ORCUTT MINERAL SOCIETY, INC. SANTA MARIA, CA

Ore-Cutts

Volume LIV Number 10 **October 2020**

The Pres Box—October 2020

Bill Brown, OMS President

Corona virus is still coming on strong. I guess we've gone over 200000 deaths nationwide. Both San Luis Obispo and Santa Barbara counties are at the highest tier for Covid (purple) so the highest level of restrictions are in effect.

The San Luis Gems club held their September 1 meeting via zoom. I didn't have a webcam and discovered that my microphone was not working, so all I could do was lurk. Wayne also attended, and his webcam and microphones were working, so maybe he'll have a report about the meeting. I thought it was good and their presentation was on Oregon geology and minerals. It reminded me of where I grew up (southern Oregon and Northern California).

Oasis still shows on their site that all onsite activities are canceled. With the Covid at the purple (widespread) tier we should probably avoid full meetings indoors. If the risk tier lowers and Oasis opens for meetings, we'll send emails and announce in the bulletin.

The board meeting will on Tue, Oct 6 from 7 to 9 p.m. Our September board meeting was delayed until the 8th to allow attending the San Luis Gems zoom meeting. The meeting on the 8th was held vis conference call. We had good attendance. I am going to try to put together a kind of hybrid for the next board meeting. We'll still meet at the Nipomo chamber conference room, but hope to have a phone set up so we can also conference in people who don't feel comfortable meeting in person.

We have started Highway Cleanup again. The September highway cleanup was canceled due to the heavy smoke. The next highway cleanup will be on Saturday November 14th. Please plan on coming as it will be pretty dirty. We will maintain social distance, and there is a Covid agreement that you will need to sign. We will have it with us so you can sign before you start working.

The breakfast for October will be at the Country Kitchen in Arroyo Grande on October 24 at 8:30 am. It's still kind of questionable. We'll try to keep people informed as the date approaches.

Everybody stay well.

Bill

BIRTHDAYS & ANNIVERSARIES

Greetings go out to those folks who are having Birthdays and Anniversaries in **October**

BIRTHDAYS

Betty Campbell	10/19	♎
Don Nasholm	10/26	♏
Margaret Henson	10/27	♏

ANNIVERSARIES

Jeannie Bettie	10/10

Congratulations! *If you don't see your name here when you should, then the information is not in* ***The Red Book****. Please write your important dates down and give them to* ***Wayne*** *so they will be included in the next edition (May 2020)*

BIRTHSTONE FOR OCTOBER
OPAL

Text by Wayne Mills and as noted. Picture from https://www.virginvalleyopalmines.com/?lightbox=dataItem-jg60pk34

Opals are hydrated chalcedony, a form of quartz (Silicon dioxide) formed by sedimentary processes (precipitation). Opals come in precious (fire opal) and non-precious (common opal) forms. Some petrified wood (tike that from Gabbs, Nevada) is preserved with opal rather than chalcedony.

There are many locations where precious opal occurs, notably Australia, Ethiopia and Mexico. In California, precious opal is found in matrix at Tecopa Hot Springs, and in Northern Nevada, precious opal occurs in petrified wood in the Virgin Valley near Denio in Northeastern Nevada..

(This picture is worth seeing in color. Check out our October 2020 Ore-Cutts at omsinc,.org/Bulletins in .pdf format).

LOCAL ROCKS--
Serpentine

Text and Picture by Wayne Mills, Ore-Cutts Editor

Serpentine is a product of low-pressure, low temperature (Greenschist Facies) metamorphism. It is the State Rock of California. The basic formula for Serpentine is Hydrous Magnesium Silicate. The name Serpentine refers to the sinuous movement of a snake, but I am not sure quite how that relates to the rock. Some serpentines do exhibit flowing patterns, where others are dull and opaque. Some local Serpentines exhibit "slickensides"— smooth, lusterous, striated patterns where the rocks have slid against each other along a fault or fracture. Green rock exposures of Serpentine are found at many locations in San Luis Obispo County. These are part of the Jurassic-Cretaceous aged Franciscan Formation.

Serpentine comes in different forms, depending (perhaps) on the amount of metamorphism it underwent, and the earth materials that helped form it. See examples from Monterey County below.

