

Bulletin of the Mineralogical Society of Southern California

Volume 87 Number 3 - March, 2014

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The 907th meeting of the Mineralogical Society of Southern California

With Knowledge Comes Appreciation

March 14th, 2014 at 7:30 pm

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

Program : “Diamonds of the Forbidden Zone”

A Gentle Reminder:

If you don't pay your 2014 Membership Dues by March 31st, this will be your last bulletin! Also, don't forget the additional \$20 if you want the paper bulletins!

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Remember: If you change your email or street address, you must let the MSSC Editor and Treasurer know or we cannot guarantee receipt of future Bulletins

About the Program: Diamonds of the Forbidden Zone":.Presented by Denise Nelson

Denise Nelson is a Graduate Gemologist (GIA), Appraiser, and occasional Gem hunter. She started her own business, Inner Circle, a Fine Jewelry and Appraisal provider, over 23 years ago in Maryland. Her travels to mines and trade-shows have taken her to many different Countries like Brazil, Thailand, Malaysia, Japan, China, Germany, France and Argentina.

Her travels to the Diamond mines of South Africa and Namibia however are the topic of this presentation: "Diamonds of the Forbidden Zone". As a guest of the DeBeers Company and the Government of Namibia she was able to spend several days in an area usually closed to "outsiders" and was able to observe actual off- shore diamond dredging operations in the infamous waters off the Skeleton Coast of Namibia. A visit deep into the historically important Cullinan mine in South Africa concludes this glimpse into the mostly unknown world of Diamond mining.

From the Editor:

Did you know that MSSC has a website? I keep running into members that either are unaware of our website or don't know how to find it! We have an excellent website! You can access it by going to www.mineralsocal.org Our website has information on our meetings, upcoming events, information on affiliated groups and you can access past bulletins from the "Bulletin" archive. If you haven't already, take the time to check it out to see what other surprises it holds!

While I work diligently to find interesting and informative articles for your enjoyment, I'm always looking for help from you, our knowledgeable members. Do you have a story, a thought about your favorite mineral, collecting site or any other related topic you think would be of interest to the rest of our membership? Write it out and send it to me. We all love to hear from our fellow MSSC members! Thanks, Linda Elsnau

MEANDERINGS FROM THE PRESIDENT by Ann Meister

Thank you to all who attended the Pacific Micromount Conference and made it the most successful in a long time. I especially want to thank Al Wilkens, Bob Housley, Gene Reynolds, Janice and Garth Bricker, Sugar White, Jim Kusely and Joanna Ritchey. Attendees came from at least 10 states, Canada and Belgium. I was intrigued by Herwig Pelckmans talk entitled "Fluorite Fantasies" on Friday night. He explained the crystal habit modifications from cube to octahedron, cube to dodecahedrons, etc. and showed specimens of the intermediate modifications along with diagrams to illustrate the forms at each step of the progression. What a fascinating project. He also had pictures of the non-crystalline forms of globular or botryoidal fluorite.

Speaking of collection fantasies... I would like to encourage you to exhibit your mineral collection at the CFMS show in May at the Fairplex in Pomona. Entry forms for both non-competitive and competitive exhibits (due April 14) are on the show website (www.cfms2014show.com/). Mineral exhibits are not as numerous as they once were. We need to show others what the "mineral" part of the gem and mineral hobby is and why we enjoy it. If you've never put an exhibit in a show, it's not a daunting as it may seem, especially non-competitive.

Last month I told you about the mysterious "jelly doughnut" rock that the rover Opportunity found on Mars. Well, the mystery is solved. Scientists had suspected that one of Opportunity's wheels had kicked the rock as it drove by. That was confirmed after analyzing recent images of the original piece of rock. NASA said that a wheel of the rover broke it off a larger rock and then kicked it into the field of view. I guess that's exciting enough – to see the fresh surface of a rock that had not been weathered by the Martian climate. But I was hoping for an indigenous Martian geologist playing a trick on us... ;-) **NEWS FLASH:** NASA is being sued because they failed to conduct a proper examination of this white rock as "life" on Mars. The suit was filed by a self-described cosmologist who is claiming the rock is a living thing, germinated from spores. Hmm...

