

# SEDONA RED ROCKING NEWS

## Sedona Gem and Mineral Club

P.O. Box 3284, Sedona, AZ 86340  
[www.sedonagemandmineral.org](http://www.sedonagemandmineral.org)

General Meetings are held on the third Tuesday of the month at 7:00 PM at the Sedona Library off of Dry Creek Road in West Sedona.

The Board of Directors meets at 4:00 PM the day before the General Meeting, also at the library.

Members and guests are always welcome to attend.



Volume 57, Issue 1, January 2011

MEMBER AMERICAN FEDERATION OF MINERALOGICAL SOCIETIES

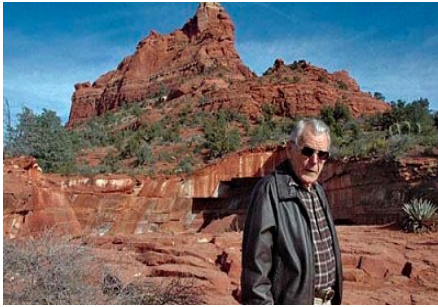
MEMBER ROCKY MOUNTAIN FEDERATION OF MINERALOGICAL SOCIETIES

## January 2011 Program

### “Subsurface Groundwater Flow and Sinkhole Development”

Presented by Mr. Paul Lindberg, Consulting Geologist and Geological Engineer, Sedona, AZ

by: Becky Solon, ME, CL, PMP, CSEP, 1st VP & Program Chair



Mr. Paul Lindberg, Consulting Geologist and Geological Engineer, Sedona, AZ

Our featured speaker for the January 18th meeting, Mr. Paul Lindberg, is a Consulting Geologist, Geological Engineer, and long-time Sedona resident and Honorary Club Member. Paul's presentation is entitled “Subsurface Groundwater Flow and Sinkhole Development” and will cover one of Sedona's known hazards, the Devil's Kitchen Sinkhole.

Sedona, Arizona, situated in the Red Rock country below the Mogollon Rim of north-central Arizona, is surrounded by hills of red to beige Paleozoic-age sandstones and siltstones. There are at least seven sinkholes at the base of nearby hills where a break in slope occurs. In 1990, the U.S. Forest Service, concerned for the safety of unwary visitors, prompted a geologic study of one sinkhole, Devil's Kitchen. Mr. Lindberg prepared a report in 1990 for the jeep franchise and the U.S. Forest Service about the collapse of the northern third of the Devil's Kitchen sinkhole which occurred several months prior to publication of the report. Devil's Kitchen is not the largest of Sedona's seven known sinkholes, none of which are located in the city limits. In 2010 Mr. Lindberg prepared a more complete summary of all seven known sinkholes

that was presented to the Arizona Geological Survey as Contributed Report No. CR-10-C. Visit [www.azgs.az.gov](http://www.azgs.az.gov) for a complete copy of Paul Lindberg's report.

The Devil's Kitchen sinkhole formed catastrophically and almost certainly developed as the result of deep-seated collapse of caverns in the Redwall Limestone. The former cave that once lay below the Devil's Kitchen sinkhole had grown so large by groundwater dissolution of the limestone that it finally collapsed to form the sinkhole we see today. The continuing enlargement of the sinkhole over geologic time is a probable though uncertain outcome requiring regular inspection, with posted safety warnings to visitors to approach the edge of the sinkhole cautiously.

According to an article by Steve Ayers that was published in the Verde Independent on January 7, 2010, “Most sinkholes result from the collapse of caves in limestone formations. The caverns form when atmospheric carbon dioxide, dissolved in rainwater, creates lightly acidic groundwater, which in turn dissolves the surrounding limestone. But in the case of the Devil's Kitchen, the nearest limestone to the surface is the Redwall Limestone, which lies in a 180-foot-thick band, between 660 and 840 feet below the lip of the sinkhole. From the surface lip of the sinkhole to the upper boundary of the Redwall, the rock is sandstone, a material that does not dissolve, but will instead fracture and fall. In calculating what it would take to create a sinkhole beginning from a depth of at least 660 feet, Lindberg figures the initial cavern in the Redwall Limestone would have been at least 180 feet high and 200 feet in diameter. “That's the minimum”. It is probably several times larger. To appreciate these sinkholes one needs to appreciate the fact that beneath Sedona are caverns that would rival Mammoth

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## 2011 Dues Increase.

