

# THE ROCKHOUND RECORD

Volume 75, Issue 5 Newsletter for the Mineralogical Society of Arizona  
May 2009



**NEXT MEETING:**  
**FRIDAY, MAY 8, 2009**  
**AT 7:00 PM**

## **MEETING TOPIC & SPEAKER**

**OUR SPEAKER FOR MAY WILL BE  
HARVEY JONG**

Program will be about "Collapse Breccia Pipes – A Unique Copper Mineral Occurrence in Arizona"  
On the Colorado Plateau in Northern Arizona, there is a unique type of ore deposit known as collapse breccia pipes. These deposits formed from caverns in the Redwall Limestone where material from overlying formations fell into the caves. The resulting circular pipe-like bodies range in size from 100 to 600 feet in diameter. Thousands of breccia pipes have been located on the Plateau, but only a small percentage are mineralized and an even smaller percentage have economic value. These deposits were initially mined for copper, but uranium has been the focus of more recent activity.

This program looks at the formation and mineralization of the collapse features. There were several periods of mineralization, and, in addition to copper, anomalous amounts of silver, arsenic, barium, cadmium, cobalt, chrome, cesium, mercury, molybdenum, nickel, lead, antimony, selenium, strontium, uranium, vanadium, and zinc were deposited. A few examples of the mining of the breccia pipe deposits are presented along with the minerals found at these locations.

## **PRESIDENT'S MESSAGE**

Hi, everybody, sorry I have been absent from the newsletter for the last two issues. I would like to thank all of the current volunteers in our club:

Betty Deming – for continuing to be the treasurer, the coalition field trip organizer, and for securing our speakers. She has done a great job.

Ed Nichols – for doing a great job with the field trips and bringing us some great snacks for after the meeting (thanks to his wife, Maria, also).

Bob Holm – for his dedication as the club greeter and for running the raffles.

Lynne Dyer – for organizing the refreshments each month.

Terry Dyer – for being our Statutory Agent

Dave Lay – for volunteering to be on the board, replacing KJ Werner's seat.

Heather Hill-Oliverson – for doing a great job on the newsletter.

MSA Board Members – for continuing to serve after many years.

I would also like to thank Leo Langland, who has already given one program, and has even more programs that he would like to present.

Looking forward to seeing you at the May 8th meeting.

Sincerely,

Lois Splendoria



## **ARIZONA MINERAL COLLECTOR**

### **NUMBER 119**

By Raymond Grant

If you did not get to the Minerals of Arizona Symposium on March 21<sup>st</sup>, you missed some very good talks about Arizona minerals. One that I really enjoyed was "Paramelaconite from Bisbee, Arizona – The Type Locality" by Evan Jones. Paramelaconite was only found once at Bisbee & that was before 1890, when A.E. Foote bought some specimens in Bisbee. None have ever been found since then, although many people have looked. Evan obtained a specimen of paramelaconite in 2008 at the Tucson Show and since then has traced the history of the specimens.

There are three copper oxide minerals. Cuprite is  $Cu_2O$  and a fairly common secondary copper mineral with many localities in Arizona. Tenorite is  $CuO$  and not as common. Many collectors call the black amorphous looking mineral in copper deposits tenorite, but most of the black material is not tenorite.

A study made a few years ago found that almost all specimens in Arizona Museums labeled tenorite were not. Tenorite was only found in small amounts in contact with cuprite. The difference between the two is the oxidation state of the copper. It is  $Cu+1$  in cuprite and  $Cu+2$  in tenorite. So oxidizing cuprite will give tenorite. Paramelaconite is a copper oxide with both  $Cu+1$  and  $Cu+2$  that makes it an intermediate step between cuprite and tenorite. Paramelaconite has been only been found at two places in the world, Bisbee, and at the Algomah mine, Ontonagon County, Michigan. The Bisbee specimens have good crystals and are superior to the Michigan specimens.

George Vaux purchased Evan's specimen from Foote in 1894. His collection was donated to Bryn Mawr College in Pennsylvania. Rock Currier found the specimen in their collection and obtained it through an exchange. He sold it to Jim Minette of Boron, California. After Jim's death, the specimen was available in Tucson where Evan obtained it, 118 years after Foote bought it in Bisbee.

No one knows for sure how many Bisbee paramelaconites exist. Eight are known in collections (most are small single crystals probably broken off the original larger specimens) but there are possibly more out there.

