NOVEMBER 2011

WHITTIER ROCKHOUNDER GEM & MINERAL SOCIETY

Meeting Date: November 17, 2011

Desert vista: Looking North-east from the WGMS Claim. Field trippers in the middle-center with the Calico Mtns in the back beneath a clear, blue sky.

ROCKHOUNDER

THE PREZ SEZ:

Congratulations one and all. The 2011 Whittier Gem and Mineral Society annual show is now history. And what a show it was. We expanded our venue this year taking in not only the Gymnasium, but the room adjacent as well. I think that was a good move. To be sure it placed a bit of strain on our manpower, but as I expected, everyone stepped up to the plate and did their part to make the show a success. The second room made possible a larger silent auction and gave the demonstrators a bit more elbow room. And, to the best of my knowledge, we didn't have a single power outage. The food service area had expanded seating which allowed people to relax and enjoy the excellent montage of photos depicting the activities of our club put together by Marcia Goetz. I won't try to itemize all of the individuals who made this wonderful show possible, because it would read much like our membership roster. I do want to thank all of you for your support, and I promise not to nag you about the upcoming show for the rest of my term in office. You make me proud to be a member of WGMS. We are an amazing group.

Now that the show is over, we can all get ready for the Holidays. Our club will be going to Afton Canyon for the Thanksgiving weekend. As usual, in addition to some excellent rockhounding we will be feasting. Weather permitting, this may be a banquet in the desert or, if the wind gets too strong we will huddle into one or more RVs for the feast. I'm hoping for a calm night because I love the campfires. Whatever happens I know that we will all have a good time.

Remember that in November our meeting is on the third Thursday, in order not to conflict with Thanksgiving activities. I'll see you there.

Jerry

WGMS General Meeting

Thursday, October 27, 2011

at 7:30 PM

"Year-in-Review Trivia Contest"

November's program will be our 2nd "Annual Trivia Contest", but this year will have a twist...all the questions will come from the WGMS monthly newsletter! This should be easy for everybody, and a fun way to remember the past year. Remember there are prizes!!!

Marcia

Proposed Slate of Officers for 2012-2013

I know it doesn't seem possible but two years have passed and it is, once again, time to elect our Club Officers. The following slate of officers was approved by the Board and at the October general meeting.

President.....Art Ragazzi
1st Vice-President (programs).....Marcia Goetz
2nd Vice President (membership) .....Jerry Turner
Secretary.....Jay Valle
Treasurer.....Nancy Kowalski
Federation Director.....Bill Burns
Directors:.....Joe Goetz (field trips)
.....Kathleen Turner
.....James LaBorde

Some of these Club Officers are continuing in the same capacity as last year and a few have changed. They are all active in the running of the club and we hope you will continue to support them. We will vote at the November General Meeting.

The WGMS Rockhounder has Gone Digital!

Yes it is true. Your monthly WGMS Newsletter is now available by e-mail as a .PDF file. This change will allow us to do much more with the newsletter than we have been able to do with the paper copy. Photographs and images will be photo not printer quality and we can include a bunch more in each issue.

We have to have your e-mail address in order to send it to you, though. If you want, members can continue to receive the bulletin in the mail like you always have. Or you can save the Club some money by opting out of the snail mail and go electronic. You get to choose.

If you wish to receive the WGMS Rockhounder Newsletter as an e-mail attachment, contact me at **res19pnb@verizon.net** and tell me what address to send it to.

Thanks.

Jay Valle
WGMS Newsletter Editor

Dues Are Due!

It only seems a year ago that we were reminding you that your WGMS DUES ARE DUE and here it is that time again. As always, if you have already paid for 2012 or joined the Club at our October Show, you do not need to pay again.

The Dues Schedule is as follows:

Single Adults - $15.00
Married Couple - 25.00
Juniors (under 18) - $5.00 each
Students (18 or over, in college) - no charge

Thank you for your continued support for our club.

Isomorphs, Polymorphs, and Pseudomorphs – oh my!

Every discipline has its own jargon and terminology and geology is no exception. At first it may seem overwhelming, akin to learning a new language. But these words allow us to speak and write with greater precision – if the words are used correctly. Let's have a look at the three terms above: isomorphs, polymorphs, and pseudomorphs.

Isomorphs: Two or more substances with analogous formulas in which the cations (+ charged ions) and anions (- charged ions) are similar in size and which thus have closely similar crystal structures and properties. An example of this occurs in the carbonate family. Witherite $BaCO_3$, cerussite $PbCO_3$, strontianite $SrCO_3$, and aragonite $CaCO_3$ all form similar shaped crystals and exhibit similar properties. Hence they are all isomorphs. Many other examples exist including within the garnet and amphibole families. The roots of his word come from the Greek and translate as 'iso' meaning 'equal'; and 'morph' meaning 'shape or form'.

