

Bulletin of the Mineralogical Society of Southern California

Volume 87 Number 9 - September, 2014

The 913th meeting of the Mineralogical Society of Southern California

With Knowledge Comes Appreciation

September 12th, 2014 at 7:30 pm

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

***Program : Thomas Bard: Factors That Led to the Discovery of
Oil at Well "Ojai" 6 in 1867***

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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: Thomas Bard: Factors That Led to the Discovery of Oil at Well “Ojai” 6 in 1867
Presented by: Stephen P. Mulqueen,**

This lecture will include four main subjects; the life of Thomas Bard, natural petroleum seeps, early cable-tool drilling technology and the drilling of wells by the California Petroleum Company in the Ojai Valley and Upper Ojai Valley beginning in 1865.

Stephen Mulqueen is a geologist who resides in Ventura. Steve earned a Bachelor of Science degree in geology from Cal Poly Pomona in 1978. During his career, he has worked in positions related to the mining industry and the petroleum industry. From 1982 – 2009, Steve was employed by the State of California, Division of Oil, Gas & Geothermal Resources and also for the California State Lands Commission. From 1978 to 1979, Steve worked for American Borate Company in Death Valley and between 1979 and 1982 for Kerr-McGee Chemical Corporation at Searles Dry Lake in Trona.

While attending college, Steve developed an interest in both mining history and petroleum history. He is currently semi-retired and keeps busy writing professional articles, conducting field trips and presenting lectures related to history and geology.

List of Upcoming MSSC Events : Mark your Calender!

Event	Date	Comments / Scheduled Program (if known)
Meeting Dates:	October 10, 2014	Justin Zyzzx - Minerals of Palos Verdes
	November 14, 2014	Dr. Sarah Milkovich - The Curiosity Rover at 1 year
	December 12, 2014	George Rossman - What makes gem of the year the color it is / Why Peridot is green
Annual Banquet	January 15, 2015	Denise Nelson - Giant Amethyst
Board Meeting	September 14, 2014	At the Carter residence, please rsvp to Bruce if you plan to come

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

From the Editor:

Here we are in September! Where does the time go? School is back and we look forward to seeing some of the PCC Students and instructors at our upcoming meetings. Their invitation to join us is always open and ongoing. As always, I’m asking for the help of the members to keep our bulletin interesting for everyone. Any information you would like to share about the study, collection and enjoyment of minerals is always welcome for our bulletin. While I enjoy writing for the bulletin, I need your help. Linda Elsnau

MEANDERINGS FROM THE PRESIDENT by Ann Meister

On a lazy August afternoon, about 30 people from MSSC and Monrovia Rockhounds enjoyed a picnic/potluck in Bruce and Kathy Carter’s backyard. It was about 95° and 35% humidity, but we all had fun anyway. (Leslie’s shave ice definitely helped to keep us cool.) Our meanders down the memory lane of programs and speakers brought forth a number of observations and sparked a delightful discussion. Thank you to all for the delicious and abundant food, especially Rudy’s ribs (hmm, sounds like a good name for a restaurant). A special thank you to all who helped setup before and clean up after. We missed too many of our MSSC friends and hope that you can attend next year.

Now on to business: It’s that time of year when we need volunteers to serve the Society. In October, we will need a slate of officers and board members to serve in 2015. Most of our current officers and board members have served for more than the normal term of 1 or 2 years and I thank them for their exceptional service. Who will be their replacements? We can’t expect them to continue serving forever. And I would like for current volunteers to try to find a replacement for their position if they do not want to continue to serve. It’s not difficult or time consuming, and assistance from past officers and board members is available for the asking. The Board meets quarterly – that’s four times a year. Come as a guest to our upcoming Board Meeting on Sunday

afternoon, September 14 (at Bruce Carter’s home from 1:00 to 4:00) and see what it’s all about. Please let me know if you would like to attend. **Please volunteer.** Contact Ann Meister at president@mineralsocal.org.