## **MAY BIRTHSTONE**

Taurus (Apr 20 - May 20)  
Gemini (May 21 - June 20)

By Heather Hill

The May birthstone, and the Zodiac stone for the constellation of Cancer, is the Emerald. Emerald is the green variety of the mineral Beryl. Chemical Composition: Beryl - silicate of Beryllium and Aluminum  $Al_2Be_3(Si_6O_{18})$ . Emerald's precious green color is caused by small amounts of chromium, and enhanced by traces of iron. Crystal Structure is hexagonal. Refractive Index: 1.57 to 1.60.

Unlike other beryls, emeralds usually contain inclusions and other flaws. These flaws are not seen as negative aspects for emerald as they would be for other gemstones, but are considered part of the character of the stone and used to assure the purchaser of a natural stone. Its color varies from emerald green, light green, yellow green to dark green, the most important deposits being found in Columbia in or near pegmatite veins.

Emeralds are formed by rising magma and metamorphism, the green crystals grow slowly within metamorphic rocks and are restricted in size by the rock, making large Emeralds rare and costly. Although this gemstone is relatively hard and durable, a 7.5 to 8 on the Mohs' hardness scale, it must be protected from blows because the inclusions found within make it susceptible to breaking. The French call the inclusions "jardin," or garden, because of their resemblance to foliage.

Even artificial emeralds can contain flaws because the process of growing artificial emeralds mimics the way nature does it: slow crystal growth from a molten mix. Most emeralds, even many "natural" stones, are treated to improve clarity, usually by immersing them in oil.

For gemstones, a green colored oil is often used that "improves" the color as well. However, the oil may evaporate over the years, making flaws appear where none were visible at the time of purchase. A high-grade mineral oil can be used to enhance the appearance again.

The Ancient Egyptians mined emeralds in the eastern desert region 2,000 years before Cleopatra's birth, and during her reign, she claimed the emerald mines as her own, as this was her favorite gem. It is said that she bestowed visiting dignitaries with large emeralds carved with her likeness when they departed Egypt. The Egyptians were known to engrave emeralds with the symbol for foliage to represent eternal youth, and to bury the jewels with their dead. The ancient Romans associated emeralds with fertility and rebirth, and dedicated it to Venus, the goddess of love and beauty.

In the sixteenth century, Spanish Conquistadors were amazed to find the native people wearing Emeralds larger and more magnificent than any they'd ever seen. The natives attempted to hide their emerald mines, which the Spaniards eventually discovered and conquered most of, but it took them twenty years before they found an abundant mining operation held by the Muzo Indians, and another thirty years to overtake the aggressive tribe. The Muzo mine was in the area known today as Colombia, and it remains the source of the most prized Emerald specimens. Other sources of Emeralds are Brazil, Zimbabwe, Pakistan, Afghanistan, Madagascar, Nigeria, and Russia.

The name emerald derives from Greek meaning "green stone." Some people believe that wearing an Emerald brings wisdom, growth, and patience. A gift of Emerald for an anniversary -- or anytime -- is considered symbolic of love and fidelity.

*SOURCES: Birthstones.com, Aboutbirthstones.com, Galleries.com*

## MAY COALITION TRIP / MSA MAY FIELD TRIP



**FRIDAY, MAY 22, 2009**

In cooperation with our MSA coalition field trip leader, I am *combining* our local club trip and the coalition trip for May 2009. The trip is to a beautiful location in the Kaibab National Forest at Jacob Lake.

The highway access from the Phoenix area is via I-17 north to Flagstaff and 89 to the junction of 89A west towards Lee's Ferry and continues on to the junction of 89A and 67 at Jacob Lake.

The start date of the trip is May 22nd. I will probably arrive at Jacob Lake about 2:00 – 3:00 in the afternoon. At the 89A and 67 junction there is a Chevron gas station. That is a good place to meet and discuss plans for Saturday and Sunday as well as Monday for those staying that day. I will be returning on Monday. My wife and I are going to stay at Kanab, Utah a 40 minute drive north of Jacob Lake.

Jacob Lake has cabins and motel rooms but gets booked up early in May so check as soon as you're sure if not camping or RV-ing. There's also Kaibab Camper Village close to Jacob Lake for campers (tents) and RV-ers. They also have one cabin there. I'll have maps for everyone at the Chevron station on Friday afternoon and again Saturday morning at about 8:30 am before we head out to the first site. I have not stayed at the Treasure Trail Motel in Kanab before but it seems to appear fairly good and their prices are reasonable.

