

MOROKS

SEPTEMBER 2014

Monrovia Rockhounds Newsletter

P.O. Box 553

Monrovia, CA 91017

Editor – Janie Duncan



MOROKS SEPTEMBER 2014 NEWSLETTER

SUN	MON	TUE	WED	THU	FRI	SAT
	1 Happy Labor Day	2	3	4 MOROKS board Meeting 2:15 @ Janie's	5	6
7	8	9	10	11	12	13
14	15	16	17	18 Gen Meeting Sapphires 7pm	19 Field trip to Gems a Plenty- Meet there 11am	20
21	22 First day of fall	23	24	25	26	27
28	29	30				

MOROKS SEPTEMBER 2014 NEWSLETTER



MONROVIA ROCKHOUNDS

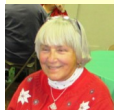


Our Website is www.moroks.com

ELECTED OFFICERS



PRESIDENT – NEWSLETTER Janie Duncan (626) 358-8157



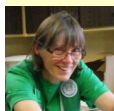
VICE PRESIDENT – Camille Rutkowski



SECRETARY – Michele Silcock (626) 357 8425



TREASURER – CUSTODIAN - Jim Lloyd (626) 793-9239



AUDITOR – FELLOWSHIP Louise Stack (626) 966-0350

CHAIRPERSONS

REPRESENTATIVE – Ray Ritchey (626) 359-1624

REPRESENTATIVE – Colleen Chestnut (626) 443 7662

FEDERATION – Jo Anna Ritchey (626) 359-1624

HISTORIAN – Nancy Hamrick (626) 357-4106

BULLETIN – Janie Duncan (626) 358-8157

CUSTODIAN – Jim Lloyd (626) 793-9239

PICNIC – PHOTO Donald Sneberger (626) 941-6214

SHOW – WEBSITE – Jo Anna Ritchey (626) 359-1624

ROCK DRAWING - Louise Stack (626) 966-0350

FIELD TRIP – Ray Ritchey (626) 359-1624

CARD FELLOWSHIP— Aynn Freeman (626) 303 4343

Mission Statement : Our Purpose is to promote popular interest and education in the earth sciences, including geology, mineralogy, paleontology, the lapidary arts, and related subjects; to sponsor and provide means of coordinating the work and efforts of persons and groups with similar interests; and by and through such means to strive toward greater community and international good will and fellowship. We also support promoting and ensuring the right of amateur hobby collecting, recreational rock hunting and the use of public and private lands for educational and recreational purposes related to the earth sciences. We are a registered 501 C 3 non profit organization.

Affiliations & Accreditations: The Monrovia Rockhounds is affiliated with the California Federation of Mineralogical Societies, Inc. (CFMS), the American Federation of Mineralogical Societies (AFMS), and the American Lands Access Association (ALAA).

Membership: Annual donations are \$15.00 per member and \$5.00 per each additional member at the same address. \$10.00 per name badge is payable on the date of initiation.

Meetings: MOROKS meetings are held on the 3rd Thursday of each month. At 7:00 pm, in the basement of the United Methodist Church of Monrovia, located at 140 E. Palm Ave. Monrovia CA 91016. The building is on the corner of Ivy & Palm Ave. We use the door where there is handicapped access in the alley on the west side of the building. Do not try to enter from the front of the building. Guests are always welcome at our General Meetings. Please come and share our love of rocks.

Information: Monrovia Rock Hounds Inc. was founded August 28th, 1957. The club colors are green & white. The club is a non-profit organization dedicated to providing knowledge of the lapidary arts, geology, mineralogy, and other related fields. Members enjoy slide shows, lectures, demonstrations, displays, lapidary classes, our club library as well as field trips for exploration, study and collecting specimens.

We reserve the right to edit all material submitted for publication.