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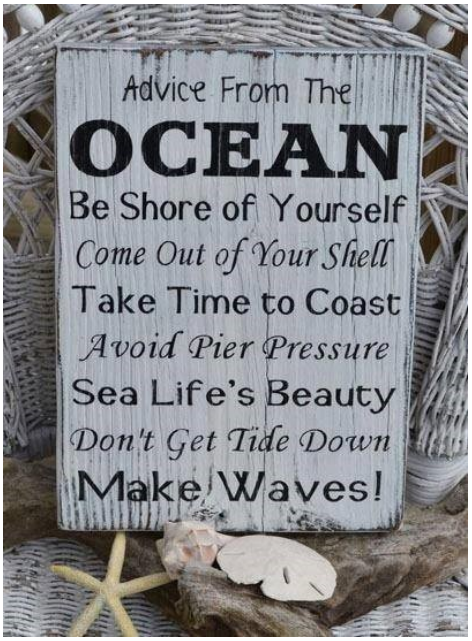
Samples of Serpentine from the Big Sur Area—south coast of Monterey County, California.

As you can see on one of the labels above, one location for finding some "nicer" varieties of Serpentine is Limekiln Creek in Monterey County. As previously stated much of the Franciscan Formation is "Greenschist" Facies metamorphism. This suite of (mostly) green rocks includes actinolite, jade, chert and soapstone.. All of these can be found at along the Big Sur Coast north of Ragged Point. There is a story about a young rock collector who takes a 5 gallon bucket down onto the beach at Limekiln where he collects a bucket full of jade. By the time he got back to the car though, it had all turned into Serpentine!

While it s true that Serpentine can sometimes be confused with Jade, one field test is to scratch a suspected Jade rock with the tip of a knife. If it scratches, the rock is probably Serpentine. Happy hunting!



THE STORY BEHIND THE STONE: DIAMONDS DO THIS?

(Adapted from Diana Jarrett GG, RMV, republished courtesy of Southern Jewelry News) From August 2020 Rock Writings Nevada County Gem and Mineral Society

The Cullinan Diamond found in South Africa in 1905 weighed 3106.75 carats. In its uncut state, it was (and is) the largest gem quality diamond ever found. It has since been cut into several smaller diamonds. ***Picture courtesy of the De Beers Museum.***

Since diamond's early discovery in India around the 4th century BC, they've continuously garnered throngs of devotees. Until the early 18th century, India was the sole source of these precious rocks. By 1725 they were being found in Brazil.
In the 1870s, the rush to South Africa marked diamond production's explosive increase to satisfy a global appetite for the goodies.

Pretty, and Pretty Smart too, they are more than just a pretty face. Diamonds also have important utilitarian worth. The broader use for these colorless rocks is due to their extreme hardness - a clear 10 on the Mohs scale. Score! Diamonds are extremely important when lent to industrial application; polishing other diamonds is just one of diamonds' super powers. Cutting, drilling, and other uses make this material ideally suited for military application, automotive, and even in mining.

To Your Health. Nano-diamonds, which are microscopic diamond particles a thousand times smaller than a human hair strand, have been conscripted to aid in cancer treatment. By attaching these almost imperceptible nano-diamonds to chemotherapy drugs, the treatment ramps up its effectiveness. When anti-cancer medication is administered into a body, cancer cells expel them before they can perform their job. Nano-diamonds, it has been discovered, overcome this impasse because the cancer cells can't carry the miniature diamond particles away, so they remain inside the body and get to work.

Ouch! You're Hurting Me! Although a trip to the dentist may not rank high on your 'favorite things' list, there's some bling in those offices courtesy of diamond-tipped instruments. Most dental tools are tipped with diamond bits, making quick work out of drilling your cavities. Tiny diamond particles embedded on the business end of these tools deliver the abrasive quality needed to conquer that hard tooth enamel.

Hot Stuff When scientists discovered diamonds' resistance to heat, its high-tech application widened. For example, a diamond can endure being 5X hotter than silicon, and can cool down easier than silicon without impacting its performance. Since diamonds can tolerate ultra-high voltages, they've been utilized in semiconductor manufacturing. The electrical current delivered in such electronics is more effective, faster, lighter and simpler.

Remember Records? Way back when the earth was still cooling, primeval humans got their groove-on via records that spun around on a turntable. The black indented discs vibrated rapidly under a diamond tipped needle without suffering from any deformation, nor damaging the sound quality. Because diamonds can vibrate at very high speeds, diamond needles were ideal for preserving the best sound quality. Additionally, DJ equipment also relies on diamond components.