Remember, this is a Memorial Day weekend so places fill up fast. Kanab has several motels.

I'd appreciate it if anyone going would notify me so I can have some idea how many to expect - my email address is: [epidote555@yahoo.com](mailto:epidote555@yahoo.com) / home phone 480-636-1251 - cell phones won't work there

Ed Nichols  
YeOlde Rockhound

THANK YOU TO FRANK BURNS

Our field trip to Bland Mine 22 and associated mill site location was one of the best trips that I have been privileged to attend and very educational.

Frank's tour was like a trip back in a time machine. On our switch back trip up the mountainside I saw a glimpse of a gentleman in rough clothing leading a burro around the hill in a hurry. Suspect he wanted his privacy and protecting his pay streak.

As we topped out on the hill, Frank slowed his time machine so we could get a clear desert view of the oldest copper mine in Arizona and the tailings sliding down the hill. Then on across the hill and down, down and finally stepping out of the time machine and taking the final rock steps down to the miners' hardrock worksite. What a sight! I can only imagine the blisters turning to calluses as those miners of old hammered and blasted their way deep down and back into that hard old mountain.

Back in Bumble Bee for a stop and a long swig of water, Frank didn't have to tap me on the head with his shovel to bring me back to reality, a little twinge of the leg muscle brought me back to the present planet earth!

Many, many thanks, Frank, for a very enjoyable trip.

Ed Nichols, YeOlde Rockhound

# **EVENTS**

**MAY 22-24, 2009**

Bisbee, AZ

## **BISBEE MINERAL SHOW**

Sponsored by: City of Bisbee, Bisbee Mining Historical Museum, and Bisbee Chamber of Commerce

Hours: Fri., Sat., Sun., 9-5

Website: [www.queenminetour.com](http://www.queenminetour.com)

Phone: 520-432-2071

**MAY 23-24, 2009** Memorial Day weekend  
Pinetop-Lakeside

## **WHITE MOUNTAIN GEM & MINERAL SHOW**

Show Low Intermediate School

500 W. Old Linden Rd., Show Low, AZ 85901

Sponsored by: White Mt. Gem & Mineral Club

P.O. Box 3504, Show Low, AZ 85902

Admission: \$2.00, students under 16 free

Parking: Free

Hours: Sat. 9-6, Sun. 9-4

Show and Dealer Chairpersons:

Pete & Laura Scholton 928-537-1874

New exhibition .....

## **"HOHOKAM! ANCIENT MONUMENTS OF THE SALT RIVER VALLEY"**

**The Arizona Museum of Natural History**

53 N. Macdonald in Mesa

You don't need to travel to Egypt to see temple mounds- the Salt River Valley was home to the Hohokam, who built ancient temples and vast networks of enormous irrigation canals that lie beneath our homes and streets. This exhibit explores the accomplishments of the ancestors of the O'odham people who thrived from A.D. 1 to 1450. The ancient houses, canals and ovens uncovered by archaeologists under the streets of Mesa, rarely seen by the public, are presented. You can also see rare and unusual artifacts of Hohokam daily life and learn information recovered by recent museum excavations. The exhibit shows the network of trade and interaction between different prehistoric cultures. It presents rare and unusual items that came from places as distant as West and Central Mexico, such as copper bells and pyrite mirrors.

**MAY 8-10--COSTA MESA, CALIFORNIA:  
GEM FAIRE**

OC Fair & Event Center/Bldg. 10, 88 Fair Dr.  
Fri. 12pm-7pm, Sat. 10am-6pm, Sun. 10am-5pm

Admission \$5 weekend pass.

