



Los Alamos Geological Society  
P.O. Box 762, Los Alamos, NM 87544-0762

## October Meeting

Time: Tuesday, October 19, 2010, 7:30 pm

Place: Christian Church

92 East Road

Los Alamos, NM 87544

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## Travelling the Tea Horse Road, Dali to Shangri-la, in Yunnan, China

Enid J. (Jeri) Sullivan, Ph.D.  
Los Alamos National Laboratory

The speaker and her companion Dave Chamberlin travelled last April to Yunnan, China, the far southwestern province that borders Myanmar and Tibet. The region is known for more than 25 ethnic minorities, a rural, agricultural lifestyle, and world heritage sites such as Lijiang city. Accompanied by a driver and multiple translators, they hiked, drove, biked, and walked from south Yunnan and the city of Dali, through Lijiang and Tiger Leaping Gorge (the Grand Canyon of China), to Zhongdian (also known as Shangri-la) near the Tibetan border, and finally to Yubeng village at the foot of Mt. Kawagebo, Tibet's most sacred of the Meili Snow Mountain range and

a destination for many pilgrims who circumnavigate the mountain. Geology of the area was varied, topography was steep, and there was much evidence of active tectonic activity in the area. Following her interest in water quality and infrastructure, she photographed a number of interesting water transport methods in the area. The region is only now beginning to be developed, and the region still retains the traditions and lifestyles of an older China.



Sullivan obtained her bachelor's degree in Chemistry from the University of Virginia, a Masters in geochemistry from the University of North Carolina, Chapel Hill, and her Ph.D from New Mexico Tech in hydrology in 1997, and maintains a rusty CPG. She works in the Chemistry Division at Los Alamos National Laboratory

and is currently studying water issues related to algal biofuel production. She and Dave have been lucky enough to enjoy periodic international travel to Australia, New Zealand, Africa (Botswana), Greece, and Canada.



## Upcoming Meetings

November 16, 2010—speaker will be Richard Stead.

December 2010—annual Wrap a Rock party.

January 2011—Annual Banquet.

*The Biggest Crash on Earth: India Slides Under Tibet, but How? ScienceDaily (Sep. 17, 2010)*

During the collision of India with the Eurasian continent, the Indian plate was pushed about 500 kilometers under Tibet, reaching a depth of 250 kilometers. The result of this largest collision in Earth's history is the world's highest mountain range. But even more recently, the collision could be felt -- for example, the earthquakes that created the 2004 tsunami in the Indian Ocean.

The clash of the two continents is very complex. The Indian plate, for example, is compressed where it collides with the very rigid plate of the Tarim Basin at the northwestern edge of Tibet. On the eastern edge of Tibet, the Wenchuan earthquake in May 2008 claimed over 70,000 lives.

Scientists at the GFZ German Research Center for Geosciences report in the latest issue of the journal *Science* on the results of a new seismic method which was used to investigate the collision process.

In international cooperation, it was possible to follow the route of the approximately 100-kilometer-thick Indian continental plate beneath Tibet. To achieve this, a series of large seismic experiments was carried out in Tibet, during which the naturally occurring earthquakes were recorded. By evaluating weak

waves that were scattered at the lower edge of the continental plate, this edge was made visible in detail. The boundary between the rigid lithosphere and the softer asthenosphere proved to be much more pronounced than was previously believed.

The entire Indian sub-continent moves continuously north over millions of years and has moved 2 meters below Tibet in the last 50 years alone. The Himalayas and the highlands of Tibet, the highest and largest plateau in the world, were formed this way. But the recurring catastrophic earthquakes in China are also caused by this collision of two continents.

Researchers hope this latest work will provide a better understanding of the processes involved in the collision of the two plates, and ultimately reduce the earthquake risk to millions of people across the entire collision zone.

**Journal Reference:**  
Rainer Kind and Xiaohui Yuan. *Seismic Images of the Biggest Crash on Earth. Science, 2010; 329 (5998): 1479-1480 DOI: 10.1126/science.1191620*

*Earth's Highest Coastal Mountain on the Move ScienceDaily (Sep. 20, 2010)*

The rocks of Colombia's Sierra Nevada de Santa Marta -- the highest coastal mountain on Earth -- tell a fascinating tale: The mountain collides and then separates from former supercontinents. Volcanoes are born and die. The mountain travels from Peru to northern Colombia and finally rotates in a clockwise

direction to open up an entirely new geological basin.

Smithsonian scientists were part of a four-year project to study Santa Marta's geological evolution. Their findings are published in the October 2010 special issue of the *Journal of South American Earth Sciences*. The study involved state-of-the-art geological, structural, paleomagnetic, geochemical and geochronological techniques applied by collaborators from universities and research institutions in several European countries and the Americas. "This integrated study represents a long-awaited contribution -- particularly to the international scientific community who work in the circum-Caribbean -- and fills a notorious gap in the picture of the region's geology," said Agustin Cardona, post doctoral fellow at the Smithsonian Tropical Research Institute.