Polymorphs: An element or compound that can exist in two or more crystal forms. Perhaps the most familiar examples of this are diamonds and graphite. Both minerals are pure carbon, but the carbon atoms are stacked up differently. This creates two different minerals with - in this case - greatly differing properties. Polymorphs of the same substance occur because the minerals formed under different pressure and temperatures. In a lab we can determine the conditions needed for a particular polymorph to form. So when a particular mineral occurs in a rock, we can the conditions in which that rock formed. Another common polymorph pair are calcite and aragonite, both have the same composition of $CaCO_3$, but different stacking of the atoms. The roots in this case are again Greek and are 'poly' meaning 'many' and 'morph' meaning 'shape or form'.

Pseudomorphs: A mineral that has replaced another mineral with no change in its external form. Pseudomorphs can form if a constituent element is gained or lost; or by the entire replacement of the mineral composition. As an example, fluorite crystals might be replaced entirely by quartz crystals. So the quartz crystals have all the proper properties of quartz (hardness, luster, density, etc.), but exhibit the cubic shape of fluorite crystals. So a mineral ends up having the 'wrong' shape. Geologists would refer to this as 'quartz after flourite'. Because crystal shape is one of the properties we commonly use to identify a mineral, it is easy to make a mistake in the identification of a pseudomorph. Pseudomorphs form because the original mineral was no longer stable under the new conditions. From the Greek 'pseudo' meaning 'false' and 'morph' meaning 'shape or form'.

The Agateer 10/11

Staurolites

Staurolite is a metamorphic mineral that is famous for its twinned crystals that form the shape of a cross. It is composed of iron aluminum silicate and its color ranges from yellowish brown to reddish brown to black. It can be transparent or opaque. It forms with garnet, tourmaline and kyanite in mica schists and gneisses and other aluminum-rich metamorphic rocks. They can be found in Virginia, North Carolina, Georgia and New Mexico. Deposits are also located in Russia, France and Brazil. It is the official state mineral of Georgia The cross most commonly forms at a 60 degree angle (St Andrew's Crosses) but the 90 degree angle (Greek Crosses) is most sought after. They sometimes form with both types of crystals creating a specimen that looks like a 6 rayed star. Staurolite gets its name from stauros, the Greek word for cross but is also known as Fairy Stone and Fairy Cross. It has long been prized as a good luck charm and is thought to aid in healing and provide protection from evil spirits. A popular Christian legend states that tears shed by the angels at the time of Christ's crucifix-ion crystallized and fell to the earth as Staurolites. Other legends claim they were formed by the tears of fairies, shed in sorrow over the death of Christ. The Cherokee have their own legend which tells of the little people who brought to them a tale of greatness and sadness. The little people spoke of a special boy-child who had grown into a man of wisdom and taught his people the ways of the Creator and the straight white path of peace. He brought strong medicine (nuwati) to his people but had many enemies who would not hear his message of peace. On this day they would torture and kill the wise man. Because of their sorrow, the Cherokee began to cry. When their weeping had ended they looked down and saw that their tears had been changed into small stone crosses. (legend preserved by the Chiltoskey family of Cherokee North Carolina) The Cherokee also tell of an annual ceremony centered around staurolites that was held at the Spring Solstice full moon. At sunset staurolite crosses would be put into the fire and heated until they were glowing hot, then car-ried to a special mound with green sticks. There they glowed for hours and were reheated as neces-sary to keep them hot until sunrise. The ceremony assured the people of safe passage, rain during the growing season and an abundance of food in the fall.

Smithsonia via Strata Gem 6/11, via

Field Trip to the Cady Mountains
November 24-27, 2011

MATERIAL TO COLLECT - Red and yellow agate, jasper, plume and sagenite, opalite, calcite rhombs, chalcedony roses, amygdules, green fluorite, onyx and much more.

PROPOSED SCHEDULE – Every year a group of campers goes out early and celebrates Thanksgiving in the desert. (If you wish to enjoy Thanksgiving with out on the desert you should call Joe Goetz to see who's going and what the arrangements are.) Starting on Friday a group will be leaving camp at around 8 a.m. and caravan to a different area to collecting area. There will be a potluck on Friday & Saturday evenings at around 5 p.m.