Intriguing “**Geology in the News**” – Two more holes have been found in Siberia. The question now is are they collapsed pingos? Are they sinkholes in the thawing permafrost? Are they the result of methane explosions due to the thawing permafrost? Or what? There’s a great article on the *Scientific American* website. No one knows how long these holes have been there, so they are looking at the archived high-resolution satellite images to discover when the craters first appeared. That sounds like a tedious job.

DON’T FORGET TO LOOK THROUGH YOUR STUFF FOR SILENT AUCTION DONATIONS FOR THE JANUARY BANQUET.

WOULD YOU LIKE TO SERVE AS AN OFFICER OR DIRECTOR OF MSSC?
It’s that time of year when we start searching for new blood for officers and board members. If you are interested and available to serve the Society, please read the “Meanderings” and contact Ann Meister.

MINUTES of the August 10, 2014 Picnic/Meeting

The 912th meeting of the Mineralogical Society of Southern California (MSSC) was held on Sunday, August 10, 2014 at MSSC’s Annual Picnic/Swap at the home of Cathy and Bruce Carter. President Ann Meister presided and brought the picnic meeting to order at 1:15pm.

Welcome to all in attendance at our Annual Picnic and Swap. We have a great turnout and hope everyone has a good time. We will dispense with Regular Business at today’s meeting. There is plenty of good food here, Rudy’s famous ribs and tri-tip; there are salads, chips, veggies, sodas, water, cakes, cookies, sherbet and a lot of other goodies. All yummy! Everyone is invited to come up and eat.

Today’s theme: *Meander Memory Lane with Your Favorite Programs and Speakers* . The meeting is turned over to our host, Bruce Carter.

Bruce started off by showcasing samples from a talk he gave in the 1970’s which included pelona schist, tourmaline, chrome rich micas and others specimens; story and memory contributions also by Rock Currier (Jewel Tunnel Imports) and his Bolivian Death Switch hot water heater shower and don’t forget the suitcases full of food carried by the Russians; Ann mentioned that she experienced the Death Switch showers while she was in Brazil; Janie (MoRocks) talked about an elderly member who visited Jewel Tunnel and burst into tears at the beautiful crystals and rocks she saw there; Steve talked about the La Brea Tar Pits parking garage oil seep and other oil seeps where housing developers built and the oil is still coming up to the surface. Others spoke of field trips and upcoming talks and meetings: Steve is MSSC’s speaker in November and will talk on the first oil well in Ventura County; MoRocks’ September meeting will have gravel from Montana that can be sifted for sapphires (check their website). Lots of “side” stories at the tables, too!

All in all, it was an afternoon of great sharing and good memories. The food was wonderful, the company could not have been better and the weather cooperated by being absolutely lovely.

Leslie set up her shaved ice machine and was immediately swamped as she opened for business. It was the perfect ending to a beautiful day. Thanks everyone. See you next year! Meeting adjourned 3:00pm.

Respectfully submitted by: Angie Guzman, MSSC Secretary. *Apologies in advance for any misspelled names/Angie.*

MSSC BOARD MEETING MINUTES: Sunday, 6/8/14 1:00 pm at the home of Bruce Carter.

1. Call To Order at 1:03 p.m. by President Ann Meister.

Roll Call:

Board: Ann Meister [x] George Rossman [x] Jim Kusely [x] Angela Guzman [x] Bruce Carter [x] Jo Anna Ritchey [x] Geoffrey Caplette [excused] Pat Caplette [excused] Bob Housley [x] Leslie Ogg [x] Pat Stevens [x]. *Committees:* Linda Elsna [x] Rudy Lopez [x] Cheryl Lopez [x] Al Wilkins [x].

Visitors: Fred Elsna [x] *Others:* N/A

2. MINUTES: Read & approve minutes of the March 23, 2014 meeting as published in the May 2014 Bulletin. *Motion* by Joanna Ritchey and Seconded by Bruce Carter; Vote was unanimous to approve.