If you have any submissions for this newsletter or need to contact the editor Janie Duncan please email her at janieduncan@altrionet.com

**Monrovia
Rockhounds
September
Birthdays**

Maria Davila
Louisa Davila
Joel Tureaud
Donald Sneberger
Rex Chambers
Harold Vannatta
Louise Stack
Ralph Fregoso
Rudy Lopez
Janie Duncan



2014 MULTI-CLUB FIELD TRIP SCHEDULE Distributed to the representatives of the Del Air – Glendora -- Monrovia -- North Orange County -- Pasadena -- Whittier Gem Mineral and Lapidary Clubs

SEPTEMBER 20 & 21 : JALAMA BEACH - Agate, jasper, petrified whale bone, travertine onyx, Marcasite and fossils.

OCTOBER 11 : SEARLES LAKE CLUB SHOW & field trips: Pink halite crystals & borax minerals.

NOVEMBER 1 & 2 : WHITTIER CLAIM AREA - honey onyx, agate, jasper, palm root, etc.

NOVEMBER 28 - 30 : WILEY WELL AREA - Geodes, Agates and other good stuff.

DECEMBER 6 : HIMALAYA MINE TOURMALINES - Dig your own pink and green California tourmalines from the world's most famous tourmaline mine, the near beautiful Lake Henshaw in San Diego County, 20 miles east of Pala. Over 200,000 lbs. produced since 1898 including quartz crystals, lepidolite, topaz, and other pegmatite minerals.

JANUARY 24 & 25 : QUARTZSITE ARIZONA SHOWS

For up-to-date information on these field trips and how to joining the trip please see your club's field trip leader or call Joe Goetz at (626)-622-9420.



Janie Duncan

PREZ SEZ Becky Fregoso's wire wrap class was a huge hit!!!! Thank you so much Becky for all your hard work and to Ralph who donated all the finish cabochons. We all had a good time and it was nice to see so many guests turn out to learn a new skill. I can hardly wait for the September meeting where we will be hunting for Montana sapphires. Please wear older clothes as we will be working with water as part of the process. Please bring a pair of tweezers with you to help pick them out as they are very small. I have containers for you to take them home in. Guests are welcome. We will all get an equal amount of the gravel from Phillipsburg Montana mines. The silent Auction is in October and will be here before you know it so please start gathering items now. If you have any questions on the field trip September 19th please call me.

VICE PREZ SEZ

I hope you all can come to the September program and do some real rock hunting in Monrovia.



Camille Rutkowski

August 7th***MONROVIA ROCKHOUNDS BOARD MEETING***

President: *Janie Duncan* called the meeting to order at 2:25 PM.

Vice President: *Camille Rutkowski* was absent August is the wire wrapping class by Becky Fregoso. September is Hunting for Montana Sapphires in Monrovia. October is the Silent Auction.

Secretary: *Michele Silcock* The minutes were approved as corrected in the bulletin.

Representative: *Ray Ritchey* no report

Representative: *Colleen Chestnut* was absent

Treasurer: *Jim Lloyd*. We have 34 paid members.

Auditor: *Louise Stack* The books add up. There is an outstanding check and Janie will contact the speaker to ask about it.

Website: *Jo Anna Ritchey* It is up to date.

Photographer: *Donald Sneberger* no report.

Federation: *Jo Anna Ritchey* The 2015 Show will be in Lodi and hosted by the CFMS officers. The 2016 in Placer-ville. They are near gold panning areas. The fall meeting of the CFMS is in Visalia in November.

Fellowship: *Louise Stack* Michele Silcock is a little better and Ray Ritchey took a bad fall and got stitches on his head.

Field trip: We need a field trip Chairman. Any volunteers?

Bulletin: *Janie Duncan* Janie received an Honorable mention from the AFMS for small Bulletin.

Historian: *Nancy Hamrick* next week.

Picnic: *Donald Sneberger*

Great Rock Drawing: *Louise Stack* Petrified wood

Custodian: *Jim Lloyd* The garage rent went up \$50.00 per month..