Far Out, Man! The most out-of-this-world application of diamonds would have to be when it was used as a window in the Pioneer Venus Multi-probe Mission. The spacecraft, launched in 1978, needed the most heat-resistant, tough material for creating a window. "The pressure vessel had 7 openings, one for the antenna, three for electrical cables, two for scientific instruments, and one for an access hatch. There were also special diamond and sapphire windows," reported NASA Science Data Coordinated Archive.

Diamond window from the Pioneer Venus Mission spacecraft *(Photo Hughes SCG Heritage).*

There are more imaginative uses for diamonds than mentioned here. As industrial progress continues, even more uses will be found for this single-element (carbon) gemstone mineral. Today, the annual global output for rough diamonds is estimated to be around 130 million carats (approximately 28.7 US tons). But according to the World Diamond Council, only about 30% of the production are of gem-quality. The remaining 70% are up for grabs with the next evolution of diamond duty.

How did the diamonds wind-up at Crater of Diamonds State Park?
https://www.youtube.com/watch?v=goC94WmzBEY&pp=wgIECgIIAQ%3D%3D&feature=push-fr&attr_tag=i7B0-Jw9IvcP_IQ_%3A6

NOT DIAMONDS

Wayne Mills, Ore-Cutts Editor. For 14 pages on this topic, see "Quartz as Diamond" in the September/October Pegmatite, Bulletin of the San Diego Mineral & Gem Society

Herkimer Diamonds—Double terminated quartz crystals occurring in vugs in Cambrian aged dolomite in and around Herkimer County, New York. Also called Middleville diamond or a Little Falls diamond.. Some can get up to hand sized as shown in this video ***https://video.search.yahoo.com/search/video?fr=mcafee&p=herkimer+diamonds#id***

Peco Diamonds— Colorful (mostly pinkish), doubly-terminated quartz crystals that occur in the Permian Seven Rivers Formation along the Pecos River Valley in southeastern New Mexico. The Seven Rivers Formation consists of gypsum with some red sandstone, shales, and dolomite. ***Mindat.org***..

Lake County Diamonds—Chips of clear and colorless quartz (clear volcanic glass) without any crystal faces, found either in rhyolite matrix or weathered out of the rhyolite on the ground at Manke Ranch, Clear Lake Highlands area, Lake County, California. ***Mindat.org***..

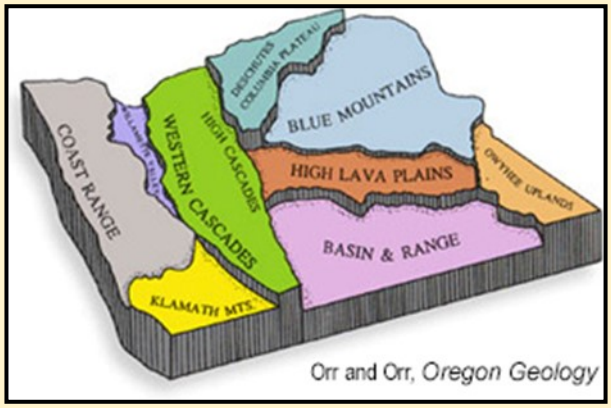
Lucy in the Sky with Diamonds (LSD) — A song written by John Lennon and Paul McCartney of the Beatles based on a picture of "Alice in the boat" drawn by John's son Julian who titled his picture as written above. What a coincidence! Lucy had kaleidoscope eyes, and kaleidoscopes kind of look like they have diamonds in them (I guess). See: ***https://genius.com/The-beatles-lucy-in-the-sky-with-diamonds-lyrics***

OREGON GEOLOGY

By Wayne Mills (with contributions by James Verheyden from a Zoom Meeting talk by James Verheyden of Cal Poly September 1, 2020

Although all 3 local clubs were invited to the September 1 Zoom Meeting, there were only 7 attendees, 6 of whom were from the host San Luis Club. Program Chair Laura Gephart introduced James, a Cal Poly student after a rambling discussion of club business led by President Kim Noyes. James is a Mechanical Engineering Major, Geology Minor from Central Oregon, and will probably remain there taking classes remotely during the coming year. One of James's recent accomplishments was a 110 mile hike in 11 days across his State (or at least, part of it).

