers  
First United Methodist Church  
22700 Sherman Way  
Hours: 10 - 5  
Website: [www.rockchippers.org](http://www.rockchippers.org)

#### October 15 - 16: WHITTIER, CA

Whittier Gem & Mineral Society  
Whittier Community Center  
7630 Washington Avenue  
Hours: 10 - 5 daily

### NOVEMBER

#### November 5 - 6: ANAHEIM, CA

American Opal Society  
Business Expo Center  
1960 S. Anaheim Way  
Hours: Sat 10 - 6; Sun 10 - 5  
Website: [www.opalsociety.org/](http://www.opalsociety.org/) [Show Page](#)

#### November 5 - 6: RIDGECREST, CA

Indian Wells Gem & Mineral Society  
Desert Empire Fairgrounds  
520 South Richmond Road  
Hours: 9 - 5 daily

#### November 19 - 20: OXNARD, CA

Oxnard Gem & Mineral Society  
Oxnard Performing Arts Center  
800 Hobson Way  
Hours: Sat. 10 - 5; Sun. 10 - 4  
Website: [www.oxnardgem.com](http://www.oxnardgem.com)  
[Show Page](#)

### DECEMBER

#### December 3 - 4: BARSTOW, CA

Mojave Desert Gem & Mineral Society  
Cora Harper Community Center  
841 S. Barstow Road  
Hours: 10 - 5 daily  
Website: [www.mdgms.net](http://www.mdgms.net) [Show Page](#)

### Did you Know:

The Borax mine at Searles Lake, Trona, CA used the famous "20 Mule team Wagons" to haul the borax from the mine. Before the railroad went to Trona, refined borax from the mine was hauled 165 miles from Searles Lake to the nearest railhead in Mojave, CA. by the 20 Mule Team wagons from 1883 to 1889. The wagons were among the largest ever pulled by draft animals, designed to carry 9 metric tons of borax ore each! With an average of 17 miles a day, it took 10 days to make the trip one way to the railroad hub.

The teams were actually made up of 18 mules and 2 horses. Horses were closest to the wagon. They were ridden by one of the two men generally required to operate the wagons and were usually larger than the mules. They had great brute strength for starting the wagons moving and could withstand the jarring of the heavy wagon tongue, but the mules were smarter and better suited to working in desert conditions

## 2015 MSSC Officers:

<b>OFFICERS</b>		
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Webmaster	Leslie Ogg	<a href="mailto:webmaster@mineralsocal.org">webmaster@mineralsocal.org</a>

### **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:** [treasurer@mineralsocal.org](mailto:treasurer@mineralsocal.org)

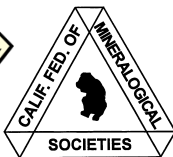
**Website:** [www.mineralsocal.org](http://www.mineralsocal.org) **The Mineralogical Society of California, Inc.**

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**DISCLAIMER: The Mineralogical Society of Southern California, Inc. is not responsible, cannot be held responsible or liable for any person's injuries, damages or loss of property at or traveling to or from any general meeting, board meeting, open house, field trip, annual show or any other MSSC event.**

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

To:



**With Knowledge Comes  
Appreciation**

***Your MSSC  
Bulletin Is  
Here!***



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Questions?

Contact Cheryl Lopez (MSSC Membership) at: [membership@mineralsocal.org](mailto:membership@mineralsocal.org)

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