

Bulletin of the Mineralogical Society of Southern California

Volume 90 Number 7 - July, 2017

The 946th meeting of the Mineralogical Society of Southern California

With Knowledge Comes Appreciation

July 14th, 2017 at 7:30 P.M.

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

Program : Amethyst Deposits of Thunder Bay, Ontario:

Presented by Dick and Mary Pat Weber

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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: Amethyst Deposits of Thunder Bay, Ontario: Presented by Dick and Mary Pat Weber

The largest commercial deposits of amethyst in North America occur near the Canadian border in Southern Ontario. Unlike the more common Brazilian amethyst, this material is unique due to inclusions of red hematite in the outermost layers of the crystals. Dick Weber first visited these deposits in the 1970s while studying for his graduate degree in Geology at the University of MN, Duluth.



Dick has returned several times over the years and on two recent visits the Webers were given special access to the workings of the deposit personally by the mine owners. As part of this presentation they will display some of this highly prized amethyst from their personal collection.

Dick and Mary Pat Weber completed their geologic studies in Minnesota and worked as exploration geologists throughout the U.S. Dick is a graduate of the University of St. Thomas and has a master's degree in Geology and Economics from the University of Minnesota. Mary Pat has a bachelor's degree in geology and an MBA from Pepperdine University. Both began their professional careers at Dames & Moore, an environmental consulting firm. Other professional experience included mineral and petroleum exploration in Denver and on the West Coast.

They are both serious mineral and agate collectors who have been active in local gem and mineral clubs for more than 20 years. Dick served six years as president of the Conejo Gem & Mineral Club. Mary Pat has also served in several board positions and chaired other committees. They particularly enjoy exhibiting their specimens at local shows. In 2014, they received the American Federation of Mineralogical Societies "Rockhound of the Year" award.

Their back-grounds as geologists often allow them special access to mineral deposits and unique geologic areas. In 2007-2008 the Webers took a "walkabout", spending a year exploring the geology of New Zealand and Australia. For more than ten years they have shared their experiences by presenting programs to mineral clubs throughout Southern California.

From the Editor:

Here we are. Half way through 2017. It's been a good year so far for MSSC. BUT, I fear that this society will not survive to 2018 if no one steps up to relieve our current group of officers of their duties for next year. It is unfair of the rest of the membership to just continue as is, expecting the current officers to fill their positions indefinitely. The ongoing success of all groups, clubs and societies like MSSC depends on the participation of the entire membership stepping up where they can to do their share. I never expected my tenure as Bulletin Editor to last five years (so far), but I'm doing what I can to support MSSC. How about you? Linda Elsnau

MEANDERINGS FROM THE PRESIDENT by Ann Meister

Summer came roaring in like the hot breath of a blast furnace. I don't know about you, but I don't mind May gray and June gloom if the area is going to heat up like an oven. And then there are flex-alerts because of power consumption. I think it's going to be a long, hot summer! But don't forget the [annual MSSC Picnic-Potluck & Silent Auction on August 6](#). The theme this year is "Why I love minerals!" See the announcement elsewhere in the *Bulletin*.

If you're flying somewhere or picking someone up at the airport, make sure the temperature allows the plane to take off. Phoenix Sky Harbor and Palm Springs International Airport halted afternoon takeoffs for regional commuter aircraft that can't get sufficient lift in temperatures over 117 degrees. The planes, such as Bombardier CRJ, have a maximum operating temperature of 118 degrees, which was the high in Phoenix.

Don't leave children, seniors, pets or whoever in a hot car. When it's 90 degrees outside, your vehicle can reach 160 degrees in 10 minutes!

Don't go hiking without sufficient water for yourself and your pet. Also, don't exercise during the heat of the day. Early mornings or cooler evenings are better for you and your pet.

Take care of your pets. Don't leave your pets at home without shade and water.

Death Valley National Park is bursting with foreigners at this time of year. They want to experience and have bragging rights to the "balmy" 130+ degrees in the sun, though the "official" maximum on June 20 was 127 degrees. One woman received third-degree burns from walking barefoot for a half mile when she lost her sandals in the Mesquite Flat Sand Dunes. The Park rangers did not have a temperature for the sand, but ground temperatures are frequently higher than official temperatures, which are recorded about 4 feet off the ground in the shade. Ground temperatures above 200 degrees have been recorded in the park.

By the way: I meant what I said last month.