James's polished Powerpoint presentation was condensed to fit the time constraints of the meeting. He has used it previously for the Boy Scout Geology Merit Badge Program. The program went by too quickly for accurate notes (at least by this viewer), but James made some interesting points comparing the geology of Oregon to that of California. The main takeaway is that Oregon has had a LOT of volcanic activity, from the Cascade Range (about 7 mya to present) in the west (where many of the state's volcanoes appear in linear fashion) to the Flood Basalts of North Eastern Oregon (Columbia Flood Basalt Plateau—17 to 6 mya) .



A few volcanoes appear in the **Coast Range Province** west of the Cascades, but the Coast Ranges are primarily NOT volcanic. Other volcanoes are spread randomly east of the Cascades. Some of the notable Volcanoes are: Crater Lake, Mt. St. Helens (in the Cascades), and the Crooked River Caldera (about 29.5 mya) in Central Oregon..
Both the **Coast Ranges** and the **Cascades** are products of the collision of the oceanic plate with the coast. The **Cascade Ranges** are volcanoes caused by the heating of the material at depth and the heated material following a weakness in the earth's crust to the surface.
The Cascades formed from the Cascadia Subduction Zone of the Juan de Fuca Plate under the North American Plate. As the oceanic plate subducts, water trapped inside causes the above continental plate to wet melt. The continental plate then partially melts, making the lava that reaches the surface more felsic (higher in silica). This is because when rocks melt, they tend towards being more felsic. This felsic lava is thick and is filled with volatiles from the water which creates volcanoes with steep sides that explosively erupt.
The Coast Ranges formed from the accretionary wedge, which is a slow "fender bender" between both plates. This scrapes off material from the oceanic plate, uplifting it to form the Coast Range. Exotic terraces were added to Oregon a long time ago and were land masses too big to be subducted. As the oceanic plate conveyor belt moved the exotic terraces towards Oregon, they became clumped up with the continental plate.
The extensive volcanism in Oregon has left vast deposits of silica rich volcanic ash and tuff. These deposits form one source of agate and chalcedony which is also wide-spread in the state. Silica ls leached from ash and tuff and redeposited in rhyolite, basalt and ash covered trees (as occurred (geologically recently--1980) at Mt. St. Helens, forming seam agate, petrified wood, geodes and thundereggs. .

A brief review of the 9 geologic Provinces of Oregon can be found in a concise summary by the Oregon Department of Geology and Mineral Resources. The text here appears to omit the Willamette Valley Province (purple on the map below) ***https://www.oregongeology.org/learnmore/GeologicSightseeing***.

In spite of the relative youth of volcanic activity in the State, 2 dinosaur fossils have been found state wide. These range in age from 100-400 mya. One was a rib cage and the other was a toe bone.
Another fascinating fact came out during the discussion on columnar basalts (as found at Devil's Tower, Wyoming), and among the Columbia Flood Basalts. The hexagonal jointing is an efficient way for lava to cool, just as when bees make a honeycomb, it begins as round cells and cools to a hexagonal shape.
During a discussion of favorite agate Beaches in Oregon, Kim mentioned that his favorite was Bullard's Beach near Bandon, Coos County, Oregon.

Some of the best news to come from the program is that James agreed to another presentation on specific rock collecting locations in Oregon, and examples of material from each location from his extensive collection in his basement museum.

SOME WELL KNOWN AND LESSER KNOWN ROCK COLLECTING AREAS IN OREGON

Extensive volcanism has created many opportunities to find a variety of rock materials in Oregon. These include: Agate, jasper, fossils (including petrified wood), minerals, sunstones and thundereggs.

BEACHCOMBING —from November to April, after the big storms, and at low or near low tide, jaspers, agates and fossils can be found at various beaches all along the 400 mile Oregon Coast. Some notable beach locations are:
North Coast —Arcadia and the Hug Point. Good -quality multicolored jaspers and sagenitic agates are found on the Tillamook beaches.

Central Coast—Lincoln City Beaches, Moolack Beach from Otter Rock to Yaquina Head , and Beaches south of Yachats.

South Coast—Near Coos Bay and Bandon, Port Orford, Gold Beach, and Brookings.

(But check out the website at the end of this article for much more detailed information.)

Quartzville Creek—Gold, Pyrite, Agate, Jasper, and Petrified Wood. Linn County.