Dues for 2011 are due this month.

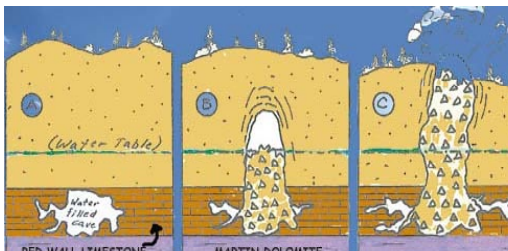
**Individual Memberships are \$15.00 and Family Memberships are \$25.00, Junior (9-18) remain unchanged at \$5.00.** Direct mail payments to Ray Cooke at 97 Pinon Woods Drive, Sedona, AZ 86351. Or bring to the January meeting.

Also, our roster will come out in April. Your dues need to be paid to be listed on it.

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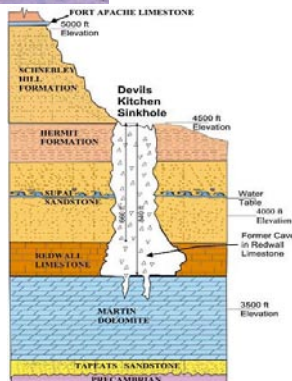
Cave or Carlsbad Caverns,” Lindberg says. He estimates that the original cavern in the Redwall Limestone, along with the column that rises to the surface of Devil’s Kitchen sinkhole, contains approximately 27 million cubic feet of broken and fragmented rock (breccia).”

“As for the original question concerning the safety of visitors to Devil’s Kitchen, Lindberg concludes it is not the most stable place to stand. “Visitors should approach the sinkhole prudently” he says. “Some of the fractures around the edge that are a foot wide today were just an inch wide 20 years ago. Think of it as living geology. It’s clear to me as a professional geologist that the southwest corner is going to one day collapse. Whether that happens this afternoon or 1,000 years from now is up to Mother Nature.”



The Devil's Kitchen sinkhole began when slightly acidic groundwater dissolved an immense cavity in the Redwall limestone formation. Over the centuries the sandstone above repeatedly collapsed inward creating a column of fractured rock that eventually breached the land above.

As the Devils Kitchen Sinkhole worked its way to the surface, the column of breccia left behind may be as deep as 880 feet below the surface. It took thousands, if not millions of years, to break through.



## January Birthstones

By Marge Schwartz – Remembrance and Sunshine Committee

As we start off into 2011, see if your rock collection has these lucky stones for January. Even if it is not your birth month, birthstones mentioned below are thought to have higher energy during this month. Enjoy the following information and see if these stones bring you luck this month.

### Traditional Birthstone:

Garnet’s name comes from Latin “granatus” meaning seed, because it often resembles small round pomegranate seeds when found in its matrix rock. Garnets are found in jewelry from ancient Egyptian, Greek and Roman eras. Many travelers wore garnets for protection. They were considered popular talismans and protective stones, because it was believed in those days that garnets illuminate the night and prevent their wearer from any sort of evil.

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## January Field Trip

### Quartzsite POW WOW

The Quartzsite POW WOW Show runs Wednesday Jan. 19 through Sunday Jan 23. Other shows run through out the month of January. A show schedule is available through the quartzsite-chamberofcommerce.com. Pat McMahan will be selling at booth 419 and invites all club members to stop by, take a break, sit down and have a drink and drop your treasurers off at his trailer so you don’t have to lug them around. Pat’s booth is adjacent the frontage road that runs parallel to I-10 on the North side of I-10. Parking is available West of Pat’s booth about 150 yards. A map of the show is available through the Chamber of commerce.