Geology in the News: Why study geology? So that you can participate in the debate of "how did that form?" when looking at interesting features on Mars or other places in space. The Mars Curiosity rover found this – an interesting circle of rocks that was deemed an alien object by some and a natural object by others, perhaps formed by wind or other erosion mechanism.



OTHER (FREE) THINGS TO DO...

The **Von Kármán Lecture** on July 13 and 14 is titled "Five Years of Exploring Gale Crater with the Curiosity Mars Rover," by James K. Erickson, Mars Science Laboratory Project Manager and Dr. Ashwin R. Vasavada, Mars Science Laboratory Project Scientist, both at JPL. Thursday is at the Von Kármán Auditorium at JPL and Friday is at the Vosloh Forum at PCC. Start time is 7 PM.

The **Watson Lectures** at Caltech will restart in October.

The **UCLA Meteorite Gallery** lecture is on Sunday, July 16 at 2:30 PM. The speaker is Prof. David Paige. His topic is "Ice Deposits at the Poles of the Moon and Mercury." The Meteorite Gallery in Geology room 3697 is open with a docent present every Sunday from 1 till 4. The lecture is in room 3656 near the Meteorite Gallery. (New location)

MINUTES of the June 9, 2017 General Meeting

On Friday, June 9, 2017, the Membership meeting of the Mineralogical Society of Southern California (MSSC) was called to order at 7:33 p.m. by President Ann Meister who welcomed all to the 945th Membership Meeting. There were no guests present.

Leslie, Angie and Rudy are wearing our new Tee Shirts. Rudy will have more information right before the program.

President Meister called for any corrections or additions and seeing none, made a call to entertain a motion to approve the Minutes of the May 2017 Membership Meeting Minutes as published in the June 2017 MSSC *Bulletin*. The MOTION was made by Vice President George Rossman, seconded by Programs Chair Rudy Lopez to accept the minutes as published. Ann asked for discussion and seeing none, called for the vote. The vote was taken and the Motion passed unanimously to approve the minutes as written and published.

REGULAR BUSINESS

- Editor Linda Elsnau's computer crashed and she lost some e-mail addresses. If you're not receiving your *Bulletin*, please give her your e-mail address;
- Deadline to submit items for the *Bulletin* is the 22nd of each month;
- Linda has opportunity to publish a serialized article over several *Bulletin* editions. The Board discussed this and decided that these serialized editions, covering several additional pages, will be included in the electronic version of the *Bulletin* but not the snail mail copies due to the additional postage costs. These extra pages, so called "Bonus Pages", will also be available in the on-line *Bulletin* posted on MSSC's website. In the future, as other features present themselves, Bonus Pages will be included in the electronic version of the *Bulletin*;
- The website now has a new Members Only area. Webmaster Leslie Ogg explains that there is a sidebar link to register and post your collecting tidbits, notice or invite for your own personal field trips, etc. The area will be controlled and monitored through Leslie's MSSC webmaster e-mail and because it is members only, no outside posts will be allowed. This website should be up and running shortly;
- The **Picnic Pot Luck will be on August 6, 2017** at the Carter residence. The details will be in the July *Bulletin*. Rudy is doing the meat again, expect good B-B-Q (yum). The theme is "Why I Love Minerals";
- The next Board meeting will be September 10, 2017 at the Carter residence;
- The CFMS and AFMS shows area the Ventura Fair Grounds this weekend and JoAnna Ritchey, Director, will attend. Angie will also be going to represent us.

ANNOUNCEMENTS

- Meteorite Gallery's June 25th presentation at UCLA will be by Dr. Frank Kyte: *ELTANIN, The Largest Meteorite of Which Intact Fragments Are Preserved*;
- The Von Kármán Lecture Series for July will be on July 13th at JPL and July 14th at the Vosloh Forum here at PCC. The topic is, *Five Years of Exploring Gale Crater with Curiosity Mars Rover*.

SHOW and TELL

- Bob Housley brought in some goodies from the Dallas Gem Mine field trip, from about 15 years ago. Mike Grey was on the field trip and they were able to collect "pick up specimens" - just lean over and pick them up! Bob had about 30 lbs. of rocks and started to etch them, but after about the 2nd rock, put them aside;
- Catherine Govaller brought opal and some jade from China, which George says is probably jadeite from Myanmar. The jade is intricately carved and Catherine says she is willing to part with it, for the right price;
- Marek Chorazewicz brought in a tray of items he collected on the way to Northern California Micromount Association (NCMA) event last weekend. The specimens include quartz, fluorite, mica and others. Marek invited us to take a look and choose something after the program;
- Michael Feldman, a student of George Rossman, announced he will be leaving the area as he is graduating and moving on to Stanford to continue his studies. Congratulations, Michael! We're glad you came to our meetings and we wish you much success in your future endeavors.