MOROKS Fun Day. Go the MSSC Picnic August 10th at Bruce Carter's House in Monrovia. Possible trip to Gems a Plenty in Pomona.

Refreshments: Ray Audette and Holly Galluzo will bring them for August. Denise Davis will do September.

Show: *Jo Anna Ritchey* She has assigned sub chairmen for show. Michele will do the Main Prizes, Janie will do Kids, Kitchen and ticket printing. Louise Stack will do Volunteers. Aynn Freeman will do the Treasure Wheel. William has been asked to do Security and Publicity and Denise Davis main prize tickets sales. We hope Tom will do the truck and Thomas Witt the overnight security. We will need somebody for grab bags.

Old Business: *Janie Duncan* Janie and Louise are working on the roster.

New Business: *Janie Duncan* We still have not gotten a solid answer about the fees for the Monrovia Arts Festival October 11 and 12th.

Janie Duncan Adjourned the meeting at 3:40 pm

Bench Tips by Brad Smith More BenchTips by Brad Smith are at FaceBook [facebook.com/BenchTips](https://www.facebook.com/BenchTips) or at groups.yahoo.com/group/ Get all 101 of Brad's bench tips in "Bench Tips for Jewelry Making" on Amazon .com



INVENTORY RECORD

In an ideal world each of us has a complete pictorial record of all pieces of jewelry in our inventory. We use it for insurance. We use it as a record of what was sent out on consign-ment. We use it to remember which items we are taking to a show. And eventually, we use it as a record of what we have sold. Unfortunately, we don't always have time to take good pictures for an inventory. In situations like this I've been able to make a quick record with the help of a color copier. Simply place a number of pieces face down on the glass and make a copy. The quality is more than sufficient for an accurate record.

August 21st**MONROVIA ROCKHOUNDS GENERAL MEETING**

President: *Janie Duncan* called the meeting to order at 7:04 PM.

Vice President: *Camille Rutkowski* was absent Tonight is Introduction to Wire Wrapping Class by Becky Fregoso. Ralph has furnished the stone sfor the class and Beckeywill buy the wire and the club will pay for it. We are doing the basics only due to time. September is Sapphires hunting in Monrovia. We will actually be screening gravel sent from Montana in water tubs. Wear old clothes and bring tweezers. More information to come on this fun meeting. October is the Silent Auction.

Secretary: *Michele Silcock* The minutes were approved as corrected in the bulletin.

Representative: *Ray Ritchey* was absent.

Representative: *Colleen Chestnut* was absent

Treasurer: *Jim Lloyd*. We have 39 paid members.

Auditor *Louise Stack*: no report.

Website: *Jo Anna Ritchey* up to date.

Federation: *Jo Anna Ritchey* The 2015 Show will be in Lodi and hosted by the CFMS officers. The 2016 in Placerville. They are near gold panning areas. Jo Anna will be attending the fall CFMS meeting in Visalia.

Fellowship: *Louise Stack* We had 7 guests present. Cal Matthews, Daley Morelli and Vincent, Monica, George Brown, Robb and Justin Hall Colleen Chestnut is in Ireland.. Ray is still having a hard time.

Photographer: Donald Sneberger took pictures .

Show: *Jo Anna Ritchey* has assigned sub chairmen for show. We have a couple of new dealers for the show next year. Michele will do the Main Prizes, Janie will do Kids, Kitchen and ticket printing. Louise Stack will do Volunteers. Aynn Freeman will do the Treasure Wheel. William has been asked to do Security and Publicity and Denise Davis main prize tickets sales. We hope Tom will do the truck and Thomas Witt the overnight security. We have to find someone to do grab bags as Jeremy berg moved.

MOROKS Fun Day: The MSSC picnic was a lot of fun. The people were very nice and the food was fantastic. Rudy's BBQ was the best!

Field trip: Looking for a chairman. Trip to Gems a Plenty in Pomona Scheduled for Friday September 19th 11 am there. See the flyer in this newsletter for details. Free entrance and free parking.