The diverse rock record exposed in Santa Marta rests on an ancient foundation that is more than 1 billion years old. One of the studies links the foundation to other old massifs in the Americas. Using the ancient magnetic field recorded in these rocks, the Smithsonian research group revealed Santa Marta's 2,200-kilometer journey from northern Peru to its modern position on the Caribbean coast of Colombia during the past 170 million years.

Sophisticated laboratory analyses of Santa Marta rock samples also offered scientists an explanation of their origin as remnants of extinct volcanoes and mountains that once existed but

were later obliterated by powerful geologic forces.

Other studies revealed observations pertaining to recent dislocations along the Sierra's bounding faults -- evidence of historic earthquakes and a large submarine canyon carved in the floor of the Caribbean Sea. "We hope that this contribution will serve as a catalyst to accelerate the pace of geological research along this margin of South America," said German Ojeda, co-leader of the research team and geologist at Colombia's Ecopetrol energy company. Sponsoring agencies included the geological and marine science research institutes of the Colombian government.

## *LAGS Regular Meeting Tuesday, 21<sup>st</sup> September, 2010*

*By Paul Bradley*

The September 2010 meeting of LAGS was on the 21st and we had another good turnout of over 25 people. The meeting started with announcements, mostly concerning the fact the Earth Treasure show planning is about to begin. The show will be on December 4th and 5th, with setup on Friday the 3rd. Paul and Rick described the August field trip to the Harding mine, including a last-minute gathering location change due to the Triathlon. The club will meet at the Christian Church parking lot. Rick and Paul solicited ideas and interest for field trip possibilities in October, and settled on a second attempt at the hike in the Quebradas Backcountry

Byway area, which was rained out in April. Emily then got up and talked about upcoming programs, including Jerry Sullivan speaking about his China trip in October and Richard Stead talking about the geology of Death Valley in November. December is the wrap-a-rock meeting. After that, Emily then introduced Shari Kelley, who recently was put in charge of understanding the geothermal resources of New Mexico. Shari started off by mentioning that geothermal research was her first love when she went to graduate school in the 1980's. She got distracted by apatite fission-track chronology for 25 years, but recently had the chance to revisit geothermal research. This was due to two recent developments. The first is due to stimulus dollars being given to this and other potentially "green" energy sources and the second is the result of considerable advances in technology since the mid-1980's. Geothermal energy typically requires a heat source that is ultimately related to radioactive decay. Most geothermal sources are located near volcanoes, hot spots, or plate boundaries. New Mexico has quite a few volcanic sites, and as a result is a good potential source for geothermal energy. Exploration for geothermal energy requires looking for features indicating geothermal activity in the recent past. Along with field work, people perform the geophysical evaluation with seismic reflection and electrical conductivity studies. Another part of the evaluation involves geochemistry to examine the water composition, temperature, flow rates, and the presences

of gases. In 2006, researchers at MIT did an analysis of the potential of various cycles used to convert geothermal energy into electricity. All of the cycles depend on pumping hot water from the ground and using it to turn a turbine that then produces electricity. The most effective cycles run the hot water from the ground through a heat exchanger that heats up clean water, which is then used in the turbine. Most geothermal waters have lots of suspended minerals, and they tend to foul turbines in short order. A dirty heat exchanger is easier to clean than a turbine. The spent geothermal water is then injected back underground to complete the cycle. Another issue that has to be addressed is whether pumping water out and in will cause earthquakes.

Locally, a well-known evaluation source was Fenton Hill, with the hot dry rock project, which was a pilot project to determine the feasibility of technology to pump water into hot basement rocks and back out after it had been heated. Note that in this case, one has to supply the water for the ground to heat. During her mapping of the southwest Jemez Mountains, Shari interacted with the Jemez Pueblo people and got involved with their interest in developing some hot springs on their land. The hot springs are actually artesian, which means there is enough natural water pressure that it creates a fountain. Since it has a relief valve, it produces a steam cloud. The work is ongoing to make the hot spring into a geothermal energy source. On a larger scale, the American Association of State

Geologists has a National Geothermal Data System initiative to capture the relevant information on geothermal potential within the states. The NM version has a listing of underground heat sources. Besides the Jemez Mountains area, other heat sources are located around Socorro, the San Juan Basin and Raton Basin. Shari then mentioned the San Juan Mountains of Colorado, where there were massive volcanic eruptions from about 36 to 24 million years ago. Geologic mapping indicates the heat flow is from the SSW to the NNE, although this does not correspond to the previous volcanic activity. This anomaly is a topic of ongoing research, and geologists recognize the mantle under Colorado as being unusual. Shari wrapped up her talk by describing the challenges ahead to keep geothermal energy from being a passing fad. The U.S. needs to develop successful sites, several of which are receiving concentrated attention presently. We also need to develop smart ways to look for geothermal systems that don't have obvious surface features. Finally, most of the people in the geothermal field received their degrees in the 1980's, so it is vital to train the next generation of students. Geothermal energy can play a role in helping the US meet its energy needs, but much work needs to be done. Emily thanked Shari for a great presentation and the meeting adjourned for discussions and snacks.