3. OLD BUSINESS

3-1. President's Report and associated questions

- a. Thanks to Rudy and Cheryl Lopez for brochures, will need some corrections before we can distribute; Thanks to Angie Guzman and Pat Stevens for helping at the CFMS show; Ann was there all three days; We may have some return members; Gave out June Bulletins to several people who stopped by at the show.
- b. Document control: we need a control person for pamphlets, member forms, By-Laws, Operating Rules and Pacific Micromount distribution/legislation.
- c. Items for discussion: Should MSSC have another show?; Our 501©3 status; Pacific Micromount Conference; Women in Mining (CFMS show exhibitors) and Educational Programs in the future.

3-2. (a) Treasurer's Report and associated questions (Jim)

Jim Kusley reported on our finances including a handout on portfolio summary; According to County of San Bernardino, we cannot make sales of any kind at their facility during Pacific Micromount Conference; Tax forms are all completed; Need to correct Operating Rules regarding start of our fiscal year. *NOTE: This, and By-Laws if necessary, needs to be amended at the next Board Meeting.*

(b) PCC donations (Bruce). [Discussion was tabled from last meeting.]

Bruce gave a handout, PCC Geology Scholarships, June 2014, which listed the scholarships and funding geology students can earn at Pasadena City College. There are 4 funds from which cash and/or field instruments are given. If the winner is on financial aid, the scholarship does not change their status but lessens the financial aid scholarship. There was discussion about: (a) students knowing funding comes from MSSC, (b) Dana Club participation and (c) MSSC participation: i.e., \$50 donation in name of deceased members. *NOTE: "What is our role" is to be on the Agenda for the next Board Meeting.*

3-3. Federation Report (Joanna)

CFMS June 2015 will be in Lodi. The September 2016 conference will be in Placerville and there will be a world-wide gold mining contest; Joanna mentioned "Rock hound of the Year"; the CFMS website is not up to date but Joanna will check to see what can be done about updating MSSC information; some discussion about insurance for clubs.

3-4. Membership Chair report (Cheryl)

We have 77 households with membership cards; By-Laws are being sent; need ideas for increasing membership; recruitment at PMC was 6 (per Jim); Welcome committee for new members. Cheryl is working closely with Jim to ensure members get all information.

3-5. Bulletin Editor report (Linda)

Always looking for articles/contributions to the Bulletin, even a couple of paragraphs can be e-mailed: personal stories, field trips, etc. Discussion of calendar in the Bulletin, though it is on the website. Speaker list can be put on website.

3-6. Webpage Status (Leslie)

When should the Bulletin be posted? (Discussion tabled at last meeting.) The Bulletin can be posted as soon as it is received by the webmaster. Leslie reports that the web status is great and gave a handout on the year-to-date number of hits, visitors, bandwidth, etc.

3-7 PMC Chair report (Al Wilkins) (Discussion tabled at last meeting.)

Al reports that there are 10,000+ micromounts; advertising is fantastic; there are younger people coming in on Saturday; not certain about the location of 2015 conference – possibly at PCC men's gym; there was a question about seed money; personal/club sales at San Bernardino County facility is a problem; the 2015 Pacific Micromount Conference will celebrate its 50th anniversary!

PMC Treasurer at conference – should this be Jim's problem? Who collects at door?: There was discussion regarding this matter. The solution is a call for volunteers to help out, several Board Members said they would be willing to help.

Another discussion regarding signage: advertising signs for PMC to be placed at annual banquet/auction event. Also signs for membership table.

3-8. Program Chair report (Rudy)

Rudy Lopez reports that he has speakers scheduled until May 2015. November 2014 will be on Mars, in fact double booked Mars: Nov' 14 NASA (Dr Malcovich) and Feb '15 at CalTech Mars presentation. There was discussion regarding who we want to invite and possibly advertising on the PCC digital sign located on Hill Street in front of the campus. Also, Joanna asked Rudy for a list of the speakers he has lined up for MSSC.

3-9. Meeting Schedule and Parking

“Activity Request” is signed off by Dana Club advisor, Dr. Bryan Wilbur; need list of meetings for the coming year for PCC; print MSSC parking “permit” cards for members so parking citations will not be issued by PCC police when we have our Friday night meetings.