PROGRAM

Program Chair Rudy Lopez announced that MSSC will now have Tee-Shirts. The blue tees will have our 7-color logo on the back and on the breast pocket. The cost is \$20 for sizes small (S) through extra-large (X-Lg). Larger sizes will cost an additional \$2 for double extra-large (XX-Lg) or \$3 for triple extra-large (XXX-Lg) each. Please put your order in now (send Rudy an e-mail) so we can all wear them to the Picnic!

Rudy reminds us the Picnic is coming up and he will again be doing the major meat cooking/smoking. It is a pot luck (everybody brings something) and we will have a Silent Auction. If you have them, Rudy will pick up Silent Auction donations. Check the July *Bulletin* for more information.

Dr. George Rossman spoke with Rudy about having students/grads from CalTech as speakers. All agreed it was a great idea! Also, there will be a special speaker for the Banquet and the one we had lined up will still present in 2018.

Rudy introduced Mohamed Elghefari, the speaker for our evening's program. Rudy met Mohamed while selling his condo. During their conversations, Rudy found out that Mohamed works for NASA at JPL. He asked Mohamed if he'd be interested in giving a presentation about his work at JPL and he said yes. Rudy's not shy and here is even more proof that Rudy takes his Programs Chair position seriously. Thanks Rudy!

Mohamed Elghefari was a system engineer at JPL where he specializes in cost analysis for NASA's space programs. He spent 15 years in the aerospace industry, including space mission architecture, concept development, cost CBE (Current Best Estimate) for earth orbiting and deep space missions. He's performed independent technical assessments and cost evaluations of various NASA and U.S. Air Force programs. Mohamed also attended PCC about 22 years ago. He has his Bachelor of Science in Physics from UCLA, a Master of Science in Astronautical Engineering from USC and a Masters in Financial Engineering from UCLA's Anderson School of Management.

"In this presentation, we present an historical, data-driven probabilistic cost growth model for adjusting spacecraft cost." Mohamed Elghefari from Reed Integration, Inc. begins **Critique of Cost-Risk Analysis and Frankenstein Spacecraft Designs** by explaining that this presentation is one he gave four years ago at a NASA Cost Symposium.

Mr. Elghefari starts with Cost-Risk Analysis is the "Best Practice": Cost estimating approaching technique is used in aerospace as in other business. There are many factors to be considered for spacecraft. There are three main methods: 1) analogy, 2) parametric and 3) grass roots.

Analogy is the simplest method. It's a comparison to spacecraft and/or mission costs. The mission in the past cost this much and now we want to fly a similar mission so the cost will be approximately the same but it will have to be updated and adjustments need to be made. For example, you bought a car a few years ago now you want to buy a new car but with technology and other comfort updates, the cost would need to be adjusted to pay for the newer model.

Parametric method is very widely used early in the development of any space mission and it's based on technical parameters. For instance, how much mass for the spacecraft, how much power is required, how long is the mission, where is it going, who will navigate the craft and a lot of other contingencies associated with the spacecraft including software development.

Grass Roots approach is to take everything from the smallest part up including screws for panels, wiring, materials, design, hours of engineering and things like that - everything. This is very time consuming and only used when the mission is ready for high fidelity cost estimates.

The estimates are gathered and calculated by one of the methods. Then Bound Interpretations are charted using probability Vs. assumed unknown uncertainty and assumed known uncertainty. The progression continues to the Cost Driver (anything that may cause a change in the cost of an activity). Ultimately, *to give a sense of "confidence" in a point estimate that cost analysts are expected to generate "credible" probabilistic distributions of potential costs that capture uncertainties associated with cost estimating methodology and cost drivers and account for correlation between cost elements.* [Secy Note: from presentation slide.]