***ETS and LAGS Board Meeting  
Wednesday, 25<sup>th</sup> August, 2010  
by Paul Bradley***

The September 2010 Earth Treasure Show (ETS) planning meeting was held at 7:45 AM on September 22 at Ruby K's. Rick Kelley, Emily Schultz-Fellenz, Stuart Schaller, and Paul Bradley were present. Paul brought a hard copy of the ETS schedule throughout the year and this served as a template for discussion. We started by discussing display cases. We are trying to get Terry Wallace to display some of his collection at our show this year; he has some excellent stuff. We will also contact the Bureau for their displays and Bandelier. We will ask Bandelier if they can bring some stuff that highlights the opening of their new visitor center. In addition, we will see if we can contact the Valles Caldera Association for a display. One thing that has been missing in past years are good fossil displays. Allan Schmiedicke has been holding up this area pretty much by himself in recent years. Given the abundance of good nearby localities, we should be able to do better. Club members, this means you!

We then talked about supplies that are needed this year, starting with the perennial yellow duct tape and butcher paper this year. We then discussed ideas concerning sales. One item getting considerable interest is to put up a club member sale table. It would use the space where Virgil does mineral identification and operate on Saturday when he is not pres-

ent. Only club members would be able to sell material, but anyone would be able to buy specimens. Stay tuned for further details. We then turned to the crafts table. Rick Kelley found some cutout templates for crystal shapes on the internet, and this will likely be one of the crafts. We are looking for someone to head up the craft table this year. Finally, we talked about dealers. We expect most of them will return, but Paul Bradley is preparing a "wait list" of dealers expressing interest in selling at our show. We are particularly interested in finding a dealer that would have some rock hunting equipment, such as collecting bags and rock hammers. None of our present dealers carry such material. We concluded that things are in good shape, but much work needs to be done. Club members, please mark December 4 and 5 as the show dates. We will need people the morning of Friday the 3rd to help with setup.

The September 2010 board meeting was held at 7:30 AM on September 29 at Ruby K's. Paul Bradley, Rick Kelley, Emily Schultz-Fellenz, Stuart Schaller, Florrie Caparuscio, and Eric Nelson were present. Paul and Rick mentioned that the September shed leveling "field trip" was a success. They mentioned that the October field trip will be to Quebradas Road and is a reschedule of the April trip. They also mentioned some ideas for 2011. There are orthoclase crystals on the Red River Pass road and combined with something else up there, this will make a nice trip. If weather and the schedule permit, we will attempt

to visit Cooke's Peak in February or March. Finally, there is interest in making the Colorado trip up to the Lake George/Florissant area. After discussing field trips, Emily mentioned that the programs are taken care of for 2010. Jerry Sullivan will talk about China in October. Richard Stead will talk in November about Death Valley. The December meeting is the wrap-a-rock and is normally the second Tuesday of the month, which would be the 14th this year. We should hear from Giday about which weekend in January will work for him. Paul mentioned that Louise really wanted to get the rocks out of her place. By coincidence, Tom McCrory relayed the message that a school in Albuquerque was looking for rock kits to get a geology class started. Emily sent an e-mail to Louise with Tom's contact information. The board will follow up as needed if rocks are left over, which is likely.

After that, attention turned to the Earth Treasure Show. We discussed dealers a bit in terms of what they have and don't have. The board realized that we don't have a fossil dealer and we don't have a dealer that carries supplies. That said, we have not polled people for what they would like to see when we add new dealers. The board decided to implement some sort of poll for people as they sign in at the door this year. Rick mentioned that he got a commitment from Terry Wallace to show four cases worth of material this year. Rick also mentioned that it would be nice to raise the cases at the end of the dealer room so people don't have to bend over or kneel. Paul

mentioned that we have four federation case stands in the shed that could be used. Rick said he would look further into raising the cases. There was discussion about the club sale table. Florrie indicated that his wife (who is knowledgeable about the rules) said that club members that sell at the table would not have to obtain a tax number or register with the state. It might be possible that the state might ask questions and one should keep track of how much was sold in case one had to pay gross receipts tax. We will look into obtaining a stand-up case for displaying the nicer specimens. The club member sale would be on Saturday at the mineral identification table, which would otherwise be vacant. Emily asked if the board would approve spending about \$200 to make a new overhead banner that would comply with county rules (be no more than 4 by 12 feet). The board approved this. Emily also mentioned that she got a banner permit from the county for the week before the show. Paul found out Wednesday evening that the Masons approved having LAGS hold the show, that the fee would be \$1100 this year, and LAGS could use the shrine to store the furniture. With those issues solved, the board adjourned.