Bulletin: *Janie Duncan* Janie received an Honorable mention from the AFMS for small Bulletin.

Historian: *Nancy Hamrick* Monday August 29th at Janie's house.

Picnic: *Donald Sneberger* no report

Great Rock Drawing: *Louise Stack* The drawing for for 2 chunks of petrified wood. .

Custodian: *Jim Lloyd* Ralph says we need new clips for the show cases and will buy them and the club will reimburse him. They will not be a stand head screwdriver.

Refreshments: Holly Galluzo and Ray Audette brought them tonight. Denise Davis volunteered for September.

Old Business: *Janie Duncan*

I. We still have not gotten confirmation on the fees for the Monrovia Arts Festival on October 11 and 12th at Library Park. We will get sign up sheets at the next meeting. Jo Anna says we need to make grab bags soon.

Pam Werner was voted in as a new member last meeting.

New Business: *Janie Duncan* Janie has a cub and Boy Scout Geology class for 32 boys next week.

Janie Duncan Adjourned the meeting at 7:32pm

Rock Song Title of the Month: '*Diggin' Up Bones*' by *Randy Travis*

September Program Hunting for Montana Sapphires in Monrovia



<http://www.amlands.org> for more information on what you can do to protect our rock sites.

Mineralogy of Turquoise What is Turquoise?

Chalcosiderite



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The official chemical formula is: hydrous basic phosphate of copper and aluminum that may contain some iron, $\text{CuAl}_6(\text{PO}_4)_4(\text{OH})_8 \cdot 4\text{H}_2\text{O}$. [Note: Mindat.org has it as $\text{Cu}(\text{Al}, \text{Fe}^{3+})_6(\text{PO}_4)_4(\text{OH})_8 \cdot 4\text{H}_2\text{O}$] It is believed that iron is responsible for turquoise shades of bluish-green to green. Ferris ions (Fe^{2+}) may substitute for copper and ferric ions (Fe^{3+}) may substitute for aluminum. Turquoise crystals are rarely found and apparently when they do form; specimens that have been found are less than a millimeter. That tells me that most turquoises, particularly those that are less than pure sky blue, are more like rocks than a mineral. The study, "A Reexamination of the Turquoise Group" by Eugene E. Foord & Joseph E. Taggart, Jr © 1998 The Mineralogical Society, supports my belief by a note in their study that said "Pure and nearly pure turquoise is quite rare...The most common impurity element is silicon. Other authors have found impurities like amorphous silica, quartz, kaolinite montmorillonite, allophane and other phosphate minerals." Back in 1915 Joseph E. Pogue in his first addition of his landmark book Turquoise, included a chemical composition of 21 samples of turquoise from several different mines. Later the data was discredited because the specimens weren't pure enough. Apparently, there were just too many metals that didn't belong there (manganese, magnesium, calcium, & silicon); once again leading one to believe that much turquoise is a mineral in a rock. There are also groups of minerals closely related to turquoise even rarer than turquoise that are sometimes found in the mix. The Turquoise Group (Hardness 5-6) Turquoise $\text{CuAl}_6(\text{PO}_4)_4(\text{OH})_8 \cdot 4\text{H}_2\text{O}$ Aheylite $\text{e}, \text{ZnAl}_6(\text{PO}_4)_4(\text{OH})_8 \cdot 4\text{H}_2\text{O}$ Chalcosiderite $\text{Cu}(\text{FeAl})_6(\text{PO}_4)_4(\text{OH})_8 \cdot 4\text{H}_2\text{O}$ Faustite $(\text{Zn}, \text{Cu})\text{Al}_6(\text{PO}_4)_4(\text{OH})_8 \cdot 4\text{H}_2\text{O}$ Planerite $\text{Al}_6(\text{PO}_4)_2(\text{OH})_8 \cdot 4\text{H}_2\text{O}$ Treated Turquoise The only one in the group that might be mistaken