Mohamed showed the Cost-Risk Analysts "Best Practice" Mathematically slide of occurrence and cumulative density function. This was dense with formulas to calculate cost risks. Then he also showed the Probability Distribution to Model Uncertainty - the dice bell curve which shows 0% probability on the left, 50% probability in the center (most likely) and 100% probability at the right. Event = roll the dice Sample Space = 36 possible outcomes. Calculations in spacecraft design systems are many times more complex but, as with the dice bell curve, probability is a huge factor, and in spacecraft cost analysis, as well.

Technical design parameters of spacecraft subsystems are interdependent, analytically and implicitly related to one another via key physical relationships, they're not held up during cost-risk simulations which lead to over estimating or under estimating cost. Spacecraft designs based on subjective statistics may not be feasible or may be unbuildable. They may be...eek... eek... eek... Frankenstein spacecraft!! [Secy Note: The

presentation slide of the Frankenstein spacecraft was priceless. It looked like the cross between a '50 Buick and the Endeavor shuttle - clever.]

An example of a cost gone wrong is the James Webb Telescope. The estimates came in at \$800million, the project was a go. But, the costs now are over \$9BILLION!!!! It's not a Frankenstein but estimates Vs. actual can be quite different. Keep in mind, project costs include cost of service (people's time, their salaries), data analysis and other costs, as well as the design, tools, materials, fuel, software, etc.

A solution is the Probability Cost Growth Model. This model does not require a cost driver uncertainty, uses Current Best Estimate (CBE), is based on analogous systems and has other factors, as well. Another solution is called Integrated System Modeling used for advanced concepts and has several parameters involved in the cost estimating for the point designs and construction of the overall system cost.

In order to get to the CBE, Current Best Estimate, as you know it today, there are several things to do: plug figures into the model, develop the cost probability distributions, run the simulations, select the cost-risk CBE, select the cost growth factor distributions, combine the CBE with the cost growth factor distribution, figure the confidence level and lastly, present cost reserves recommendations to achieve percentile or level of confidence acceptable to the project or organization.

Mohamed took some questions such as what methods are used in other countries and how long is the process.

WOW, this was a thought provoking presentation. Of course, there was much more than I could possibly report here. Come to the next meeting to hear another one of these great presentations for yourself. You won't regret it!

Prize: The Door Prize was won by George Rossman. A rare win for Dr. George. Congratulations!

Adjourn: The meeting was adjourned at 8:38p.m. Refreshments and discussions followed adjournment.

Respectfully submitted: Angie Guzman, Secretary (*Apologies in advance for any omissions or misspellings.*)

[Secretary's Note: **Our next meeting will be Friday, July 14, 2017** at 7:30 p.m. at the PCC Geology Building.

List of Upcoming MSSC Events : Mark your Calender!

Event	Date	Comments / Scheduled Program (if known)
Meeting Dates:	September 2017	Dr. Rossman - Quartz crystals
	October 2017	Larry & Leslie - Opals Part 2
	November 2017	Chuck Howser - Flight
	December 2017	Eric Scerri – to be announced
Annual MSSC Picnic	August 6, 2017	Theme: Why I Love Minerals
Board Meeting	September 10, 2017	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.

MSSC BOARD MEETING MINUTES

held **June 4, 2017** at home of Bruce Carter

1. Call to Order and Roll Call

The meeting was called to order at 1:00 p.m. by President Ann Meister;

The following Officers, Directors and Committee Chairs were present: Ann Meister, George Rossman, Jim Kusely, Angela Guzman, Bruce Carter, Jo Anna Ritchey, Geoffrey Caplette, Pat Caplette, Leslie Ogg, Pat Stevens, Linda Elsnau and Rudy Lopez. The following were excused: Bob Housley, Cheryl Lopez and Al Wilkins. There were no guests.

2. Read and approve Minutes of the March 5, 2017 Board Meeting as published in the April 2017 *Bulletin*: President Meister asked for corrections/additions to the Minutes and hearing none accepted a MOTION from

Director Bruce Carter and seconded by Director Leslie Ogg to approve the minutes as written and published. There was no further discussion. The vote was taken and the MOTION to accept passed unanimously.