### *October 2010 Field Trip by Paul Bradley and Rick Kelley*

For the October field trip, we will try once again to visit the hike in the Quebradas Backcountry Byway (<http://geoinfo.nmt.edu/publications/fieldguides/quebradas/>)

area after the rainout in April. This time, the trip will be Saturday, October 23. This will be a very interesting 5 mile geologic hike of easy to moderate difficulty off the Quebradas Road. Although this hike will focus on the faulted and folded geology in the area, there will be several collecting opportunities. Our first stop will be the Chupadera copper mine, where specimens of azurite and malachite can be found. We will then pass a few large calcite veins and then drop into a small drainage where nice Paleozoic fossils can be collected. One location has very fragile carbonized leaf fossils. Collecting these will require equipment for breaking them out of the rock as well as wrapping material for something fragile. We may visit other nearby areas of geologic interest if time and curiosity permits. To get to our meeting place, drive south on I-25 to the Escondida exit just north of Socorro (#152) and go east under the bridge. Just past the bridge, there is a large dirt area on the right corner. We will congregate there and leave at 9 AM. Plan to bring sunscreen, hat, collecting gear, a snack or light lunch, camera, and plenty of water. Good shoes and long pants are advisable for the hike.

If you plan to go, please contact Paul Bradley (Ppbradpp@aol.com) or Rick Kelley (rekelley@ix.netcom.com) no later than Wednesday, October 20th.

## *September 2010 Field Trip—Cleaning the Shed by Paul Bradley and Rick Kelley*

Eleven of us met at the Masonic Temple at 9 AM for a very local “field trip”. Our goal was to clean out and level the LAGS storage shed. Although not obvious to the eye, the door of the shed was getting hard to open, indicating the need to level things. With a good boost from club-provided coffee and doughnuts, we got the shed unloaded in short order (see Fig. 1). We then got to the dirty work of jacking up the shed, pulling out the old wooden supports and replacing them with cinder blocks. This entailed digging out more space underneath, which was rather dusty and dirty, perfect work for Richard, our co-president, as shown in Fig. 2. We got things nice and level. Then we sorted through things we had not used in a long time and got rid of a fair amount of stuff that was just taking up space. By 11 AM, we had the shed reloaded and ready for several more years of storing things (see Fig. 3). Thanks to all those who helped out!



Fig. 1: LAGS members discussing what to do next after the shed is unloaded.



Fig. 2: Richard Stead digs out a bigger hole for a cinderblock that Paul Bradley prepares to put in place while other LAGS members look on.



Fig. 3: LAGS members celebrating the successful conclusion of a “field trip”!

## **ANNOUNCEMENTS** **LAGS Needs A Secretary**

Do you like writing stories about meetings? Then we have the job for you. LAGS is looking for someone to take the minutes at the regular and board meetings. If you have some time to volunteer, please consider becoming the LAGS secretary. Contact one of the officers for more information.

## **Help! Rocks Need A Home**

Paul Bradley and Louise Mendijs have overflowing storage spaces due to LAGS rocks and they both need to move them to a more permanent home. If you have room in a garage or storage space, please contact Paul

or Louise to help out. We would really appreciate it!!

## **2010 GSA Annual Meeting, 31 October - 3 November, Denver, Colorado USA**

**Reaching New Peaks in Geoscience.** This year, GSA is offering 156 Topical Sessions for you to choose from, each designed to promote the exchange of interdisciplinary, state-of-the-art information. You can filter the topical session list by category or sponsor to help find the one you're after. In addition, GSA will have a multitude of Discipline Sessions. Discipline sessions are equally vital to completing our technical program. Finally, there are the prestigious Pardee Keynote Symposia with invited speakers.

For more information see <http://www.geosociety.org/meetings/2010/>

## **2010 AGU Fall Meeting 13–17 December Moscone Convention Center Howard Street, Between Third & Fifth Sts. San Francisco, California, USA**

The Fall Meeting is expected to draw a crowd of over 16,000 geophysicists from around the world. The Fall Meeting provides an opportunity for researchers, teachers, students, and consultants to present and review the latest issues affecting the Earth, the planets, and their environments in space. This meeting will

cover topics in all areas of Earth and space sciences.

## Registration

Registration for the Fall Meeting is now open. Full conference registration fees prior to 10 November are listed under Registration Rates. Late fees will apply after 10 November. The last day to register online is 19 November.

Meeting Discounted Registration Deadline: 10 November 2010, 2359 UT (Universal Time)

Register online at <http://www.agu.org/meetings/fm10/registration/index.php>.

## *Dealer Waiting List September 23, 2010*

Charlie Snell  
Dinosaurs and More, Santa Fe  
690-3648  
Fossils and minerals

Teresa Sulla (Andrew Kelm) (September 2010)  
Sullastone, Santa Fe  
424-8464  
Polished stones and miscellaneous items

Doug St. Pierre  
Santa Fe  
505-352-0395

Jay Penn (2008 and 2009?)  
El Chievo Viejo  
Recommended by Baird Brandow  
662-4756 (Baird Brandow's phone number!)