DIRECTIONS TO CAMP SITE – Take the I-15 Freeway East past Barstow for about 45 miles and exit at Basin Road. Take the off ramp to the right and follow the signs to our camp site area. The road to the camping site should be okay for 2-wheel drive cars, trailers & motor homes. We will be camping at the marble quarry just on the other side of the Mojave River (away from the railroad tracks - watch for the W/PLS signs).

VEHICLE - 4-wheel drive vehicles are necessary from camp to collecting areas. The desert road is sandy and in some areas may have large rocks in it. It's usually possible to ride along with someone in a 4x4 but no guarantees.

CAMP & FACILITIES - This will be dry camping, no water, no picnic tables, no toilets, no firewood to be gathered and no fees.

TOOLS - Collecting bags, rock hammer, eye protection, flashlights, spray water bottle, and a camp chair (to sit in at night around the fire.)

SAFETY CONCERNS - Do not lick the rocks, use sun screen, stay away from rattlesnakes, use bug spray, be aware of flash floods, be extra careful and don't get lost.

CLIMATE & WEATHER - It can be hot during the day and cold at night, it could rain.

CLOTHING - Appropriate for this time of the year.

OTHER REMARKS - All club members and their guests are welcome to join us. Come for the day or camp out for the weekend. Bring food, lots of water, a camera and firewood for the campfire at night. If you need a motel or supplies

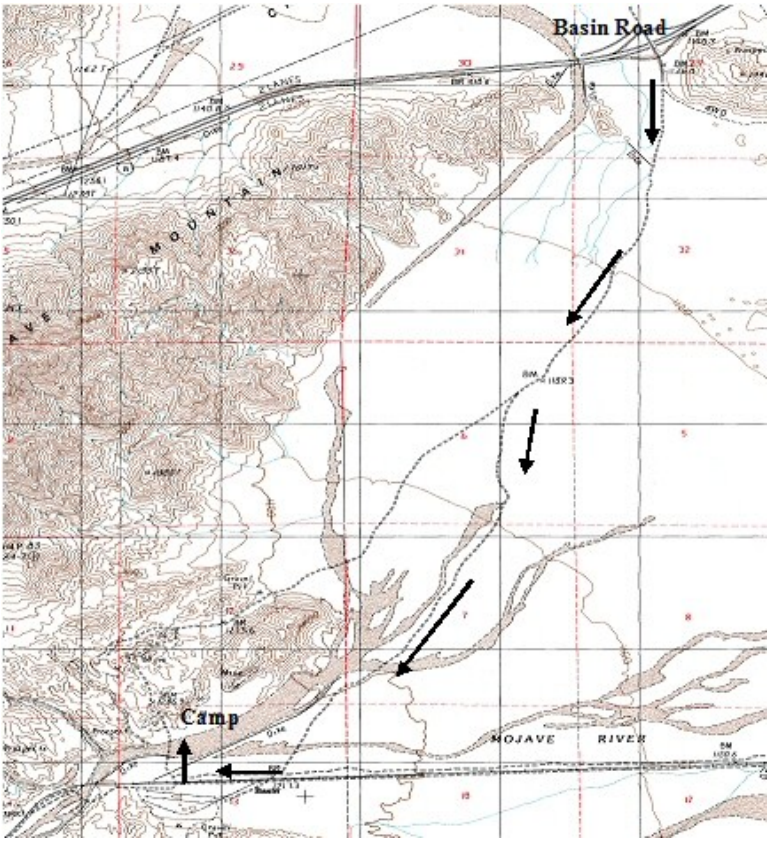
they are available in Baker or Barstow. Don't forget we will have a potluck on Friday & Saturday night, so bring a dish to share and your own place settings. Each night after dark we will have a campfire where we can all join together and have a good time roasting marshmallows, telling jokes or just talking about the good OLE times.

Call Joe if you intend to come on this field trip as the camp location may be changed due to soft sand in the Mojave River Crossing. We will be scouting the location the 2nd week of November.

You must observe the AFMS code of ethics and sign a consent and assumption of risk waiver of liability form.

See you there.

For additional information: call Joe Goetz at (626) 914-5030.



COPPER, A RAINBOW YOU CAN HOLD

Early man used native copper as early as 8,000 BC to fashion simple tools and crude pieces for defensive and offensive instruments of war. It was used by the Incas in Peru, and by the early Egyptian, Roman, Greek and Chinese civilizations. Smelting seems to have been discovered under differing circumstances such as the burning of fires for heat and cooking.