3. Old Business & Committee Reports:

3.1 President Report (Ann Meister):

(A) Silver Coin CD discussion resulting in need for MSSC to have full disclosure and permission via written contract for this or any other future similar items/projects. Treasurer Jim Kusely will forward the contract he has to Ann. Program Chair Rudy Lopez reports a) The Silver Coin CD is not copyrighted, b) is a PowerPoint presentation and c) we have broken even on CD sales - there are still 30 CDs. Ann reports Paul Adams was displeased that the CD was in general distribution and wants to sell it only within the minerals and micromounts communities (the on-line *Bulletin* has been amended) for fear of misuse or unauthorized profit. Ann received a request for CD from John Sublefsky (apologies for any misspelling) and Paul gave his permission for this sale. Ann will pass the information to Rudy to complete the transaction. Further discussion mentioned past projects including Salton Sea Monogram, technology issues with Avery Label and the Peterson X-Dana project;

(B) Ann reiterated her plea for members to volunteer for MSSC officer/other society positions and the frustration in getting others to get commit to become involved. In that vein, Ann handed out her draft job description for President. *The main point is getting other members to participate* at Board level. Ann said members are showing up to meetings, picnics and to the Banquet so, showing up is not the problem, it's participation! Discussions ensued regarding considering possible resolutions. Finally, perhaps posting Officer and Directors duties from the Operating Rules and/or By-Laws in the *Bulletin* and/or giving a brief description at the Picnic would help.

3.2 Treasurer's Report (Jim Kusely)

The Treasurer states that we are doing well. Most of our investments are in 30-year Treasuries at 3%. However, our projected expenses appear to be higher than our anticipated income.

Discussions regarding raising more funds at the Picnic's Silent Auction, perhaps donations, other income. A tip jar was suggested at the picnic and Bruce Carter will make a pitch for donations. Angie will get the jar. Other discussions regarding investments in stock vs. Treasuries. Director Pat Stevens said that our international investments are good, but we have not been able to get in touch with our new broker and we may need to reallocate funds based on the changing market. Pat will contact her.

3.3 Federation Director Report (JoAnna Ritchey)

JoAnna reports she will be attending the combined CFMS/AFMS Convention in Ventura this weekend (she will miss our membership meeting on Friday, June 9, 2017). Anyone wanting to attend may find MetroLink easiest travel, they have a stop right at the fairgrounds entrance.

3.4 Membership Report (Cheryl Lopez - excused)

Membership Report given by Rudy Lopez who conveys that all is good and our membership has been stable lately.

3.5 Bulletin Editor Report (Linda Elsnaue)

Linda reports (A) that because of her recent computer crash, she needs email addresses of individuals the Board feels should be receiving a Complimentary MSSC *Bulletin* (such as PCC, other organizations, museums, etc.). Pat Stevens will give her listing of school superintendents.

(B) Discussion regarding Bill Weiss' email - his *Bulletin* is coming back; She will contact individuals suggested to see if a more current email address is available.

(C) Mineral News regarding request to have MSSC publish serialized Himalaya Mine article (50 pages) by author Mark Ivan Jacobson. There was discussion including limitations, permissions, website versions of the *Bulletin* and other possible so called "Bonus Content" items or projects in the future. It was determined that articles of this type are too long to publish in the *Bulletin* as regular content, but could be included with the email bulletins at no additional cost to the Society. Also, specific to this serialized article, the Editor indicated it would be published possibly beginning August or September 2017 over a period of perhaps 5 or so installments and will include a disclaimer that it may not be reprinted without expressed written

consent/permission from Mr. Jacobson. Linda will contact him to confirm the conditions and limitations of using his article.

A motion made by MSSC Vice President George Rossman and seconded by Director Bruce Carter that MSSC opens the possibility of accepting additional bonus material of various types, such as the Jacobson article, to include with the *Bulletin*, for email members only. The Motion was put to a vote and was unanimously approved. Linda will contact Jacobson to ensure all is good with him. Additionally, *Bulletin* expenses are ok. Articles and materials are always welcome. Thanks goes to Rudy for his recent contributions. Leslie will submit a write up for the *Bulletin* about the website's Member Area.

3.6 Webmaster Report (Leslie Ogg)

Ann compliments Leslie on how good our website looks. Great job!

Leslie reports: **(A)** We already have a couple of hundred hits on our new website;

(B) She will call next week to get money back from former web host iPower;

(C) Our website has a new members-only section. Leslie explains that members only section will have certain restrictions, require a login with a password and will provide a place where members can post announcements about field trips, collections and collecting, post photos and any other society related activities. Discussion and suggestions followed regarding protections and controls for society members, possible new section for donations and one for By-Laws and Operating Rules. The members only area is not for general distribution.

BREAK: Thanks to the Carters for the hospitality and refreshments!