Free camping is available near Quartzsite and a list of hotels is available through the Chamber. Call Pat at 928-300-8333 if you have any questions. Being at the POW WOW early Wednesday, Jan. 19 is best to find the best quality rock. The best bargains are found on late Saturday and Sunday.

### TUCSON GEM AND MINERAL SHOW FIELD TRIP

Field trip dates: Wednesday Feb. 9 thru Friday Feb. 11, 2011

Accommodations: Best Value Inn

818 E. Benson Hwy

Tucson, 520-884-5800

Call and reserve a room for: Wed. night Feb. 9 and Thurs. night Feb. 10

Cost per room: \$59.00 plus tax 2 double beds or 1 king bed.

Directions: I-10 south to exit 262 (Benson Hwy. South)

Go one quarter mile south on Benson Hwy. Best Value Inn will be on your right on the northwest corner of Park Ave. and Benson Hwy.

Arrive Wednesday hopefully early enough to get your feet wet and do a little shopping.

Dinner will be at 6:00pm. Meet at the hotel lobby at 5:20pm for a brief orientation. We’ll be having authentic, tasty, Mexico City Mexican food.

We’ll eat at: La Parilla Suiza

2720 N. Oracle Rd.

Tucson, 520-624-4300

Pat McMahan will furnish FREE directories and other free guide books which give information about the shows. The directories will be available for you to pick up at Kelly Quester’s house, outside by her front door, Friday, Feb. 4.

This is the biggest and best rock, mineral and fossil show in the world. People travel many thousands of miles to come to this event. It’s almost in our backyards. (about 3 and one half hour’s drive from Sedona). Guaranteed lots of fun. About 20 club members went last year and had a great time. Last year there were 43 shows. There should be enough rock and jewelry for all of us.

Tucson field trip coordinator

Pat McMahan

928-300-8333

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Rather than a single gemstone, garnet is a family of related minerals, some of which occur as gemstones. Each has a common crystal structure, and a similar chemical composition. Garnet occurs naturally in a large range of colors including: red, orange, green, yellow, and brown. Its variability of color reflects the variations in its composition.

There are two main theoretical groups or "families" of garnet - aluminum silicates, and calcium silicates. The most valuable stone may be the Demantoid garnet, a rare and beautiful bright grass green gemstone. It appears to have first been discovered around 1892 in the Bobrovka area of Russia.

### Planetary stones:

**Saturn** - is represented by Lapis. - It is thought to promote wisdom and insight.

**Uranus**- is represented by Turquoise.

### Zodiac Birthstone

**Aquarius** - stones include garnet, amethyst, opal, and sugilite.

**Capricorn** - stones are garnet, black onyx, agate and ruby.

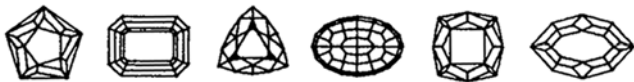
### Mystical Birthstone

The Mystical Birthstone list is of Tibetan origin from over a thousand years ago. Emeralds were used to protect children from epilepsy and it was thought to enhance clairvoyance and improve memory.

### Ayurvedic Birthstone

The Ayurvedic Birthstone list is from Ayurvedic Indian Medicine - a type of medicine used for over a thousand years. Garnet is also recognized as the stone for this birth month. Early cultures felt that garnet could cure blood disorders and help eliminate infections.

That sounds like a great start to a Happy New Year. See you in 2011!



## Scholarship Committee

by Mary Jane Cooke

We are happy to announce that the Sedona Gem and Mineral Club will enjoy our 6th year of awarding two scholarships to qualifying graduating Seniors at Red Rock High School, who are pursuing further studies in accredited colleges, or institutions of continuing career development. The students must be able to continue their course of study and either be following curriculums in the Earth Sciences, Conservation or have shown outstanding improvement in their High School GPA.