The Bronze Age began about 3000 BC when man began making alloys of copper and tin. Tin was brought to the Egyptians and Greeks from the "Islands of the Cassiterides" by Phoenician sailors and traders. The "Islands of the Cassiterides" were actually what we know as the British Isles and it was the mines of Cornwall, in southwest Britain, that were the chief source of tin. The island of Cyprus was the main source of copper. Natives called it "Cyprium metal". Romans later called it "Cyprium". Scientists have provided us with the geological associations of copper in our country. A study of Precambrian formations introduces us to copper, and copper minerals, in Montana and Arizona. Paleozoic rocks in Utah provide copper. Copper is found in the Mesozoic outcrops of California and Nevada.

The more recent Tertiary Age is where we next pick up the trail of copper. We are aware of copper deposits in Lake Superior , Sierra Nevada, the Rocky Mountains and the Atlantic coastal beds that stretch in a chain from Florida to Labrador to western Greenland. Chalcopyrite is by far the most widely distributed ore of copper.

A curious fact is that the areas rich in copper pyr ites carry the merest traces of the precious metals. Chalcopyrite is associated with the purple ores of Butte, Montana. When most prospectors were searching for precious metals, Michael Hickey, a Union Army soldier staked out a claim in the Butte called "Anaconda". This claim became the world's largest copper enterprise. In locations where copper has decomposed through oxidation it is not desirable for smelting. In these areas are found minerals such as malachite and azurite known for their beauty and desirability in the collector's world. Large deposits of native copper were found in the Keweenaw Peninsula of Michigan. Loose nuggets called "float copper" from that location were distributed by ice age glaciers throughout a large area.

Copper has many users historically. At one time small amounts of copper salts were used to can green peas, pickles and other vegetables. Adjusted doses are added to water reservoirs to kill weed growth. Most all of New York City's tall buildings are capped with copper. The Statue of Liberty is made of copper. Everyone likes a rainbow. A common dream is to find the pot of gold at either

end. Copper is made up of all the colors. Reality is seeking the specimens with your desired colors and holding the rainbow in your hands. Consider the red of cuprite, the red-orange of chalcotrichite, the canary yellow of beaverite, the green of malachite, the blue of papagoite, the indigo-blue of covellite or the blue-violet of linarite. A freshly broken piece of bornite, sometimes called "peacock ore," with exposure to air, has every conceivable hue - golden yellow, the deepest indigo, brilliant green and royal blue. Truly a rainbow you can hold.

From Garnet Gazette, via Chips N. Sp

The Remarkable Eye of a Trilobite

The eyes of trilobites, small extinct arthropods of the Paleozoic Era, have been found to possess sophisticated, glass-like lenses capable of producing clear images over a wide depth of field. The lenses owe their remarkable properties to their impregnation with the mineral calcite, specifically calcite with its crystal structure arranged precisely to produce the optical properties of glass, says Kenneth Towe of the paleobiology department of the Smithsonian Institution. The crystal orientation is so accurate and consistent from specimen to specimen that it must have been due to a process of bio-mineralization. The “calcite lenses,” says Towe, “must have been present during the life of the animal.” To study the optics of the lenses, Towe embedded specimens in clear epoxy, face down on glass slides and looked at objects through the eye with a microscope. The result was inverted images that stayed in focus from a few millimeters to optical infinity. A few living arthro-pods have calcified lenses in their eyes, but their poor crystal orientation would produce double vision.

From Quarry Quips via Moroks Newsletter 11/11

2011 Meteor Showers

I hope you all saw the Perseids last month *(ED. He means Au*

What are meteor showers? An increase in the number of meteors at a particular time of year is called a meteor shower. Comets shed the debris that becomes most meteor showers. As comets orbit the Sun, they shed an icy, dusty debris stream along the comet's orbit. If Earth travels through this stream, we will see a meteor shower. Depending on where Earth and the stream meet, meteors appear to fall from a particular place in the sky, maybe within the neighborhood of a constellation. Meteor showers are named by the constellation from which meteors appear to fall, a spot in the sky astronomers call the radiant. For instance, the radiant for the Leonid meteor shower is located in the constellation Leo. The Perseid meteor shower is so named because meteors appear to fall from a point in the constellation Perseus.