Mark your Calendar: MSSC BOARD MEETING,

March 23 at 1:00 pm at Bruce & Cathy Carter's Home

Officers and Directors, please rsvp to Ann Meister. Also submit items for the agenda so that it can be sent to you in advance of the meeting. This allows you to think about the issues and to prepare comments and questions. It also helps the meeting to go faster. Committee Chairs as well as any interested Society members are welcome to attend the board meeting, but please rsvp to Ann Meister so we know to expect you.

MINUTES of the February 21st, 2014 MSSC Meeting

The 906th meeting of the Mineralogical Society of Southern California (MSSC) was held on Friday, February 21, 2104 at the Geology Department of Pasadena City College. President Ann Meister brought the meeting to order at 7:35 p.m.

Regular Business

Welcome to all in attendance at tonight's meeting.

Minutes:

President Ann Meister asked for a motion to approve the Minutes of the last Membership Meeting as listed in the February 2014 Bulletin. The Minutes of January 18, 2014 meeting were approved by motion from Linda Elsnau, seconded by Fred Elsnau and carried by membership vote.

President's Messages:

- There will be a Board Meeting next month. Details will be sent to the Board later;
- Bob Housley unable to attend tonight, so there is no official report on the Micromount Conference;
- President Ann Meister thanked everyone who participated in the silent auction held at the banquet last month. It was a big success;
- Membership dues are now past due. Please see Treasurer Jim Kusely to bring your dues current;
- The new Member Chair is Sheryl Lopez;
- February 25, 2014 is the deadline to submit items to Editor Linda Elsnau for the March 2014 Bulletin;
- MSSC's next regular meeting will be held March 14, 2014, 7:30 p.m., at Pasadena City College's Geology Department, Room 220;
- This year's Pacific Micromount Conference was a phenomenal success and included participants from Belgium, Canada, and the states of Washington, New Hampshire, Mississippi, California and others. 31 microscopes were set up for the 61 attendees. There were plenty of samples on the giveaway table as well as the sale table. A full report will appear in the March 2014 Bulletin. Next year will be our 50th Micromount Conference, place to be announced.

Announcements:

- Gem and Mineral Council will host speaker Demetrius Pohl "In Search of Mines and Beautiful Minerals in the Republic of the Congo" on March 13, 2014. Look for more information in the March Bulletin! Demetrius is a knowledgeable geologist, a good collector and an interesting person. (Ann offered a personal story of when she and others were on a Colorado River rafting trip arranged by Rock Currier. At the bottom of the canyon while at camp, she came upon pink rattler. She told the others and Demetrius came running with his camera that had an extended lens, about 12". He got up about that close and took some wonderful pictures of the snake, fortunately, he was not harmed!);
- A Public Event at Cal Tech's Beckman Auditorium on 3/19/14 at 8 p.m.: "When Rocks Roll: How Sediment Transport Shapes Planetary Surfaces" by Michael Lamb. A comparison of sediments of Earth to what is on Mars. More information in the Bulletin;
- 12th Annual Sinkankas Symposium: "Peridot and uncommon green-colored gem minerals". The symposium will take place April 5, 2104 at GIA's Carlsbad facility. MSSC's Vice President, George Rossman, will be one of the speakers;

- CFMS show May 30-31 and June 1, 2014 at Fairplex in Pomona. MSSC members are encouraged to submit entries;
- Rudy Lopez announced the Monrovia Rockhounds, MoRocks, is having their show March 1-2 (9:00 am-4:00pm each day) at the Los Angeles Arboretum in Arcadia. Raffles, lots of table, exhibits, gems, jewelry, things for kids and much more. The show is free but there is an admission fee to the Arboretum;
- Steve Mulqueen announced the Ventura Gem and Mineral Society is having their show March 1-2, 2014 (10am-5pm on Sat and 10am-4pm Sunday) at the Ventura County Fairgrounds. Steve says there will be exhibits, dealers, demo dealers, gems, jewelry and more. [Entrance to the fairgrounds is free but parking is \$5.].