Richardson's Ranch —Northeast of Madras-Thundereggs, home of famous Priday Plume agate. No more digging, agate available at shop.

John Day Fossil Beds — Wheeler and Grant Counties, Central Oregon. Eocene age fossils (sorry no colllecting here)

Spectrum Sunstone Mine (Fee area) Plush, Lake Co. (Southeastern Oregon).

Owyhee Reservoir— Malheur Co.. Agate, jasper, petrified wood

Succor Creek Canyon—Malheur Co.. Thundereggs, Jasper, Agate, Leaf Fossils, Petrified Wood —

Probably one of my favorite Thundereggs from Oregon has waterlines displaying "tilt" —rotation during formation. Picture by Wayne Mills

For much more detailed information, check-out *https://oregondiscovery.com/oregon-rockhounding-map*

KID'S (Of All Ages) PAGE —
Text by Wayne Mills

Hi, Mini Miners! Go to the **Diamond Dan Publications home page** at:: www.diamonddanpublications.net scroll down a bit and click the **Mineral Clip Art link**. This will take you to a link where you can download 855 mineral drawings, black and white and in color. It is a .zip file. (If you wish to make a small donation, click the PayPal button. If not, you can still download the clip art collection.) Enjoy it for personal use.

WEBSITE UPDATE! Howdy, Mini Miners. I just updated the Diamond Dan Publications website. New look . . . great stuff for you mineral lovers out there. Check it out! ***www.diamonddanpublications.net***

If you want to learn some **mineral names in Chinese**, you will be able to write and say them. Go to a "secret page" on our web page ***diamonddanpublications.net/index"files/page 0038 html***

Jim Brace-Thompson, **AFMS/CFMS Junior's Activities** Chair is looking for new ideas on current and future badges. The current catalog of badges for "Pebble Pups" is listed at ***http://amfged.org/fra/fra_badge.htm***. Contact Jim at 7319 Eisenhower Street, Ventura, CA 93003, jbraceth@roadrunner.com, or 805-659-3577.

FAIRY HOUSES (FROM ROCKS)
(Lilly Walters Schermerhorn In The Rockhound Connection, September 3, 2020)

OMS CALENDAR

Check Bulletin for COVID Updates

OCTOBER 2020

Tuesday, October 6 7:00 p.m.	**OMS Board Meeting, Nipomo Chamber of Commerce meeting room.** Limited to 10 folks. Sorry.
Saturday, October 13 7:00 p.m. to 9:00 p.m.' Oasis Senior Center	**OMS General Meeting/** **Meeting cancelled. Oasis Center stoill closed.**
Saturday, October 24 8:30 a.m.	**OMS Monthly Breakfast—** Country Kitchen, Arroyo Grande

NOVEMBER 2020

Tuesday, November 7:00 p.m.	**OMS Board Meeting, Nipomo Chamber of Commerce meeting room.** Limited to 10 folks. Sorry.
Saturday, November 12 8:00 p.m.	**OMS Highway Clean-up—** S.E. Corner 101 / 166 East
Saturday, October 7:00 p.m. to 9:00 p.m.' Oasis Senior Center	**OMS General Meeting/** **Maybe — We will check with Oasis Center before the November Bulletin goes out.**
Saturday, October 8:30 a.m.	**OMS Monthly Breakfast—** TBD

2020-OMS OFFICERS		
President	Bill Brown	(805) 481-1811
President-Elect	Jeanne Brown	(805) 481-1811
Secretary	Wayne Mills	(805) 481-3495
Treasurer	Betty Campbell	(805) 929-5344
Imm. Past Pres.	Wayne Mills	(805) 481-3495

2020-OMS BOARD MEMBERS	
Dick Bazzell	(805-757-9123
Jan Ferguson	(805) 474-9977
Sally Griffith	(805) 928-6848
Debbie Hood	(805) 481-6860
Renea Suttcliffe	805) 929-2783

CFMS FEDERATION DIRECTOR	
Renea Suttcliffe	805) 929-2783

OMS Membership $24.00 for Individual, $34.00 per couple, $5.00 Each Additional Family Member, $5 for Juniors under age of 18. One time initiation fee for new members is $10.00. **OMS Membership Chairperson is: ?**

OMS Webmaster –Bill Brown– (805) 481-1811
Check out our OMS web site at: ***http://www.omsinc.org*** or send e-mail to: ***info @omsinc.org.***

Ore-Cutts Editor/Publisher	
Wayne Mills	(805) 481-3495 ***wwmills50@hotmail.com***

Check-out the OMS Web page at :omsinc.org for our old bulletins (since 2002) and a wealth of other information We have a Bibliography to help your bulletin search.