Rebecca Heuer (September 2010)  
Caution Rocks  
Rio Rancho  
[Cautionrocks95@gmail.com](mailto:Cautionrocks95@gmail.com)  
[www.caution-rocks.com](http://www.caution-rocks.com)  
Looks like polished agate slabs and cabochons



42<sup>nd</sup> Annual

Los Alamos Geological Society  
EARTH TREASURE SHOW  
2010

**Saturday, Dec. 4**                      **Sunday, Dec. 5**  
**9am - 5pm**                              **10am - 4pm**

**Masonic Temple**  
**Canyon Rd and 15th St, Los Alamos**

LAGS Members:  
Your Help Is Needed!

For a successful show in 2010,  
LAGS especially needs:

- Donations for our Silent Auction**  
*(particularly quality mineral specimens)*
- Volunteers**  
*(Friday set-up, Saturday, Sunday, and cleanup)*

\*\*All donated items are tax-deductible\*\*

**Contact Emily at [emily.s.schultz@gmail.com](mailto:emily.s.schultz@gmail.com)**  
**or 661-2679 to donate or volunteer**

Teresa Lampros and Noel Pacheco (January 2010)  
Ancient Journeys  
[Ancientjourneys5660@hotmail.com](mailto:Ancientjourneys5660@hotmail.com)  
505-228-0569 or 505-860-4666  
Jewelry from stone cabochons, beads, quartz crystals,  
Swavorski crystals, shark's teeth, gemstones, and precious  
metals

Jim McMorrow (2006?)  
Nambe dealer  
455-3567  
Specimens + equipment, notes says he does ~12 shows per  
year

## DENVER MINERAL SHOW 2010

by Florie Caporuscio

Rick Kelley and I embarked on a road trip to the Mineral Show held in Denver on September 16-19, 2010. The objective was to find great minerals on the cheap that fit into our collections. Our first stop on Thursday was to visit Ray Berry in Colorado Springs. Ray has spent 35 years field collecting amazonite and smoky quartz specimens from pegmatites in the Lake George region. We ended up spending 3 hours at his house, viewing his very impressive private collection and then stepping out to the barn to purchase a few rocks. Rick scored a magnificent chrysoberyl single crystal thumbnail while there.

Then off to the Marty Zinn hotel show at the Holiday Inn North just off I-25 in Denver. At that point I was so stunned by the collection I saw in the Springs that I decided not to make any purchases. The dealers at the hotel (German, US, Chinese, Russian, Pakistani, and Mexican) had some great displays, especially JASE Minerals (Vera Cruz amethyst, Mapimi fluorites, and silver sulfides) and a gentleman named Khan from Peshwar, Pakistan (Afghan – Pakistan border region pegmatite gems). Collectors Edge, as always had a great display in their hotel room. We also ran into a few LAGS Earth Treasure Show friends; Brian Costigan and his dad were buying new goodies. The Sandman had a room at the Holiday Inn, and Falk Burger and Greg King were selling

things in the Holiday Inn laundry room under the name of....drum roll....Burger–King Minerals.

Friday was the start of the Main Show at the Merchandise Mart. This is when all the Denver school kids descend on the show, so you have to be careful where you step. Along with many mind boggling museum display cases and themed displays (this year's theme was Creede, Colorado) the major dealers had private rooms off the main hall. These are the high end specimens which redefine what cabinet pieces look like. Notable rooms were Collectors Edge, Weinrich, Irocks, Crystal Classics, Miners Lunch Box, Fine Minerals, and Even Jones. Spectacular minerals one and all, just orders of magnitude out of our price objectives. The real find was Dan's Used Rocks, who focuses on thumbnails and miniatures at affordable prices. Once lunch was done, off we went to the hotels (Holiday Inn and the Plaza Hotel) for some serious scrounging. Rick and I met up with Tom Tiegler (club member and owner of Petaca Minerals in Santa Fe) to cruise the rooms and find specimens. I purchased some great small cabinet pieces from Khan (Paprock, Afghanistan tourmaline, smoky quartz, kunzite) at good prices. All in all a great but long day.

Saturday we decided to find out about the Coliseum show in Denver, which was getting lots of press. This was a mixed bag, with lapidary, fossils, beads, and rocks inside, and a tailgate of similar stuff outside. Mineral quality and prices were all over the place, however we did note

some tailgate vendors with blue halite from Carlsbad and Azurite from the (Nacimiento) mine near Cuba, New Mexico. Then it was back to the hotels to get rid of any remaining stray cash.

Wonderful time in Denver, attendance seemed low, and dealers were often willing to barter quite a bit.