Program

Rudy Lopez, Program Chair, introduced D. D. Trent, Geology Professor Emeritus, Citrus College. Dr. Trent has been involved in geological projects since 1955 and taught 28 years at Citrus College. He also is published, "Joshua Tree National Park Geology". Tonight Dee talks about gold and silver.

The Geology of Gold and Comstock Silver starts out with an anecdote letter written to Ann Landers. "...If you can't be one yourself, do whatever it takes to associate with as many geologists as you can. My life has been rich, so meaningful, since I divorced that egghead engineer I was married to for 12 years..." "...Think of the world we would have if everyone were a geologist."

D. D. ("Dee") Trent, gave a wonderful presentation about gold and silver mines in California, Nevada, South Dakota, Alaska, Colorado, Canada and other parts. He began by explaining that gold can be found in a variety of rock and in the ocean. Gold in rock is approximately 5 ppb (parts per billion) and as high as 12 ppb. California has been blessed with the enrichment of gold. The world's important gold deposits are placed in fairly shallow depths, roughly perhaps 400 meters

Dee explained the environments in which gold is found: tertiary hydrothermal in metamorphic, hot springs deposits, Proterozoic era circulating ground water, Cambrian metamorphic and volcanic environments. Heat (approx 400°F), depth and pressure affect how surrounding rock are changed and those changes affect the minerals in country rock. Limestone, for instance, has cracks from water erosion and caused gold to be deposited in it. Carlin, NV near Elko has this type of gold deposits. It is an open pit area. The example shown is tiny at 10 microns (1/2 the thickness of one strand of hair) and cannot be seen by the naked eye, or even a hand lens. There is quartz, biotite, chlorite, and other minerals present, as well. One wonders how it was discovered!

The Homestake Mine in Lead, South Dakota produced 9 million oz in silver and 41 million oz of gold, was drilled to 8,000 feet. It was found that the concentration of gold at the 8,000 ft depth was the same as at the top of the mine. This was the Mother Lode. Homestake Mine was the oldest continuously operating mine (over 100 years) until it closed in 2001. It was the second largest producing mine in the United States. It closed because the drilling began to overrun the town! A lot of gold was left. There is now a physics lab in the pit, studying subatomic physics – neutrinos.

Volcanic gold deposits: Breccia pipes in Bodie, Tonopah and Silver Peak, NV developed in this same way - where sub-ducting oceanic plates generated heat, magma rose and if it ran into an area water is present, the result is volcanic sulfite masses, which contain gold, silver and copper. These are environments where gold and silver can deposit. Green Creek in Alaska is another such area; others are in Australia, Oregon and Ontario, Canada.

In southwest Colorado, there are 15 collapsed calderas (volcanic); there are lots of cracks forming radiating dikes. Ring fractures serve as a sort of plumbing system for gold, silver and copper. The Silverton Caldera is the same condition as the other 14 calderas which peaked volcanism about 33 million years ago. A major mine there is the Sunnyside Mine which produced about 7 million ton of ore equivalent to a billion dollars in 1991 prices.

West slope of the Sierra is a famous area for gold. There are 3 fault systems: Shoo Fly, Melones and Wolf Creek faults. Most of the hard rock mining, called quartz gold mining in the early days, was along the Melones

fault. Deep heat from plutons warmed the country rock, hot water seeped out and leached out gold and it collected in the Melones fault. That is the latest theory of placement of the gold there. The exception was the Grass Valley area near the Wolf Creek fault. The Empire Mine in Grass Valley was the oldest and deepest hard rock mine. It has 357 miles of underground workings! It is now a State park.