As in previous years the High School Guidance Department will compose entry forms for the awards making them available to all seniors. Since they and the students' teachers have been involved with the applicants entire high school careers, we leave the final decisions up to the educational experts.

Our committee; Linda Kappel, Susan Gage, Rosemary Licher, Carol Cone, and advisor-Olive Chypre and myself as chair: will be sent copies of the finalists applications and the reasons why they were chosen from the many deserving candidates.

Contributing to our ability to afford the scholarships is the fact that Nancy Alexander, Superintendent of School, and the Board of Education, have greatly reduced the original fees assessment for use of the High School Cafeteria for the 2011 Rock Sale/Show.

It still involved an increase for usage of the facilities over and above the custodian fees we have paid during the past five years of \$780.

All users of school facilities now are assessed for use of the facility and for custodial fees with consideration for non-profit organizations providing educational and student-based community functions. Scholarships are gratefully accepted and basis for special consideration in fees.

Because of the new fees, we felt we had to drop the second \$1000 H.S. scholarship for 2011, but we are grateful to the Board of Education and Nancy for a fair assessment still allowing us to financially help our graduating seniors with continuing courses of studies, and to Brian's memory as his hard work earned us the ability to provide the second, one time, \$500 award.

Thanks to the enthusiasm of Brian Friefeld obtaining raffle prizes for the show, bringing in \$500 more in raffle earnings from previous years, we added the second scholarship in his memory in the amount of the raffle profits.

## 2011 Board of Directors

President	Garry Kappel	sedonagarry@yahoo.com
1st Vice President, Programming	Becky Solon	bsolon18301@yahoo.com
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Past President	Ed Hodges	hmgx@commspeed.net



# Sedona Gem and Mineral Club January Newsletter, 2011

Volume 57, Issue 1



## January 19, 2011 Quartzsite, AZ

ALAA, American Lands Access Assn. is having a meeting in beautiful down town Quartzsite, Wednesday, January 19, 2011 at 9am(Mountain Time, an hour earlier than California Time) This will be at the Senior Center on Moon Mountain Road. ALL are welcome.

The desert will be changing and not for the good of the public; no matter what you enjoy in the desert, large tracts of land will be taken for solar projects, and we will loose a number of collecting areas. YOU can help, please attend.

## February 10-13, 2011 Tucson, AZ

2011 Tucson Gem and Mineral Show™, February 10-13, 2011 “Minerals of California”, Thursday, Friday, Saturday; 10:00 a.m. - 6:00p.m., Sunday; 10:00 a.m. - 5:00 p.m. contact [tgms@tgms.org](mailto:tgms@tgms.org) or see [www.tgms.org](http://www.tgms.org).

## February 25,26,27, 2011 Denver, CO

Denver Gem and Mineral Club is presenting a free Jewelry, Mineral and Fossil Show; Fri & Sat 10am -6pm, Sunday 11am - 5pm, 15200 W 6th Ave, Golden, CO 80401. Activities: educational displays, museum displays, demonstrations, mineral identification, geode cutting, 18 dealers, grab bags, door prize drawings, free parking. Contact information: Janie Bennett, 303-986-9056, Web site: <http://denvergem.org>

## January 1-31, 2011 Quartzsite, AZ

Show, “Desert Gardens International Gem & Mineral Show”; Desert Gardens RV Park, 1064 Kuehn St. (I-10 Exit 17, south side); 9-6 daily; free admission; crystals, minerals, rough, polished, jewelry, lapidary equipment; contact Sharon or Sandy, 1064 Kuehn St., Quartzsite, AZ 85346, (928) 927-6361; [info@desertgardensrvpark.net](mailto:info@desertgardensrvpark.net), [www.desertgardensrvpark.net](http://www.desertgardensrvpark.net).

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