### Show Calendar

Oct. 15-17--DEL MAR, CALIFORNIA: Show, "Gem Faire"; Gem Faire Inc.; Del Mar Fairgrounds/Exhibit Hall, 2260 Jimmy Durante Blvd.; Fri. 12-7, Sat. 10-6, Sun. 10-5; weekend pass \$5; contact Yooy Nelson, (503) 252-8300; e-mail: info@gemfaire.com; Web site: www.gemfaire.com

Oct. 15-17--SPRINGFIELD, OREGON: 53rd annual show; The Springfield Thunderegg Rock Club; Gateway Mall, 3000 Gateway St. (I-5 Exit 195A, right on Gateway St.); Fri. 12-7, Sat. 10-7, Sun. 11-4; free admission; dealers, demonstrators, door prizes, raffle, spin the wheel; contact Bob Smith, PO Box 312, Springfield, OR 97478, (541) 741-0060, or John Randall, (541) 683-2661

Oct. 15-17--VICTORIA, TEXAS: Show; Victoria Gem & Mineral Society; Victoria Community Center, 2905 E. North St.; Fri. 9-6, Sat. 10-6, Sun. 10-5; adults \$4; contact Patty Shay, 306 W. Houston, Refugio, TX 78377, (361) 526-2936; e-mail: pshay4@yahoo.com; Web site: www.victoriagemandmineral.com

Oct. 16--WEST HILLS, CALI-

FORNIA: 12th annual show; Woodland Hills Rock Chippers; First United Methodist Church, 22700 Sherman Way; Sat. 10-5; free admission; dealers, gems, minerals, rocks, fossils, jewelry, displays, demonstrations, silent auction, crafts, Future Rock-hounds of America booth, kids' activities; contact Mary-Beth Pio, (818) 349-2943; e-mail: info@rockchippers.org; Web site: www.rockchippers.org

Oct. 16-17--ANDERSON, CALIFORNIA: Show; Shasta Gem & Mineral Society; Shasta District Fairgrounds, Briggs St.; Sat. 9-5, Sun. 10-4; free admission; displays, exhibits, demonstrations, raffle, kids' activities, dealers, gems, jewelry, fossils, beads, minerals, collectibles, polished stones, supplies; contact Kelly O'Leary, P.O. Box 1130, Palo Cedro, CA 96073, (530) 722-7133; e-mail: steve@applyaline.com; Web site: www.shastagemandmineral.com

Oct. 16-17--BILLINGS, MONTANA: Show; Billings Gem & Mineral Club; Billings Hotel and Convention Center, 1223 Mulloweny Ln.; Sat. 10-6, Sun. 10-5; contact Lynn Edwards, 93 Cache Dr., Billings, MT 59102, (406) 855-3675

Oct. 16-17--CAYUCOS, CALIFORNIA: 9th annual fall show; San Luis Obispo Gem & Mineral Club; Cayucos Vets Hall, 10 Cayucos Dr., next to Cayucos Pier; Sat. 9-5, Sun. 9-5; free admission; rocks, gems, mineral, fossils, crystals, meteorites, beads, slabs, carvings, lapidary equipment, door prizes, drawing; contact Mike Lyons, 7343 El Camino Real #301, Atascadero,

CA 93422; (805) 610-0757; e-mail: jadestar@charter.net; Web site: <http://slogem.org>

Oct. 16-17--LEWISTON, IDAHO: 44th annual show, "Gifts from the Earth!"; Hells Canyon Gem Club; Nez Perce County Fair Grounds, 1229 Burrell Ave.; Sat. 10-6, Sun. 10-5; adults \$2, students and children free; dealers, rough rock, fine jewelry, displays, demonstrations, kids' corner, silent auction, door prizes, grand prize; contact Rick Westerholm, 813 Bryden Dr., Lewiston, ID 83501, (208) 746-2101; contact Rick Westerholm, P.O. Box 365, Lewiston, ID 83501, (208) 746-2101; e-mail: rkwest@cablone.net; Web site: <http://hellscanyongemclub.com/>

Oct. 16-17--PLACERVILLE, CALIFORNIA: Show, "All That Glitters"; El Dorado County Mineral & Gem Society; El Dorado County Fairgrounds, 100 Placerville Dr.; Sat. 10-5, Sun. 10-5; adults \$3, children free; more than 40 dealers, case displays, special petrified wood exhibit, demonstrations, kids' activities, silent auction, presentations, prizes; contact Karen Newlin, 4232 Gailey Circle, Cameron Park, CA 95682, (530) 676-1643; e-mail: info@rockandgemshow.org; Web site: [www.rockandgemshow.org](http://www.rockandgemshow.org)

Oct. 16-17--SANTA ROSA, CALIFORNIA: 34th annual show; Santa Rosa Mineral & Gem Society; Sonoma County Veterans Memorial Bldg., 1351 Maple Ave.; Sat. 10-6, Sun. 10-5; admission \$5, coupon on Web site; contact Debbie Granat, (707) 542-1651; or Erica Tanner;

e-mail: santarosarockshow@hotmail.com; Web site: [www.srmgs.org](http://www.srmgs.org)