Dee went on to describe other mines: Kennedy Mine in Jackson, CA, Harvard Mine in Jamestown (Christmas pocket), the Alabama Mine, Nevada City, Georgetown, Angel's Camp, Carson Hill, to name a few.

Placer deposits are in water or in elevated streaks. There were hundreds of placer mines west of the Sierra Nevada range. For example, the Stewart Hydraulic Mine used forced water sprays to loosen alluvial material. Stewart is west of the Melones fault and east of the Grass Valley gold deposits but, the Stewart gold is not from the same source as the Grass Valley gold. It had to come from somewhere else and that somewhere else was Nevada and it was due to various tectonic activity 33 million years ago. The hydraulics produce a slurry of sand and gravel which was sluiced to collect the gold. A lot of mercury was used in the operation which makes it an amalgam, an alloy with the gold and the silver. There is, still today, a concern about that mercury. The Stewart Hydraulic Mine operated from 1865-1878 and produced between \$3 to 6 million in gold. Many of these old mines are now State parks. Worth the visit!

Finally, the Comstock Lode ran from 1863-1920 and produced \$700 million in gold and silver. The ratio of gold to silver is 1:40. It started out being a gold operation but ended up being a successful silver operation. It was the first major silver ore discovery in the U.S. The Comstock Lode was important because it contributed to financing the government, it also reduced the debt after the Civil War, it re-wrote the U S Mining Law, and refined mining techniques that are still used all around the world today.

Wow, what a great presentation so full of wonderful and wondrous information. At the conclusion of his speech, Dee was kind enough to take questions from the audience. We thank Dee for a very enlightening presentation.

Adjournment

Before adjourning, Ann Meister welcomed the Pasadena City College students who attended tonight's meeting. Ann also wanted to know if anyone made it to Tucson. No one was able to go but there were tales of things gone wrong, such as hotel problems and prices doubled.

There are new door prizes from Jewel Tunnel compliments of Rock Currier. Tonight's drawing was won by Geoff Caplette. The meeting was adjourned at 9:05pm. After the meeting, refreshments were served and there was more discussion with Dee and members.

Respectfully submitted, Angie Guzman, Secretary

Dues are Due!

If you haven't already sent in your 2014 dues, your membership will cease as of April 1, 2014. Don't forget to include the additional \$20 for black and white paper bulletins. While MSSC's annual dues have not changed in several years, the cost of producing and mailing your monthly bulletin has forced us to ask those members wishing to continue receiving the bulletin via the USPS to cover the cost. To keep your MSSC membership in good standing, send in your completed 2014 membership form and your check to Jim Kusely, our Treasurer before March 31st.

Pacific Micromount Conference 2014

On January 31 & February 1, 2014, we held a very successful 49th annual Pacific Micromount Conference (PMC) at the San Bernardino County Museum in Redlands. Registration began at 3 PM on Friday afternoon, and the \$1 sales table was again well-supplied, partly from new donations, old specimens (relabelled since the 2013 conference by Mike Moore), and from the Mac Mansfield collection donated to MSSC by Garth & Janice Bricker. We had so much give-away material stacked up by 5 PM that we opened the give-away table earlier than usual. After our potluck buffet dinner on Friday, Herwig Pelckmans from Belgium dazzled us with his

"Fluorite Fantasies" talk, describing the multitude of crystallographic possibilities for the mineral fluorite within the isometric system. The museum doors re-opened at 8 AM Saturday morning to meet a glut of new PMC attendees, many of them young & enthusiastic. At 10:15 Joe Marty gave a photo accounting of the favorite microminerals in his collection. After our typical Subway sandwich lunch, we held our verbal auction, with Tim Rose ably reprising his role as auctioneer. Our silent auction closed shortly thereafter. The afternoon talk was by Paul Adams, who spoke on "Some Other Micromineral Localities in San Bernardino County," concentrating on the Ord Mountains region, where the Sunday field trip was to be held. All of the talks were top-notch, as usual. In all, we had 61 registered at the conference and 31 scopes set up, both records in the >15 years I've been attending the conference. The Sunday field trip was to the Brilliant claim in the Ord Mountains, where some azurite and excellent malachite specimens were collected by all. From there (and after some road-building), we continued to the Josephine claim, where the pickin's were a little more sparse, again confined to azurite, malachite and one gold specimen. It was cool, but at least there wasn't any snow on the ground, like our last field trip to this location in 2001.