Check-out our Facebook page. Elisabeth does a great job keeping that up. (Search for Orcut Mineral Society in Facebook Search.

CFMS SHOWS

Due to COVID, Check club contacts before you go to a show.

OCTOBER (2020)

Vista Gem & Mineral Society
FALL GEM & MINERAL SHOW
October 2nd, 3rd, and 4th, 2020
Time: 10am – 4:00pm
Show Location:
Antique Gas & Steam Engine Museum
2040 N. Santa Fe Avenue, Vista, CA 92083
No contact information given

October 11: FALLBROOK, CA
Fallbrook Gem and Mineral Society
123 W Alvarado St
Hours: 9-4
Contact: Michelle Shearer; 760-805-2184
Email: *info@fgms.org*
Website: *www.fgms.org*

The Mariposa Gem & Mineral Club is hosting a Rockin Tailgate Rock Swap on Saturday, October 17th, 10am - 5pm at the Mariposa County Fair-grounds parking lot!!!!
Buy, Sell and Swap; rocks, gems, minerals, rough, You MUST RSVP to get a space. Booth space is $10 per vendor, payable the day of the event. You must provide your own tables, shade, chairs, etc.
You can message the Mariposa Gem & Mineral Club on Facebook, email us at *mgmc@sti.net*, or call Nikki West at 209-742-4234 to reserve a space.

NOVEMBER (2020)

November 14 – 15: YUBA CITY
Sutter Buttes Gem & Mineral Society
Yuba-Sutter Fairgrounds
442 Franklin Hall, Yuba City, CA 95991
Hours: Sat. 10 am – 5 pm,
Sun. 10 am – 4 pm
Show web site: http://
sutterbuttesgemmin.org
29th Annual Festival of Gems & Minerals: Raffle, silent auction, kids table, door prizes, exhibits and 14 dealers.
Contact: (916) 677-6696,
horita@comcast.net

WAYNE'S MOM'S LEMON JELLO CAKE

1	Pkg. lemon cake mix
1	Pkg. Lemon jello
¾	Cup Water
Eggs	
¼	Tsp. Lemon Extract (1Tbsp. lemon juice)
¾	Cup vegetable oil

Preheat oven to 350 degrees F. Beat above ingredients (except oil) together. Stir in oil. Pour into greased 9 x 12 x 2 pan. Bake for 40 minutes. Prick cake with toothpick. Add glaze.

Glaze: 2 cups confectioner's sugar,
juice of 2 lemons, (1/3 cup),
grated rind of 1 lemon.
Mix well. Prick cake,
smooth on glaze. (Save extra glaze for graham cracker sandwiches!!)

Amazing piece of Chrysanthemum Stone from Liuyang in Hunan Province, China. From Joca Alexandru > Classic Agates and Jaspers via Rockhound Connection

Orcutt Mineral Society, Inc.
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Santa Maria, CA 93456-0106

ADDRESS CORRECTION REQUESTED

The ORE-CUTTS (named after William Orcutt) was first published in 1966. Member Helen Azevedo was the first editor. The Orcutt Mineral Society was founded in 1958, and was also named after Orcutt who was a geologist and civil engineer who worked in the Santa Maria Valley as a District Manager for Union Oil Company in 1888. In 1889, William Orcutt discovered the mineral and fossil wealth of the La Brea Tar Pits on the property of Captain Alan Hancock in Los Angeles. The La Brea Tar Pits are one of the most significant fossil finds in paleontological history.

OMS is a non-profit organization dedicated to stimulating an interest in the earth sciences. The club offers educational programs, field trips, scholarships, and other opportunities for families and individuals to pursue an interest in the collecting and treatment of lapidary materials, fossils, gems, minerals, and other facets of the Earth Sciences. In addition, another goal of this Society is to promote good fellowship and proper ethics in pursuit of the Society's endeavors. Operating Rules have been set forth to guide the officers and members of the Society in accomplishing these aims. Affiliations of the OMS include American Federation of Mineral Societies, and California Federation of Mineral Societies.