for siderweb turquoise is Chalcosiderite. One of the first steps in studying a group, such as minerals, is to subdivide them according to similarities they may have with one another. This is called classification or the Dana System, devised by Professor James Dana of Yale University way back in 1848. Minerals are classified according to chemical composition. There are nine major chemical groups and many more minor groups under each major group. [Note: You will find a number of different major mineral groups on the WEB. The one below seems to be the most complete and keep in mind, there are still many new minerals being discovered every year. The majors are: 1. native elements, 2. sulfides, 3. halides, 4. Oxides and Hydroxides, 5. Nitrates, Carbonates, & Borates, 6. Sulfates, 7. Phosphates, Arsenates, & Vanadates, 8. Silicates, and 9. Non-minerals (a group of their own). The Turquoise Group falls under the Phosphates, Arsenates, and Vanadates mineral class as does the Variscite Group. The Variscite Group (Hardness 4-5) Mansfieldite $\text{AlAsO}_4 \cdot 2\text{H}_2\text{O}$ Scorodite $\text{FeAsO}_4 \cdot 2\text{H}_2\text{O}$ Strengite $\text{FePO}_4 \cdot 2\text{H}_2\text{O}$ Variscite $\text{AlPO}_4 \cdot 2\text{H}_2\text{O}$ Yanomamite $\text{InAsO}_4 \cdot 2\text{H}_2\text{O}$ It's not surprising that some variscites are difficult to differentiate from turquoise. Joseph E. Pogue noted turquoise was found by J. E. Clayton in 1910 in two variscite mines in Esmeralda County, Western Nevada. The difference between the members of the turquoise subgroup (or class) and the members of the variscite subgroup is their crystalline forms. The members of the Turquoise Group are Triclinic phosphates and the members of the variscite Group are orthorhombic arsenates and phosphates. Chalcosiderite Crystallography is the science that examines the arrangement of atoms in solids. Since both turquoise or variscite are usually found in massive form, neither groups produce crystals that can be seen by the naked eye or even under a microscope. Therefore getting into crystal forms of turquoise and variscite for identifying them, is of little use. That said, reliable identification outside a laboratory is difficult if not impossible. The best you can do is test for hardness. There is one more subgroup, the Metavariscite group. It's namesake mineral, meta-



Monoclinic Metavariscite

variscite, only differs from variscite by its crystal form, monoclinic. The Metavariscite Group (Hardness 3-5) Kolbeckite $\text{ScPO}_4 \cdot 2\text{H}_2\text{O}$ Metavariscite $\text{AlPO}_4 \cdot 2\text{H}_2\text{O}$ Phosphosiderite $\text{FePO}_4 \cdot 2\text{H}_2\text{O}$ UM2005-02-AsO:AlHPScSi $\text{ScAsO}_4 \cdot 2\text{H}_2\text{O}$ The point is there are numerous look alikes in the phosphate groups and few reliable



About "Treated" Turquoise via the South Bay Agitizer permission from John Foutz. 8/28/2014

Note: There is very little hard, "natural" gem quality turquoise on the market. Hence, in most cases, some sort of hardening treatment of this ancient, relatively soft mineral is needed ... especially for strung beads to help prevent breakage during the drilling and tumble polishing processes. "Stabilized" refers to an old method of pressure baking hot resin into the stone to improve it's hardness and depth of color. Stabilized turquoise leaves a slightly waxy surface. There are many formulas and techniques for stabilizing, many of them considered a trade secret of individual processors. In most cases, tints or dyes are routinely added to the stabilizing resin to enrich the color of the lower grades of turquoise. Since many of these color treatments are difficult or impractical to prove definitively, the approach that should be taken is, unless otherwise indicated, to assume that a dye may have been applied to that particular stone.