Jim Kusely, the MSSC Treasurer reported that while the final accounting has not been completed, this was also a successful event financially for MSSC primarily because of the excellent results from the Silent Auction with 50 items sold, the Verbal Auction with 30 items sold and the Dollar Table sales.

Fun facts include a list of the items sold in the Verbal Auction:

Wulfenite, Tarbuttite, Wavellite, Copper (slag), Mn-Vesuvianite, Erythrite, Celestine, cobalt-Lotharmeyerite, Uranophane, Brochantite, Nagyagite (x2), Azurite, Mixite, Juanitaite, Khinite/Gold, Ajoite, Agardite, Libethinite, Pseudomalachite, Joteite, Arsenopyrite, Sphalerite, Libethinite, Barahonaite-Al, Austinite, Scheelite and Eurekadumpite.

A list of participant's origins include:

Alabama, Arizona, Belgium, Brazil, Michigan, Mississippi, New Hampshire, New Jersey, Nevada, Oregon, and Utah, not to forget California! The individual City sending out of state visitors was Tucson, AZ!

I hope you will all make plans to attend our 50th annual PMC to be held on January 30-31 & February 1 of 2015. I am in negotiations with the San Bernardino County Museum regarding our ability to take money for registration & the sales table on county property (apparently there may be a new regulation forbidding it, in which case we will be forced to move our venue); more on that as it becomes available. Garth & Janice Bricker have graciously invited us to hold the PMC at their Fallbrook Museum, so we won't be definitely left out in the cold for 2015. UC Riverside & Copper Mountain College were other suggestions for a new site.

Al Wilkins, Program Director, Pacific Micromount Conference

Why Pyrite Crystals Have Different Shapes.

Some minerals come in a variety of crystal forms. For example, pyrite commonly forms cubes, octahedrons, pyritohedrons or some combinations of these forms. All pyrite is FeS_2 with the same internal arrangement of iron and sulfur atoms. Why then, should pyrite crystals take on different shapes? All these forms reflect the same internal atomic symmetry, so the reasons must involve the conditions under which the pyrite forms. These are such things as temperature, pressure, acidity, and the composition of the fluids from which the pyrite grew.

Knowing what controls the different forms may be of practical value. Geologists studying pyrite in copper mines in Peru, Japan and Utah noticed that the richer parts of ore veins contain pyrite as pyritohedrons while the poorer zones contain pyrite as octahedrons and the barren zones contain pyrite as cubes.

The conditions forming the different sorts of pyrite crystals have been studied recently by Murowchick and Barnes at Penn State University. They grew pyrite crystals under controlled conditions in the laboratory. They found pyrite could form rods, smooth cubes, striated (grooved) cubes, octahedrons, pyritohedrons or dendrites under varying temperatures and degrees of supersaturation. These factors control the speed at which the crystals grew. For example, the rod shaped pyrite crystals form when growth rates are the slow due to a combination of

low temperatures and low amounts of dissolved iron and sulfur. These crystals are very similar to the needle-like pyrite crystals found in geodes at Halls Gap, Kentucky.

If the temperatures are a bit higher or the supersaturation greater, smooth cubes of pyrite form. As the degree of supersaturation increases, the cubes become more and more striated. Eventually, at higher temperatures or degrees of supersaturation, octahedrons form, then pyritohedrons. These are the common forms of pyrite found in many places through the world. Now, we see that their distribution and occurrence is not random, but gives important information on the chemical conditions of the area at the time when the pyrite grew.