3.7 Programs Report (Rudy Lopez)

Rudy made the following announcements: **(A)** Our annual installation banquet will be January 13, 2018 with increase in cost of \$2.00/person;

(B) Donations can be requested/encouraged on the web, in the *Bulletin* and at the Picnic (August 6, 2017);

(C) Tee-shirts showing our logo on the back and on the front pocket to help identify MSSC when we participate at events (Urban Fest, Science in the Park, conventions, etc.). Rudy and Cheryl created samples using iron-on transfers on blue Tees. He's researched shops that do this work and finds a minimum order of 24 shirts at approximately \$18 - \$20 each using our 7-color logo. Larger shirts may be slightly higher; once ordered, it takes 1 1/2 weeks to receive them. He will check further and Pat Stevens will check a source he knows. The samples went to Leslie Ogg, Angie Guzman and Pat Stevens with instructions to model at the Membership Meeting on Friday;

(D) Other branding -table banner for events. Rudy's research shows 6-foot and 8-foot table banners with MSSC 7-color logo are \$169 and \$175 respectively. Discussion about item (C) and (D) with the following MOTION being made by Pat Stevens and seconded by George Rossman: Authorize Rudy to purchase two (2) 8-foot banners. Ann asked for discussion and hearing none, called for the vote. The vote to approve purchasing two (2) 8-foot banners with MSSC's 7-color logo passed unanimously. Rudy will do a write up for the *Bulletin*;

(E) Speakers: Ann announced that Bill Besse may be available to speak at our Installation Banquet, he would also install the officers. Discussion followed about expenses and making Bill an Honorary Member, George points out that honorary members are no longer active. This portion was tabled pending further research. Rudy announced we have speakers scheduled through May 2018, with a February slot available.

3.8 PMC Chair Report (Bob Housley/Al Wilkins (both excused))

President Ann Meister announced the 2018 Micromount Conference will be held January 26 - 27 and the field trip (TBA) will be on Sunday the 28th. Discussion about a pre-PMC meeting, Rudy mentioned Marek has a [PMC] laptop and a concern that there is no repeat of last year's conference confusion.

3.9 Picnic planning (August 6, 2017-Carter residence)

General discussion regarding flyer (Ann will prepare), RSVP by 7/30/17 (to Cheryl Lopez), theme: Why I Love Minerals (officers will give a brief description of their duties), pitch for donations (Bruce), donation jar (Angie will provide), Silent Auction (everyone invited to participate, Pot Luck items for at least 8 people is

suggested and other (cups, plates, cutlery-Ann). The main food will be brought by Rudy, including cook and take-home trays, sterno units etc. MOTION made by Ann and seconded by Angie for Rudy's Picnic Budget not to exceed \$350. Seeing no further discussion, the vote was called and approved unanimously by the Board.

4. NEW Business

Dr. Rossman announced there are now 5,276 known minerals.

5. NEXT MEETING: The next Board meeting will be September 10, 2017, 1:00 p.m. at the Carter residence.

6. ADJOURN: The meeting was adjourned at 3:53 p.m. Thanks again to the Carter's for allowing us into your home and thanks to all who attended today.

Respectfully submitted: Angela Guzman, Secretary

2017 MSSC PICNIC - POTLUCK & SILENT AUCTION

Sunday, August 6, 2017

Theme: Why I Love Minerals

Time: Noon to 4:30 pm (we'll eat at 1:00 pm.)

Where: Home of Bruce and Kathy Carter, 146 Highland Place, Monrovia, CA

Food: Potluck (see below)

Drinks: Water provided. Bring other beverages as you prefer.

RSVP: **Please RSVP by August 1 (Let us know what food you will bring or if you need an idea)**

Cheryl Lopez –

email: membership@mineralsocal.org

Please RSVP so we know how many are coming and how many tables and chairs we need. If you call, there is an answering machine so please **CLEARLY IDENTIFY YOURSELF** and **HOW MANY ARE IN YOUR PARTY** and **WHAT YOU'RE BRINGING**.

THE LOCATION

Bruce and Kathy's spacious home is just north of Foothill Blvd and west of Mayflower Ave in Monrovia. Street parking is available. They have a beautiful back yard with shade structures and an outdoor kitchen. If it is too hot, then we can easily move into the air-conditioned house.