"Zachery Process" The late 1980's brought about a new stabilizing treatment known as the "Zachery Process." It was invented by an electrical engineer and lifetime turquoise dealer named James E. Zachery. This treatment can improve the color/appearance of some types of turquoise, reduce it's porosity and to date shows no sign of discoloring with age. The treatment is virtually impossible to detect with standard gemological tools. This process involves a bath of minerals identical to those found in natural turquoise along with a charge of electrical current. Our cousin, Sterling Foutz, now owns the exclusive patent for this new process. Read: Gems & Gemology magazine. Spring 1999 - The quarterly journal of the Gemological Institute of America (GIA). Click:http://www.gia.edu/gemsandgemology/wd_18578ar_2070aris_585_back_issue_article_detail.cfm "Enhanced" This term was at first used to describe the Zachery Process (above) but the term "Enhanced" been Sure. Go ahead. Jacque Foutz <jacque@jacque.net> The word "treated" and "enhanced" now can mean anything. The "Zachery Process" is patented, exclusive to Sterling Foutz's production, and this term should only be used for turquoise that has been 'treated' or 'enhanced' with the "Zachery Process". The Zachery Process is classed by the GIA as "impregnated natural turquoise"

The "Eljen Process" is another new hardening technique and was just recently classed by the GIA as "impregnated natural turquoise" ... "showing no evidence of dye". It leaves only a small amount of polymer and reacts only very slightly to a hot needle test. Ref: Gems & Gemology magazine. Summer 1009 - The quarterly journal of the Gemological Institute of America (GIA).



September Fieldtrip Friday 19th 11 am at Gems a Plenty in Pomona

234 N. Mountain View Ave. Pomona CA 91676 (909) 469-0929

<http://www.gemsaplenty.com> Also on Face Book

**Retail/Wholesale, Gems, Minerals, Jewelry, Sea Shells, Fossils, Antiques, Geodes
Cut on the Spot; 6+ Varieties- Hollow, Lapidary Machines/Supplies, Tons of Rough,
Jeweler's tools, Findings, Displays, And MUCH More!!!**

**10 freeway 4.2 miles past the 57. Exit Towne Ave. turn right go south for 1 1/2
miles. Turn left on E. Monterey Ave. Turn right on Mountain View Ave. and
Gems a plenty will be on the left side. Free parking. Free admission.**

JANIE
 THANK YOU FOR TAKING THE
 TIME FOR OUR PACK AND TROOP 724
 IT WAS A GREAT DAY.
 ALL OF OUR SCOUTS LOVE
 IT.
 THANK YOU AGAIN.
 SEE NEXT AUG 8th, 2015.
 DENNIS MATTHEWS
 Pres & Troop 724



THANK YOU!

Do you have LITHOPHYLLOSIS?

There is **NO** cure! The word comes from Latin:

lithos meaning rock: phyl, and attraction to: and osis, condition

Put them all together and you get a condition where the victim has an uncontrollable attraction to rocks.

The disease can strike anyone, at any time, at any age, and . . . **IS EXTREMELY CONTAGIOUS!**

Sounds like common old **ROCK POX** to me, we have had that for years anyway! It is

often caught at, and symptoms may become aggravated by, but may also for some, be relieved by, attending rock shows, club meetings, and field trips. Although be sure to use caution as all these things are **HIGHLY** addictive!! And are usually passed on to your children who will then be lifelong sufferers.

(Source: Beehive Buzzer 9/09;
CLACKAMETTE GEM 6/14) via The Slate

Hidden Dangers in Our Hobby Acetone: An industrial type of solvent containing harmful vapor

Hydrogen sulfide: By-product of sulfur and water. Deadly poison!

Manganese: In dust or vapors, it can damage the nervous system.

Quartz, agate, sandstone, granite, chert, flint: All are of the silica rock family. The dust from this family contributes to silicosis of the lungs.

Styrofoam: When heated or burned, it releases toxic gases.

Abalone: Grind and polish only when wet. Be aware that any odor detected is highly toxic.

Malachite: Work wet, as the dust created when working dry is toxic.