At the highest degrees of supersaturation, crystal growth is very fast and odd dendritic clumps of pyrite form looking like the branching frost crystals that form on windows. Natural pyrite crystals showing this habit are very rare, but have been reported around hot springs on the deep sea floor. In these settings pyrite growth is very rapid as the hot water comes out of the crust and chills instantly against sea water.

At the mines studied, it appears that the richest parts of the veins were where the pyrite was forming, the fastest, likely closest to the source of the fluids. It is thus possible to map an ancient hydrothermal system just by using pyrite crystal forms. This could lead to cheap and easy ways to find new deposits and understand old ones.

-Dr. Bill Cordua, University of Wisconsin-River Falls

References:

- Amstutz, G.C. and Ligasacchi, A., 1958, "Mineralization zoning based on habit changes of pyrite, Geol. Soc. Amer. Bulletin vol. 69, p., 1529- 1530.
Murowchick, James and H.L. Barnes, 1987, "Effects of temperature and degree of supersaturation on pyrite morphology" American Mineralogist, vol. 72, p. 1241-1250

Thanks to the University of Wisconsin's Digital Collections Center for the use of this article
<http://uwdcc.library.wisc.edu/minds/>

Head's Up: Opportunities Elsewhere In Our World...From Ann Meister

Gem & Mineral Council Meeting at The Natural History Museum

Thursday, March 13, 2014, 7:30 pm, Times Mirror Conference Room, NHM, 900 Exposition Blvd, LA
Demetrius Pohl – *In Search of Mines and Beautiful Minerals in the Republic of the Congo*

The Gem & Mineral Council is having a program by exploration geologist Demetrius Pohl. He will be talking about his adventures in the Republic of the Congo, where he has been hunting for minerals and ore deposits over the last 7 years. Congo is famous for beautiful specimens of diopside from Reneville and Mindouli and of cerussite and wulfenite from M'Fouati, and many more. Many specimens are mislabeled either by the original diggers or the many middlemen who don't know the geography of the Republic of the Congo. Pohl has unraveled many of the mysteries. The lecture is free, but because of limited space, reservations are necessary. RSVP; 213-763-3326; GMC@nhm.org

Watson Lecture at Caltech's Beckman Auditorium

Wednesday, March 19, 2014, 8:00 pm, Beckman Auditorium, 1200 California Blvd, Pasadena

[Michael P. Lamb - When Rocks Roll: How Sediment Transport Shapes Planetary Surfaces](#)

From mountain valleys to river deltas, flowing water and grains of sand conspire to create Earth's dramatic landscapes. Earth is not alone; mega floods have cut vast canyons into the surface of Mars, and rivers of liquid methane actively carve the icy surface of Titan. This talk will explore new insights into the mechanics of landscape evolution with implications for debris-flow hazards in the San Gabriel Mountains, land-use sustainability on the Mississippi Delta, and water on Mars. Lecture and parking are free.

Head's Up: Advance Notice...MSSC Annual Installation Banquet

Saturday, January 10, 2015, 5:30 pm Social Hour; 6:30 pm Dinner, Oak Tree Room (next to Coco's) 1150 W Colorado Blvd, Arcadia

Since the banquet is when the Society installs its new officers, now is the time for you to consider which office you would like to hold in 2015. It's never too early to make this decision. Also, start looking for items for the Silent Auction. The 2014 Silent Auction was a tremendous success because you provided so many items that other's found interesting or useful. Let's see if we can make 2015 even more successful.

August Picnic & Swap

From what I've heard, the Fallbrook Gem & Mineral Society is NOT going to host a picnic this summer. We will therefore schedule our own event. Watch this space for more information.