For more info, contact Yooy Nelson, (503) 252-8300

or e-mail: [info@gemfaire.com](mailto:info@gemfaire.com)

Web site: [www.gemfaire.com](http://www.gemfaire.com)

**MAY 9-10--GRAND JUNCTION, COLORADO:  
62nd annual show, "A GEM OF A SHOW"**

Grand Junction Gem & Mineral Club

Two Rivers Convention Center, 1st and Main  
contact Brent Jensen

(970) 245-5595 or (970) 433-6591

**MAY 9-10--RENO, NEVADA:  
"JACKPOT OF GEMS"**

Reno Gem & Mineral Society; Exhibit Hall  
Reno Livestock Events Center, 1350 N. Wells Ave.  
(Reno Fair Grounds)

Sat. 10-5, Sun. 10-4

adults \$5, seniors \$4, children over 6 \$3,  
under 6 free

special exhibits, competitive cases, gold panning,  
door prizes, silent auction, Wheel of Fortune, field  
trip, children's activities, demonstrations, lampwork  
beads, lapidary, wire art jewelry, silversmithing,  
beading, flint knapping, gem carving

contact Jack Rhodes, 480 S. Rock Blvd.

Sparks, NV 89431 (775) 677-4435

e-mail: [nvrockhound@sbcglobal.net](mailto:nvrockhound@sbcglobal.net)

Web site: [www.renorockclub.com](http://www.renorockclub.com)

**MAY 15-17--COSTA MESA, CALIFORNIA:  
"WEST COAST GEM & MINERAL SHOW -  
SPRING"**

Martin Zinn Expositions

Holiday Inn - Bristol Plaza, 3131 S. Bristol  
Fri. 10-6, Sat. 10-6, Sun. 10-5; free admission  
120 wholesale and retail dealers, open to the  
public

contact Martin Zinn Expositions

P.O. Box 665 Bernalillo, NM 87004-0665

fax (505) 867-0073 e-mail: [mz0955@aol.com](mailto:mz0955@aol.com)

Web site: [www.mzexpos.com](http://www.mzexpos.com)

**MAY 16-17--YUCAIPA, CALIFORNIA:  
YUCAIPA VALLEY GEM & MINERAL SOCIETY**

Yucaipa Community Center, 34900 Oak Glen Rd.

Sat. 9-5, Sun. 10-4; free admission

16 dealers, gems, rocks, children's rock Bingo,  
Spin the Wheel, demonstrations, wire wrapping,  
beading, sphere making, rock polishing, silent  
auction