Driving Directions from the 210 Freeway: Exit the 210 at Huntington Drive and go east to Mayflower Ave. Turn North to Foothill Blvd. Then go West one block to Highland Place. North to #146.

THE POTLUCK

MEAT: Rudy is ready to prepare his out-standing 5-star BBQ including his special seasoned pulled pork and brisket! He has 3 smokers ready to go. The smoking process takes 2 days, 14 hours for the pork shoulders and 12 hours for the brisket.

There is also a gas BBQ grill available if you would like to bring your own meat to grill.

If you are not contributing to the potluck, **you can make a monetary donation in lieu of food.**

SALADS, DESSERTS, OTHER: **Please bring your own special potluck offering that will feed 6-10 people.**

Suggestions: a salad (macaroni, potato, vegetable or other; from the deli or homemade), a veggie tray, grapes, fruit salad, chips & dip, salsa or guacamole, a jar of pickles or a can of olives; cookies, pie or other dessert item, (Leslie is bringing her Hawaiian Shave Ice machine and syrups) or anything edible. Let's see what scrumptious goodies turn up this year!



MSSC will supply plates, cups, napkins, plastic cutlery and will also supply water and ice. It is suggested you bring any serving utensils your contribution requires. Be sure to mark them and your serving dish with your name or initials so you're sure to get them back.

THE SILENT AUCTION

Returning to a former tradition of MSSC, we're having a silent auction at our summer social event. Please bring items that are related to our hobby – minerals, fossils, lapidary, gems/jewelry, geo-science books & magazines, mineral art & posters, and mining memorabilia. Also, appropriate would be serviceable collecting or camping gear, and other items that don't seem to fit at the banquet. What's in your garage?

How to Access Members area of Website

We have a new section on our website that is for members only. So far, we have not posted anything in the area. In the future, we will store field collecting reports, and other members only content.

To access this area, go to our website: <http://www.mineralsocal.org/>

1. click on the word **Members**, under the **Members Only** heading. (page sidebar on right)
2. click on **join us**.
3. now click the **Join Now** button.
4. complete the registration form.
5. click **register**
6. an email will go to the webmaster who will vet all applicants.
7. if you are accepted for registration you will receive an email from "Word Press"

Dear xxxxxxxxxxxxxx

Your registration is now complete!

Registration details:

Username: xxxxxxxxxxxxxx

Password: xxxxxxxxxxxxxx

Please login to the member area at the following URL:

<http://www.mineralsocal.org/membership-login/>

Thank You

8. a link on the email will send you back to the log in page, to see the private member area click **Members** in the sidebar.

MSSC T-SHIRTS

Rudy has already received orders for 24 t-shirts. He had only anticipated ordering 24. This is great news! Please send Rudy an e-mail and let him if you want 1 or more t-shirts soon, so he can order them prior to the picnic.

WE HAVE DESIGNED T-SHIRTS FOR MSSC.

They are high quality Hanes beefy tees, 100% cotton, pre-shrunk, blue with logo on front and back.

The Prices Are

\$20.00 Each, Sizes	S, M, L XL
\$22.00 Each, Size	2XL
\$23.00 Each, Size	3XL
\$24.00 Each, Sizes	4XL, 5XL



Please contact Rudy Lopez if you would like to have a t-shirt. He will need your size and number of t-shirts you want. Please make your checks out to MSSC and mail to:

**MSSC PROGRAM DIRECTOR
1301 LEONARD AVE.
PASADENA, CA 91107.**

If you request your order to be mailed to you, there will be an additional charge for mailing. Hopefully all will have one for the annual picnic.

SEND ALL TEE SHIRT ORDERS TO: programs@mineralsocal.org

Trivia Subject: The number of discovered near-Earth asteroids (NEAs) now tops 15,000

WOW !!!! and 30 new ones discovered every week. May's speaker Al Rubin said there were only 10,000 NEAs. That was back in 2013. Only 27% of the big ones have been discovered so far.

Ride Share Listing

Can You Provide A Ride?

Would You Like Company On The Drive To Meetings?