3-10. Trailer – inventory (Geoff & Jim)

The MSSC trailer, show cases and other member items was moved from Geoff's to a rental, Mt. Olive Storage in Duarte. The move was coordinated by Jim and Geoff. Jim is checking to see who may be interested in purchasing the items.

3-11. MSSC's 2014 Picnic & Swap August 10, 2014 at Bruce & Kathy Carter's backyard

??? Any special theme or program ??? (Last year 900th meeting):

RSVP is required by August 8, 2014. Call or text Cheryl Lopez at (626)351-6283.

Food: Rudy is bringing meats, Pat is bringing hamburgers and buns, Leslie is bringing the ice machine for sno-cones, Angie and Jim will bring the sodas, we need salads and desserts;

Theme suggestions: How you got started, Rock talks from the 70's, celebrating your favorite programs.

Other: old Bulletins, photos, memorabilia.

Invite: Fallbrook, Monrovia Rockhounds, Gem & Mineral Council, PCC, etc.

3-12. Show: Pacific Micromount Conference

Suggestions for PMC 50th show: PCC men's gym, Arcadia Masonic Lodge.

4. NEW BUSINESS

4-1. Activity proposals

List of museums in the area for field trips: L A County, Jurupa (fossils), Petaluma, Santa Paula, Bowers, etc.

Angie mentioned badges, vests, patches, T-shirts seen at the CFMS show and wondered if MSSC had any or wanted to get some. Ann mentioned the MSSC has pins and will put some in the box for regular membership meeting drawings.

NEXT MEETING: Date: September 14, 2014.

ADJOURN: Meeting adjourned at 4:03 p.m.

ACTION ITEMS:

Minutes: Motion to approve Minutes;
3-2 (a) and 3-2 (b) for September 2014 Agenda.

Respectfully submitted by: Angie Guzman, MSSC Secretary

MSSC Display Case and Trailer Sale

Rather than incur the costs using public storage and because it's been a number of years (2007) since our last show it was determined by the board last June to sell the MSSC's trailer and remaining display cases and hardware. It's been cared for and stored for the last 8 years by the MSSC's past President Geoff Caplette. Geoff's business has grown and he could no longer provide us with free storage.

I was given the task of finding a new home for our trailer which by-the-way was purchased in 1986 and then retro fitted to hold over 130 cases by our past Facilities Chair Warren Haby.

Going forward I remember a year or so back that Bob Reynolds an MSSC Honorary Member was interested in supplying the High-Desert Nature Museum with some of our surplus cases. I emailed Bob and he said, "Yes, I would be interested in buying 4 cases." I replied saying it's too much for me to drive 60 miles to the storage area for 4 cases, how about all the remaining 24 cases? It wasn't a day when he relayed to me that the Antelope Valley Gem & Mineral Club would take all the cases. "The trailer has all new tires & brakes. How about the trailer too?" AVG&M came down to first inspect the trailer and wanted it on the spot although I had to say someone else first wanted the trailer so I have to give them a 72 hour notice first. With no response from the first interested buyer, the trailer was sold to AVG&M as well.

A great new home for MSSC's cases and trailer: Antelope Valley (founded in 1951) has never had their own cases yet alone a trailer, now they do. Antelope Valley will also be providing all the other high-desert clubs who up to now had to rent cases the opportunity to display not only minerals but also all their fine handmade lapidary items and more.

Respectfully, Jim Kusely – MSSC Treasurer.

How To Determine Specific Gravity Without A Balance Scale

By Linda Elsna

There was an interesting discussion recently on mindat.org that gave an simple method of determining the specific gravity of a mineral specimen even if you don't own a specific gravity balance. I found the idea to be fascinating and decided I should share it with you here. As I have never been formally trained in mineralogy or geology, I didn't know you could do this informative test without formal equipment!