Ride Share Listing

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

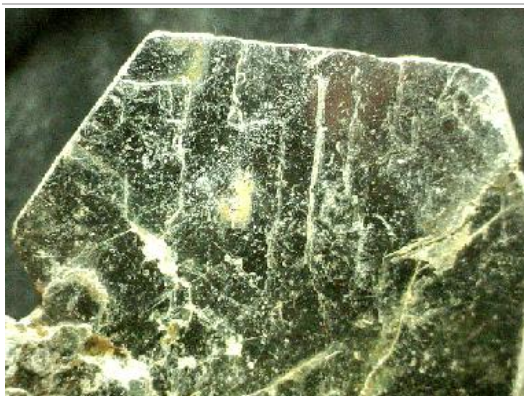
We have heard from several of our members that they would like to ride-share with someone to the meetings. We will list the names, general location and either a phone number or an email address of anyone who would like to connect for a ride-share. If you would like to catch a ride or would like company for the trip, let me know at mssbulletin@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	714-524-3577 Please leave a message
A ride	Catherine Govaller	San Bernardino, CA	

Did you know?

When a mineral specimen looks like scales or lamellae, it may be described as:

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

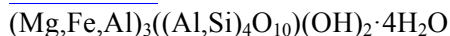


irocks.com photo

Micaceous

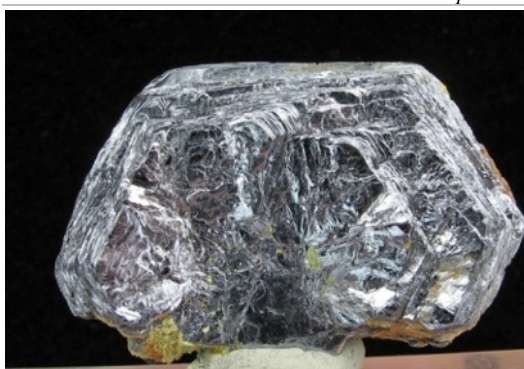
Similar to foliated but the mineral can be split into exceedingly thin sheets as in the micas.

Vermiculite :



Locality: [Brinton's Quarry, West Chester, Westtown Township, Chester Co., Pennsylvania, USA](#)

13 x 10 x 1 cm



irocks.com photo

Lamellar or Tabular

When a mineral consists of flat platelike individuals superimposed upon and adhering to each other.

Molybdenite :



Locality: [Babu District, Hezhou Prefecture, Guangxi Zhuang Autonomous Region, China](#)

4.5 x 3.0 x 1.1 cm.

Featured Mineral: Something Different. Not a Mineral, but a **Size...**

Let's look at some Micro Minerals! Take special note of the "Field of View" showing how tiny these crystals are!

Micro Minerals: minerals that are best viewed under magnification!



Adamite : $Zn_2(AsO_4)(OH)$
[San Rafael Mine, Quartz Mountain camp, Lodi District, Nye Co., Nevada, USA](#)

Field of view is 2.3 mm wide with colorless Adamite crystals on a reddish brown matrix. Collected on the 352 foot level.



Anatase : TiO_2
[Alma pegmatites \(Alma claims\), Mohave Co., Arizona, USA](#)

Field of view is 1.24 mm wide with a group of black anatase crystals resting on mica plates.



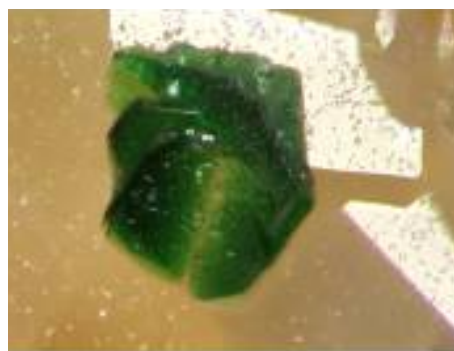
Artroite : $Pb[AlF_3(OH)_2]$
[Monte Somma, Somma-Vesuvius Complex, Naples Province, Campania, Italy](#)

Field of view is 1.5 mm wide with white artroite. Specimen received from Luigi Chiappino.