Oct. 16-17--SEDONA, ARIZONA: Show; Sedona Gem & Mineral Club; Sedona Red Rock High School Cafeteria, 995 Upper Red Rock Loop Rd.; Sat. 10-5, Sun. 10-4; free admission; guest speakers, slide shows, Kids' Corner, displays, demonstrations, raffle, gemstones, minerals, crystals, fossils, beads, jewelry; contact Gayle Macklin, P.O. Box 3932, Sedona, AZ 86340, (928) 399-9588; e-mail: [gayleis@gmail.com](mailto:gayleis@gmail.com)

Oct. 17--MOUNT VERNON, WASHINGTON: Show, "Rings & Things BeadTour"; Rings & Things; Best Western Cotton Tree Inn (Cascade Ballroom), 2300 Market St.; Sun. 12-4; free admission; gemstones, bead strands, wholesale prices, findings, stringing supplies; contact Dave Robertson, (800) 366-2156; e-mail: [drobertson@rings-things.com](mailto:drobertson@rings-things.com); Web site: [www.rings-things.com](http://www.rings-things.com)

Oct. 22-24--AUSTIN, TEXAS: Show, "Gem Capers 2010"; Austin Gem & Mineral Society; Palmer Events Center, 900 Barton Springs Rd.; Fri. 9-5, Sat. 10-6, Sun. 10-5; adults \$5 (all three days), seniors \$4, children 13-18 \$1, 6-12 50 cents, 5 and under free; more than 30 vendors, displays, Rock Food Table, touch table of rocks and fossils, demonstrations of cabbing, wire wrapping, faceting, polymer clay, fossil cleaning, kids' day Fri., Wheel of Fortune, Gem Mine, jewelry making, rocks that glow in the dark, grand prize; contact

Brian Wetzig, 6719 Burnet Ln., Austin, TX 78757, (512) 458-9546; e-mail: ShowChairman@AustinGemAndMineral.org; Web site: www.GemCapers.com

Oct. 23--BELLEVUE, WASHINGTON: Show, "Rings & Things BeadTour"; Rings & Things; Bellevue Community College (Cafeteria), 3000 Landerholm Circle SE; Sat. 11-3; free admission; gemstones, bead strands, wholesale prices, findings, stringing supplies; contact Dave Robertson, (800) 366-2156; e-mail: drobertson@rings-things.com; Web site: www.rings-things.com

Oct. 23-24--BELLEVUE, WASHINGTON: Show; Bellevue Rock Club; Vasa Park, 3560 W. Lake Sammamish Blvd. SE; Sat. 10-5, Sun. 10-5; contact Marjorie McKinley, P.O. Box 1851, Bellevue, WA 98009-1851; e-mail: Bellevuerockclub@comcast.net

Oct. 23-24--EDMONTON, ALBERTA, CANADA: 3rd annual show, "A World of Rocks, Fossils & Gems"; Edmonton Tumblewood Lapidary Club; St. Albert Senior Citizens' Club Gym, 7 Tache St.; Sat. 11-7, Sun. 10-5; adults \$4, seniors and students \$3, children 12 and under free with adult; dealers, demonstrations, displays, hands-on educational activities, door prizes; contact Pauline Zeschuk, (780) 430-6694; e-mail: paulinez8@shaw.ca; Web site: <http://rme.tcor.ca/cms/tumblewood>

Oct. 23--SEATTLE, WASHINGTON: Show, "Rings & Things BeadTour"; Rings & Things; Seattle Center (San Juan Rooms), 305 Harrison St.; Sat. 12-4;

free admission; gemstones, bead strands, wholesale prices, findings, stringing supplies; contact Dave Robertson, (800) 366-2156; e-mail: drobertson@rings-things.com; Web site: www.rings-things.com

Oct. 23-24--CANBY, OREGON: 46th annual show, "Harvest of Gems in 2010"; Clackamette Mineral & Gem; Clackamas County Fairgrounds, Main Pavilion Bldg., 694 NE 4th Ave.; Sat. 9-6, Sun. 10-5; free admission; door prizes, demonstrations, kids' kornor, fluorescent show, displays, dealers, silent auction; contact Bea Settle, (503) 631-3128, Rick Mauer, (503) 691-6395; e-mail: tallerricardo@juno.com

Oct. 27--SANDY, UTAH: Show, "Rings & Things BeadTour"; Rings & Things; Salt Lake City Community College - Miller Campus, Karen Gail Miller Conference Center (Deercreek, Lone Peak, Copper, Rose, Cottonwood and Wasatch rooms), 9750 South 300 West; Wed. 12-4; free admission; gemstones, bead strands, wholesale prices, findings, stringing supplies; contact Dave Robertson, (800) 366-2156; e-mail: drobertson@rings-things.com; Web site: www.rings-things.com

Oct. 29--HENDERSON (LAS VEGAS), NEVADA: Show, "Rings & Things BeadTour"; Rings & Things; Henderson Convention Center (Ballroom A/B), 200 S. Water St.; Fri. 12-4; free admission; gemstones, bead strands, wholesale prices, findings, stringing supplies; contact Dave Robertson, (800) 366-2156; e-mail: drobertson@rings-things.com; Web site: <http://www.rings-things.com>