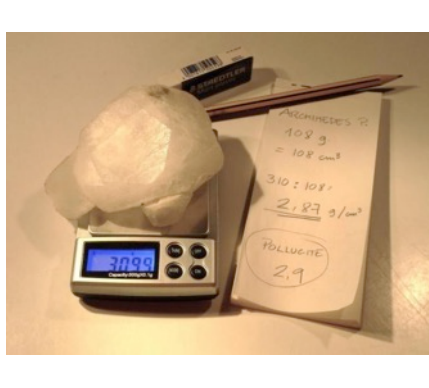
First, what is Specific Gravity? A basic test to used to identify an unknown mineral, it is the ratio of the density of the mineral to the density of water. Density is equal to mass divided by volume

Normally, this measurement is done by weighing the mineral sample on a balance. The balance measures the force exerted on the sample by gravity and reads it out as mass. The slight difference due to displacement of air is so small that it can be ignored. A beaker of water is placed on an electronic balance, which is tared to zero. The sample is lowered into the water on a thin string without touching the beaker. The balance then reads the volume in cubic cm. The mass is then divided by this value to give the density. Basic assumptions when the measurement is obtained are that the density of the water used is taken as 1.0 This is the density of pure water around 4 C. Thus the purity and temperature of the water can affect the results. The effect of this factors is usually negligible. As tap water contains dissolved air that can cause bubbles on the surface, it can increase the apparent volume, it is best to boil the water first to prevent this.

Archimedes principle states that the water exerts an upward buoyant force on the sample equal to the weight of water displaced. This is considered equal to the volume in cc. Newton's Third Law also states that the water exerts an equal force on the balance. The reading on the balance therefore is considered equal to the volume in cc. Since minerals are not pure, the measured density of a species always has a range of values. Unless the difference between species is very small, this technique is a good means of identification

When testing is done on very small samples, it is often recommended that a “heavy liquid” is used. (Heavy Liquids or High Density Solutions are liquids that have a density much higher than water) Since these “heavy liquids” are usually toxic and/or carcinogenic, I would prefer to recommend that distilled water be used instead.

So, how do you get the specific gravity without a balance? All you need are a fairly accurate digital scale, a small container for the water, some fine string and a sample of the mineral to be tested. The mineral sample should be as pure as you can get it to be, no matrix or associated minerals.

			
<p>1. Weigh the specimen on the scale (while it is still dry) and write down the weight. Here, the scale reads 309 g</p>	<p>2. Place the beaker half-full of water on the scale and press the button "tare" to put the score to zero. The scale now shows zero grams</p>	<p>3. Add the specimen hanging from a string without touching the bottom or sides. The display will indicate the weight of water volume displaced by the specimen. As density of water is 1, the display will indicate the specimen volume in cubic centimeters. The scale shows 108 grams</p>	<p>4. Divide the specimen weight in grams by the volume in cubic centimeters to obtain density value. Archimedes Principal states that 108 grams = 108 cubic cm = specimen volume. Therefore, 310 g divided by 108 = specific gravity of 2.87 g/cm³ Pollucite specific gravity = 2.9</p>
<p><i>Photographs used with permission of the photographer: José Zendrera from his mindat message board comment.</i></p>			

The result, as you can see, is very accurate, 2,87 to 2,9. Thank you Archimedes!

Some additional comments on this procedure from the discussion on mindat.are:

1. It helps to add a drop of dishwashing detergent to the water to wet all surfaces, and to eliminate bubbles.
2. Getting the mass and volume of specimens is often fraught with errors, especially as the specimen gets smaller. It is a good idea to determine the Specific Gravity a number of times (as much as 5 or 7 times). The average of the results can help eliminate errors. Even then, there may still be errors.
3. Use the smallest lightest possible container for the water, as small as you can use without the specimen touching the sides of the container. And use as large a specimen as you can get a pure sample of. If not... a tiny sample in a big cup of water may result in your numbers being way off. Using the smallest and lightest possible water container gives better accuracy. Electronic balances do less well the heavier their load, so if you have a 1cm rock in a big cup of water, your Specific Gravity calculation is likely to be way off. *Theoretically*, the physics is the same, but in actual practice, keeping a smaller ratio between specimen weight and water + container weight will get you a better result

If you would like to see the discussion in its entirety, it is here: <http://www.mindat.org/mesg-100-332642.html>

Featured Mineral: Pseudobrookite

Formula: Fe₂TiO₅

Crystal System: Orthorhombic

Name: From the Greek ψευδής, false, and brookite since its resemblance to brookite is misleading