Goethite : $\alpha-Fe^{3+}O(OH)$
[Aghbar, Bou Azer District \(Bou Azzer District\), Tazenakht, Ouarzazate Province, Souss-Massa-Draâ Region, Morocco](#)

Field of view is 1.5 mm high with a fan of goethite crystals. Specimen received from Luigi Chiappino.



Khinite : $Pb^{2+}Cu^{2+}_3Te^{6+}O_6(OH)_2$,
Quartz : SiO_2
[Aga Mine, Otto Mountain, Baker, San Bernardino Co., California, USA](#)

Field of view is 0.2 mm wide with green khinite on quartz.



Tellurite : TeO_2 , **Hessite** : Ag_2Te ,
Quartz : SiO_2
[Trixie Mine \(Trixie Shaft; Old Trump Prospect\), East Tintic District, East Tintic Mts, Utah Co., Utah, USA](#)

Field of view 2.6mm with yellow tellurite on hessite and quartz. Specimen collected by John Dagenais.

Jerry A. Baird photos and specimens. Thank you Jerry for allowing the use of your fine photos in our bulletin.

West Coast
GEM & MINERAL SHOW - SPRING
MAY 16 - 18, 2014

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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

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/>

MARCH 2014

March 1 - 2: ARCADIA, CA
 Monrovia Rockhounds
 Los Angeles Arboretum & Botanic Gardens
 301 Baldwin Avenue
 Hours: 9:00 - 4:30 daily
 Website: www.Moroks.com

March 1 - 2: VENTURA, CA
 Ventura Gem & Mineral Society
 Ventura County Fairgrounds
 10 W. Harbor Blvd.
 Hours: Sat 10 - 5; Sun 10 - 4
 Website: www.vgms.org

March 8 - 9: SAN MARINO, CA
 Pasadena Lapidary Society
 San Marino Masonic Center
 3130 Huntington Drive
 Hours: Sat 10 - 6, Sun 10 - 5

March 29 - 30: TORRANCE, CA
 South Bay Lapidary & Mineral Society, Torrance
 Ken Miller Recreation Center
 3341 Torrance Blvd (entrance on Madrona Ave)
 Hours: Sat. 10 - 5; Sun. 10 - 4
 Website: www.palosverdes.com/sblap

APRIL 2014

April 26 - 27: THOUSAND OAKS, CA
 Conejo Gem & Mineral Club
 Borchard Park Community Center
 190 Reino Road (at Borchard Rd.)
 Hours: 10 - 5 daily
 Website: www.cgamc.org

May 30 - June 1, 2014

The Pasadena Lapidary Society presents the
2014 CFMS Conference and Show
in Pomona, California
"California's Gem & Mineral Bounty"
 Fri & Sat: 10:00 AM - 5:00 PM
 Sunday: 10:00 AM to 4:00 PM
 Admission: Adults \$5, Seniors & Military \$4, Juniors: \$3,
 under 12 Free w/ paid adult. (3 day passes are available)
 Fairplex, Building 5, 11011 McKinley Ave., Pomona, CA
 Use Parking Lot #3 fee \$10.00

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	
DIRECTORS		
2013--2014	Bruce Carter	
2013--2014	Bob Housley	
2013--2014	Leslie Ogg	
2014-2015	Pat Caplette	
2014-2015	Pat Stevens	
COMMITTEE CHAIRS		
Bulletin Editor	Linda Elsnaу	bulletin@mineralsocal.org
Hospitality	Laura Davis	
Membership	Cheryl Lopez	membership@mineralsocal.org
Micro Mount Conf. Chairman	Al Wilkins	
Program and Education	Rudy Lopez	programs@mineralsocal.org
Publicity	Linda Elsnaу	bulletin@mineralsocal.org
Webmaster	Leslie Ogg	webmaster@mineralsocal.org
* Treasurer	Jim Kusely –proviso due to surgery, mid-year, Ahni Dodge and Laura Davis to assist while Jim convalesces	

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!**