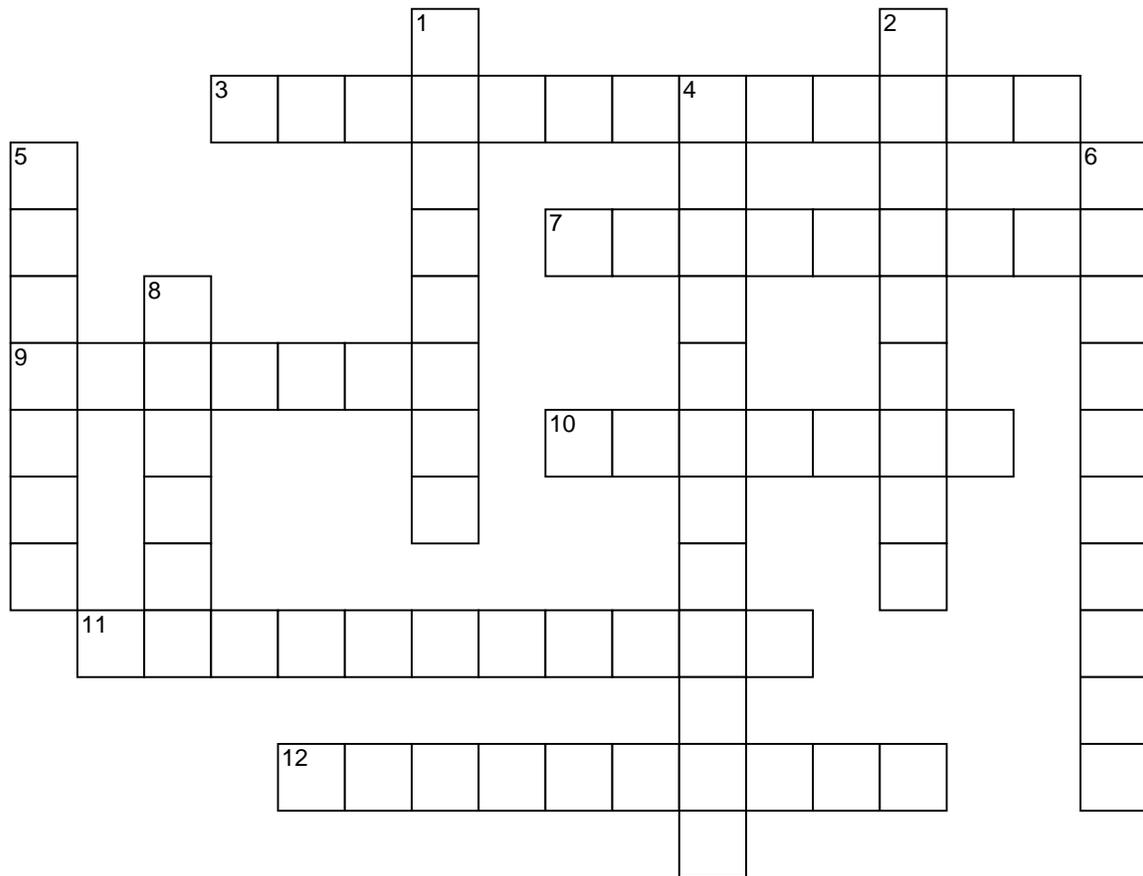
contact William P. Jochimsen

35525 Ivy Ave. Yucaipa, CA 92399

(909) 790-1475 e-mail: [bjm2285@aol.com](mailto:bjm2285@aol.com)

Web site: <http://mysite.verizon.net/yucaipagem100>

# Sedimentary Rocks



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## ACROSS

- 3** the changing of sediments into rock
- 7** sand grains cemented together into solid stone
- 9** \_\_\_\_\_ sedimentary rocks form from sediments being cemented together
- 10** the combination of weathering and movement of the resulting sediments
- 11** rocks formed from the sediments of other rocks
- 12** the process of settling out and grading of sediments

## DOWN

- 1** \_\_\_\_\_ sedimentary rocks are formed by the precipitation of dissolved minerals
- 2** silt particles cemented together
- 4** made up of rounded pebbles cemented together
- 5** made up of angular pebbles cemented together
- 6** anything that breaks the rocks into smaller pieces or sediments
- 8** rock salt made by the evaporation of sea water

# Happy Mother's Day



At the April meeting, Marc Watson's daughter, Leslie Albin, made an announcement about **Marc's MINERAL CASES** being **FOR SALE**.

If you are interested, please contact Leslie at:  
(623) 707-9251;  
email:

[leslovesmexico@yahoo.com](mailto:leslovesmexico@yahoo.com)



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## **MSA CONTACT INFO:**

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[chimes@extremezone.com](mailto:chimes@extremezone.com)  
602-571-4577

Vice President  
& Field Trip Coordinator  
(Club Trips):  
Ed Nichols  
[epidote555@yahoo.com](mailto:epidote555@yahoo.com)  
(480) 636-1251

Treasurer and Coalition Field Trip  
Coordinator: Betty Deming  
(602) 242-1553  
[bd\\_mac2003@yahoo.com](mailto:bd_mac2003@yahoo.com)

**Secretary: Position vacant.  
Interested?  
Contact Lois Splendoria**

Newsletter Editor:  
Heather Hill-Oliverson  
[sagegirl777@juno.com](mailto:sagegirl777@juno.com)

Mineral Curator:  
John McLaughlin  
(623) 979-5246

Librarian/Door Prizes/Hospitality:  
Bob Holm (623) 247-1325

Refreshments: Lynne Dyer  
(480) 396-2393

**MSA BOARD OF GOVERNORS:  
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BOB HOLM, DAVE LAY**

**HEATHER HILL  
MINERALOGICAL SOCIETY OF ARIZONA  
1502 West Washington Street  
Phoenix, AZ 85007**

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**Mineralogical Society of Arizona  
Founded 1935  
A Non Profit Organization**

**Purpose:** To promote popular interest in the various Earth Sciences, and particularly the fields of Geology, Lapidary, Mineralogy, and related subjects.

ID badges are available from the Treasurer.

**Meetings:** 7:00 p.m. at the Arizona Mining and Mineral Museum, 1502 W. Washington, Phoenix, AZ - on the second Friday of the month, September through June (*except February, which is the third Friday*).

**Dues:** Adults – Single Adults \$12.00, Juniors (18 yrs. and under) -\$2.50, Families & Couples - \$20.00.

**Mail dues to Betty Deming at  
2922 W. Claremont, Phoenix, AZ 85017**

The Mineralogical Society of Arizona is a member of the American Federation of Mineralogical Societies and the Rocky Mountain Federation of Mineralogical Societies.



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