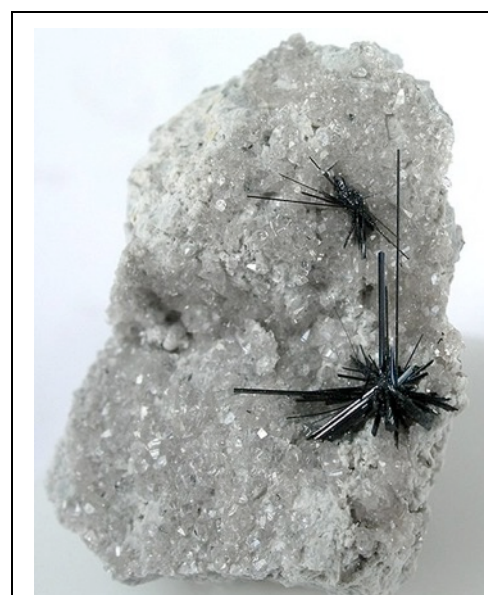


irocks.com photo

Pseudobrookite

Locality: [Thomas Range, Juab Co., Utah, USA](#)

1.5 cm x 0.4 cm x 0.2 cm



irocks.com photo

Pseudobrookite on Quartz

Locality: [Topaz Mountain, Thomas Range, Juab Co., Utah, USA](#)

2.8 cm x 2.3 cm x 1.8 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 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

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Fluorite - Angulize Quarry, OH
Photo by Joe Buddo

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			

Did you know?

Other terms that are often used to describe mineral specimen are:

Descriptions are as defined in Manual of Mineralogy, 15th edition, by: Dana & Hurlbut; published in 1941



irocks.com photo

Geode

A cavity has been lined by the deposition of mineral material, but is not completely filled. It is often banded owing to successive deposition of material. the inner surface is frequently covered with projecting crystals.

Quartz (Var: Amethyst) : SiO₂

Locality: [Artigas Department, Uruguay](#) 13.4 x 8.0 x 5.0 cm



irocks.com photo

Massive

Any mineral that is compact material with an irregular form and no specific appearance described by other descriptive terms in common usage.

Lead : Pb

Locality: [Långban, Filipstad, Värmland, Sweden](#) 7.9 x 6.4 x 2.9 cm



irocks.com photo

Twinned

Two or more crystals intergrown according to some definite “law” based on the molecular crystal lattice of the crystals.

Quartz :

SiO₂

Locality: [Black Pine Mine \(Combination Mine; Black Pine Tailings; Black Pine Dump\), Flint Creek Valley, John Long Mts, Philipsburg District \(Flint Creek District\), Granite Co., Montana, USA](#)

2.3 x 0.9 x 0.5 cm.

Calendar of Events:

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

SEPTEMBER 2014

No shows listed for Southern California in September

OCTOBER 2014

October 1 - 5: JOSHUA TREE, CA

Hi-Desert Rockhounds of Moronga Valley
Sportsman's Club of Joshua Tree
6225 Sunburst Street
Hours: 9 - 6 daily
Website: www.jtsportsmansclub.com/gemshow.htm

October 11 - 12: TRONA, CA

Searles Lake Gem & Mineral Society
Gem & Mineral Building
13337 Main Street
Hours: Sat 7:30 - 5; Sun 7:30 - 4
Website: www1.iwvisp.com/tronagemclub

October 12 - 13: VISTA, CA

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

October 18: WEST HILLS, CA

Woodland Hills Rock Chippers
First United Methodist Church
22700 Sherman Way
Hours: 10 - 5
Website: www.rockchippers.org

October 18 -19: WHITTIER, CA

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

With Knowledge Comes Appreciation!

2014 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	
Past President	Geoffrey Caplette	
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2013--2014	Bruce Carter	
2013--2014	Bob Housley	
2013--2014	Leslie Ogg	
2014-2015	Pat Caplette	
2014-2015	Pat Stevens	
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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

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:



With Knowledge Comes Appreciation

**Your MSSC
Bulletin Is Here!**