What are shooting stars? "Shooting stars" and "falling stars" are both convention, but not very accurate! The source of the Perseid meteor shower is actually debris from the comet Swift-Tuttle. Every year, the earth passes through the debris cloud left by the comet when the earth's atmosphere is bombarded by what is popularly known as "falling stars." When and where to look for Perseids in 2011 In 2011, visibility (the weather also notwith-standing) will be somewhat limited by a full moon on August 13 which will likely wipe out fainter meteors from view. Because of the way the earth hits this debris cloud, the Perseid meteor shower is much more visible in the Northern hemisphere. People in Canada, for instance, can see the meteor shower by mid-July, but generally there isn't much activity at such an early date. Throughout Europe, the US and the rest of North America, meteor shower activity usually peaks sometime around August 12th, when it is not unusual to see at least 60 meteors per hour streaking across the names that people have used for many hundreds of years to describe meteors -- intense streaks of light across the night sky caused by small bits of interplanetary rock and debris called meteoroids crashing and burning high in Earth's upper atmosphere. Traveling at thousands of miles an hour, meteoroids quickly ignite in searing friction of the atmosphere, 30 to 80 miles above the ground. Almost all are destroyed in this process; the rare few that survive and hit the ground are known as meteorites. When a meteor appears, it seems to "shoot" quickly across the sky, and its small size and intense brightness might make you think it is a star. If you're lucky enough to spot a meteorite (a meteor that makes it all the way to the ground), and see where it hits, it's easy to think you just saw a star "fall."

How can I best view a meteor shower? If you live near a brightly lit city, drive away from the glow of city lights and toward the constellation from which the meteors will appear to radiate. For example, drive north to view the Leonids. Driving south may lead you to darker skies, but the glow will dominate the northern horizon, where Leo rises. Perseid meteors will appear to "rain" into the atmosphere from the constellation Perseus, which rises in the northeast around 11 p.m. in mid-August. After you've escaped the city glow, find a dark, secluded spot where oncoming car headlights will not periodically ruin your sensitive night vision. Look for state or city parks or other safe, dark sites. Once you have settled at your observing spot, lie back or position yourself so the horizon appears at the edge of your peripheral vision, with the stars and sky filling your field of view. Meteors will instantly grab your attention as they streak by.

How do I know the sky is dark enough to see meteors? If you can see each star of the Little Dipper, your eyes have "dark adapted," and your chosen site is probably dark enough. Under these conditions, you will see plenty of meteors.

What should I pack for meteor watching? Treat meteor watching like you would the 4th of July fireworks. Pack comfortable chairs, bug spray, food and drinks, blankets, plus a red-filtered flashlight for reading maps and charts without ruining your night vision. Binoculars are not necessary. Your eyes will do just fine.

Perseids: The Perseid meteor shower is an annual meteor shower that is extremely regular in its timing and can potentially be visible for weeks in the late summer sky, depending on weather and location. The Perseid meteor shower is named after the constellation Perseus, which is located in roughly the same point of the night sky where the Perseid meteor shower appears to originate from. This is a useful naming Northeast sky. The meteors are certainly bright, but they are actually only tiny objects, usually no more than a grain of sand. However, as they travel at speeds of up to 71 kilometers per second, these small particles put on quite a brilliant show. The Perseid meteor showers were observed as far back as two thousand years ago, and in ancient Europe, the Perseid meteor shower was known as the "Tears of St. Lawrence."

Robert Sankovich, from the Rocky R

Upcoming CFMS Gem Shows

Nov 19-20 **OXNARD, CA.** Oxnard Gem & Mineral Society
Oxnard Performing Arts Center, 800 Hobson Way
Hours: Sat 9 – 5; Sun 10 – 4
Website: www.oxnardgem.com

Dec 3-4 **BARSTOW, CA.** Mojave Desert Gem & Mineral Society
Barstow Community Center, 841 S. Barstow Road
Hours: 10 – 5 daily
Website: www.mdgms.org

Jan 27-28 **REDLANDS, CA.** Mineralogical Society of Southern California/Micro-Mineralogists
Pacific Micromount Conference
San Bernardino County Museum
2024 Orange Tree Drive
Hours: Fri. 4 - 10; Sat. 8 -10
*Field Trip on Sunday, January 29
Website: www.mineralsocal.org/micro/index.html

Feb 17-26 **INDIO, CA.** San Gorgonio Mineral & Gem Society
Gem & Mineral Building, Bldg #1, Arabia Street
Hours: 10 -10 daily
Email: bert67@verizon.net

Mar 5-6 **ARCADIA, CA.** Monrovia Rockhounds, Inc.
LA County Arboretum, 301 Baldwin Avenue
Hours: 9 - 4:30 daily
Website: www.Moroks.com

Mar 3-4 **VENTURA, CA.** Ventura Gem & Mineral Society
Ventura County Fairgrounds. 10 W. Harbor Blvd.
Hours: Sat 10 - 5; Sun 10 - 4
Website: www.vgms.org

Apr 28-29 **LANCASTER, CA.** Antelope Gem & Mineral Society
Lancaster High School. 44701 - 32nd Street West
Hours: 9 - 5 daily
Website: www.avgem.weebly.com

WGMS MEETING LOCATION!
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(See page 4 & 15 for info & map)