Oct. 29-31--SANTA ROSA, CALIFORNIA: Show, "Gem Faire"; Gem Faire Inc.; Sonoma County Fairgrounds/Grace Pavilion, 1350 Bennett Valley Rd.; Fri. 12-7, Sat. 10-6, Sun. 10-5; weekend pass \$5; contact Yooy Nelson, (503) 252-8300; e-mail: info@gemfaire.com; Web site: www.gemfaire.com

Oct. 30-31--LAKESIDE, CALIFORNIA: Show, "Rock and Gem Roundup"; El Cajon Valley Gem & Mineral Society; Lakeside Rodeo Grounds, 12584 Mapleview Rd.; Sat. 10-5, Sun. 10-5; free admission; jewelry, gemstones, arts, crafts, beads, lapidary supplies, demonstrations, junior activities, raffles; contact Patrick Smock, 10852 S. Samuel Rd., Hereford, AZ 85615, (619) 719-3444; e-mail: cprpsm@yahoo.com

Oct. 31--SCOTTSDALE, ARIZONA: Show: "Rings & Things BeadTour"; Rings & Things; Chaparral Suites Resort Scottsdale (Conference Center), 5001 N. Scottsdale Rd.; Sun. 1-5; free admission; gemstones, bead strands, wholesale prices, findings, stringing supplies; contact Dave Robertson, (800) 366-2156, e-mail: drobertson@rings-things.com; Web site: www.rings-things.com

## Test Your Knowledge

Test your knowledge and see if you can guess where on Earth (or off) this image is from. Answer will be in next month's issue.



## Test Your Knowledge — Last Month's Answer



## Space radar image of Aorounga impact crater, Chad

The impact of an asteroid or comet several hundred million years ago left scars in the landscape that are still visible in this spaceborne radar image of an area in the Sahara Desert of northern Chad. The concentric ring structure is the Aorounga impact crater, with a diameter of about 17 kilometers (10.5 miles). The original crater was buried by sediments, which were then partially eroded to reveal the current ring-like appearance. The dark streaks are deposits of windblown sand that migrate along valleys cut by thousands of years of wind erosion. The dark band in the upper right of the image is a portion of a proposed second crater.

## Membership News

### Next Board Meeting

The next Board Meeting will be Wednesday, Oct. 27, 7:30 a.m. at Ruby K's.

**Join the LAGS Google group for the latest club information!** <http://groups.google.com/group/los-alamos-geological-society>

**Follow LAGS on Facebook!** [www.facebook.com](http://www.facebook.com)

### Useful Links (courtesy of AGS Newsletter)

Four Corners Geological Society – [www.fourcornersgeologicalsociety.org](http://www.fourcornersgeologicalsociety.org)

Wyoming Geological Society – [www.wyogeo.org](http://www.wyogeo.org)

Utah Geological Association – [www.geology.com](http://www.geology.com)

## Club Calendar 2010

**Oct. 9-11**—Field trip to Cooke's Peak.

**Oct. 19**—LAGS Regular meeting. Speaker TBA.

**Oct. 23**—Field trip TBA.

**Oct. 27**—LAGS Board meeting at 7:30 a.m. at Ruby K's.

**Oct. 31–Nov. 3**—GSA Annual meeting in Denver, CO.

**Nov. 16**—LAGS Regular meeting. Speaker will be our own Richard Stead.

**Nov. 24**—LAGS Board meeting at 7:30 a.m. at Ruby K's.

**Dec. 13-17**—AGU Fall meeting in San Francisco.

## Newsletter Deadlines

email: [lmendius@hotmail.com](mailto:lmendius@hotmail.com)

If you have items that you would like to see in the newsletter, please contact Louise Mendius on or before the last Thursday of the month. The deadlines for each newsletter issue are:

November 2010 issue: October 28, 2010

December 2010 issue: November 24, 2010



LOS ALAMOS GEOLOGICAL SOCIETY  
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Raffle		
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Science Fair Judges:	Richard Stead and Paul Bradley	

Our organization is devoted to studying and promoting interest in geology, mineralogy, archeology, paleontology, and the lapidary arts. Membership is available to any person, family, or institution in sympathy with the objectives of the Society.

General meetings are held on the third Tuesday of the month at the Christian Church, 92 East Road, Los Alamos at 7:30 p.m. The Executive Board meets the fourth Wednesday of the month. Field trips are held the Saturday following the general meeting. Exceptions to the schedules for field trips are published in the Obsidian Observer.

All activities and field trips of the Society are open to the public; reservations may be required for some events. All memberships are family memberships with annual dues of \$20. The dues entitle a family to participate in LAGS activities until the end of the calendar year. Any officer of the Society may be contacted for additional information.

The Society is a member of the RMFMS and an affiliate member of the AFMS, and is a sponsor of the New Mexico Symposium at Socorro, NM. Articles may be printed from the Obsidian Observer if credit is given to authors and their publications.

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