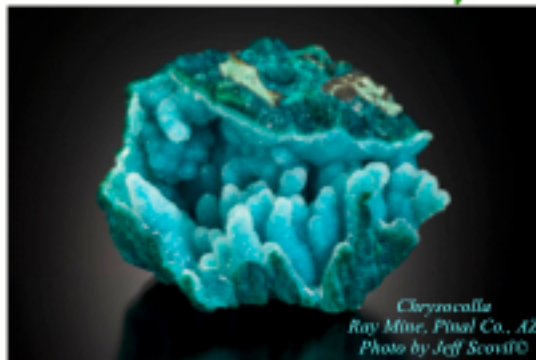
We have heard from several of our members that they would like to ride-share with someone to the meetings. We will list the names, general location and either a phone number or an email address of anyone who would like to connect for a ride-share. If you would like to catch a ride or would like company for the trip, let me know at msscbulletin@earthlink.net 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

November 10-12, 2017

Minerals ♦ Fossils
Gemstones ♦ Jewelry
Meteorites ♦ Beads
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Lapidary
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Chrysocolla
Ray Mine, Pinal Co., AZ
Photo by Jeff 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	
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 1855 Idlewood Road, Glendale, CA 91202			

Calendar of Events:

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

JULY

July 8 - 9: CULVER CITY, CA

Culver City Rock & Mineral Club

Veterans Memorial Auditorium

4117 Overland Blvd

Hours: Sat 10 - 6; Sun 10 - 5

Website: www.culvercityrocks.org

AUGUST

August 4 - 6: NIPOMO, CA

Orcutt Mineral Society

Nipomo High School

525 Thompson Avenue

Hours: Fri-Sat 10-5, Sun 10-4

Website: www.omsinc.org

Featured Mineral: Pectolite :

Formula: $\text{NaCa}_2\text{Si}_3\text{O}_8(\text{OH})$

Crystal System: Triclinic

Hardness: $4\frac{1}{2}$ - 5

Name: Named in 1828 by Franz von Kobell from the Greek $\pi\eta\kappa\tau\omicron\varsigma$ for "well put together", in allusion to its resistance to pulverization.

Member of: Wollastonite Group

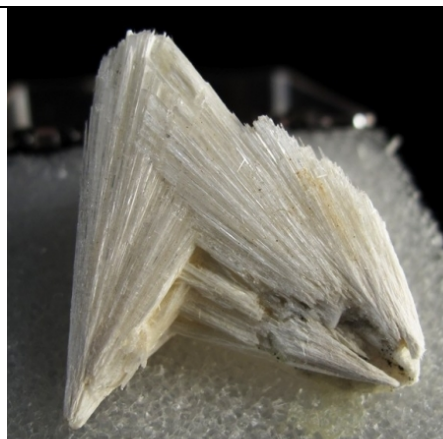


irocks.com photo

Pectolite (Var: Larimar) :

$\text{NaCa}_2\text{Si}_3\text{O}_8(\text{OH})$

Locality: Filipinas Larimar Mine, Los Checheses, Sierra de Baoruco, Barahona Province, Dominican Republic 8.2 cm x 6.3 cm x 3 cm



irocks.com photo

Pectolite : $\text{NaCa}_2\text{Si}_3\text{O}_8(\text{OH})$

Locality: Paterson, Passaic Co., New Jersey, USA
3.1 cm x 2.9 cm x 2.4 cm



irocks.com photo

Pectolite : $\text{NaCa}_2\text{Si}_3\text{O}_8(\text{OH})$

Locality: Jeffrey Mine, Asbestos, Les Sources RCM, Estrie, Québec, Canada
3.5 cm x 1.8 cm x 0.8 cm

2017 MSSC Officers:

OFFICERS		
President	Ann Meister	president@mineralsocal.org
Vice President	George Rossman	vicepresident@mineralsocal.org
Secretary	Angie Guzman	secretary@mineralsocal.org
Treasurer	Jim Kusely	treasurer@mineralsocal.org
CFMS Director	Jo Anna Ritchey	
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2016--2018	Leslie Ogg	
2016-2017	Pat Caplette	
2016-2017	Pat Stevens	
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Membership	Cheryl Lopez	membership@mineralsocal.org
Micro Mount Conf. Chairman	Al Wilkins	
Program and Education	Rudy Lopez	programs@mineralsocal.org
Publicity	Linda Elsnau	bulletin@mineralsocal.org
Webmaster	Leslie Ogg	webmaster@mineralsocal.org

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

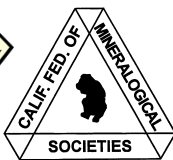
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MSSC Bulletin Editor
3630 Encinal Ave.
Glendale, CA 91214-2415

To:



**With Knowledge Comes
Appreciation**

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