Lead: Known to enter the body from dust, fumes, and water. It can damage the brain and neuromuscular system. While it is not healthy to fear everything, one should be aware of hidden dangers in apparently innocent looking material that we all use extensively in our hobby. If you are using a material that is new to you, read the labels and heed any warning. We want all lapidarists to remain a healthy lot and continue to live long, active lives! Via: The Agatizer



Photos by Donald Sneberger

MOROKS PICTURE PAGE AUGUST PROGRAM WIRE WRAP CLASS



Becky Fregoso teaching the class.



CFMS September Rock Shows

SEPT. 6-9—GOLDEN, COLORADO: Inaugural show; Fine Mineral Shows; Denver Marriott West; 1717 Denver West Blvd.; Sat. 10-6, Sun. 10-6, Mon. 10-6, Tue. 10-5; free admission; more than 50 dealers; contact Dave Waisman, (509)998-5987; e-mail: info@finemineralshow.com ; Web site: www.finemineralshow.com SEPT. 6-14—DENVER, CO: Wholesale and retail show; Eons Expos, LLP; Denver Coliseum; 4600 Humboldt St.; Daily 9-6; free admission; two floors, almost 100 tents; contact Heather Grana, 235 First St., Keyport, NJ 07735; e-mail: Heather@EonsExpos.com Web site: www.ColiseumShow.com

SEPT. 7-14—DENVER, CO: Wholesale and retail show; Martin Zinn Expositions; Ramada Plaza Denver Central; 4849 Bannock St.; Daily 10-6; free admission; 200 wholesale and retail dealers; contact Regina Aumente, PO Box 665, Bernalillo, NM 87004, (505) 867-0425; e-mail: mzexpos@gmail.com ; Web site: www.mzexpos.com

SEPT. 12-14—DENVER, CO: Denver Gem & Mineral Show; Greater Denver Area Gem & Mineral Council; The Denver Mart - Expo Hall (formerly the Denver Merchandise Mart); 451 E. 58th Ave., I-25 Exit 215; Fri. 9-6, Sat. 10-6, Sun. 10-5; adults \$6, seniors and students \$4, children accompanied by an adult free; "Agate": nearly 200 dealers, speakers, demonstrations, shuttle to satellite shows, free gem and mineral identification, door prizes, "Mr. Bones", kids' activities and gold panning; contact Robert Berry, Greater Denver Area Gem & Mineral Council, c/o Denver Museum of Nature & Science, Box 4, 2001 Colorado Blvd., Denver, CO 80205- 5798, (303) 638-5000; e-mail:

Virtual Geology Museum, Fact and Fun! <<http://skywalker.cochise.edu/wellerr/VGM/intro.htm> > via Lapidarian **Iron Meteorite** -is one of the most identifiable of the different varieties of meteorites. Iron meteorites are made mostly of iron with some nickel. Often the metal is crystallized and the pattern can be brought out by etching with acid; the resulting geometrically arranged lines are referred to as Widmanstatten pattern photo by R. Weller,



WEST COAST GEM & MINERAL SHOW

NOV. 7 - 9, 2014

SANTA ANA, CA

Holiday Inn - Orange County Airport
2726 S. Grand Ave.

(take 55 Fwy exit for Dyer Rd. to S. Grand Ave.)

75 Top Quality Dealers

Minerals ★ Fossils ★ Gemstones ★ Jewelry

Beads ★ Decorator Pieces ★ Meteorites


Lapidary ★ Metaphysical

FREE ADMISSION ★ FREE PARKING ★ WHOLESALE ★ RETAIL

Show Hours: Fri. & Sat. 10 - 6 ★ Sun. 10 - 5

LLD Productions, Inc. in cooperation with Martin Zinn Expositions, L.L.C., P.O. Box 665, Bernalillo, NM 87004

Fax: (303) 223-3478, mzexpos@gmail.com, www.mzexpos.com

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Fluorite - Auglaize Quarry, OH
Photo by Joe Budd©

