



# LEAVERITE NEWS

Grand Junction Gem and Mineral Club  
 2328 Monument Road  
 P.O.Box 953, Grand Junction, CO 81502



## ★ PRESIDENTS MESSAGE BY MEL BERSCH ★

Heritage Day was COLD & WINDY but we all survived and had a great time. Thanks to Wayne Sims, Kay Crawford (and Dave), Don & Sue Smith, Leck & Pat Mitchell and Pam who set it all in motion to be a great success. Jan McCollum also came by to give us a hand. We handed out a lot of flyers to our upcoming Gem, Mineral, & Jewelry Show. Kids had a great time “mining for gems”.

Just a reminder that we will be meeting on June 8th for the inhouse rock auction. Bring 5 nice rocks, slabs, equipment or rock related items, per member, to be auctioned with a minimum 40/60 split (40% to the club). A great way to get new material to work and add to your collection. Also make a little money for yourself and the club at the same time. Our upcoming 70th annual Gem, Mineral, & Jewelry show “Mining for Gems”, to be held at Two Rivers Convention Center Mother’s Day weekend will soon be here. Remember this is our biggest event we put on for the club and the community. We need volunteered to help in all capacities, so help where you can. Putting on this show helps the cost of maintaining our club house and enables us to keep our dues as low as there are. Our next cookie night meeting, May 11,2017, will be a short business meeting and then load up tables, chairs etc. for the show. Many hands make light work.

Our matching building fund donations are up to \$766.00. Thanks to all who have donated so far. We are looking to meet the goal of \$1000 by July 1, 2017. Check out meetup.com or contact trip leaders to get signed up for our field trips. Get your name on the list; we will try to accommodate all who are interested in going.

Have a great spring (if it warms up) and summer!

May 2017				Volume 34 Number 5		
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>Match</b> <b>\$1000.00</b> <b>Donation!</b> 	1	2	3	4	5 	6 9-12 Open Shop
7	8	9	10 12-3  Open Shop 7:00 <b>Board Meeting</b>	11 <b>Cookie Meeting</b> <b>6:30pm</b> <i>Load for Show</i>	12 <b>Show Set Up</b>	13 <b>Show</b>
14 <b>Show</b> 	15	16 <b>Gold Mining Group</b> <b>7:00 pm</b>	17 12-3 Open Shop	18	19	20  9-12 Open Shop <b>Faceting 9:30</b>
21	22	23	24 12-3 Open Shop	25 <b>Dinner Meeting</b> <b>6:30pm</b>	26	27 9-12 Open Shop
28	29  <b>MEMORIAL DAY</b>	30	31 12-3 Open Shop	<b>70th Annual Grand Junction Gem and Mineral Show</b> <b>Two Rivers Convention Center</b> <b>May 13-14, 2017</b>		



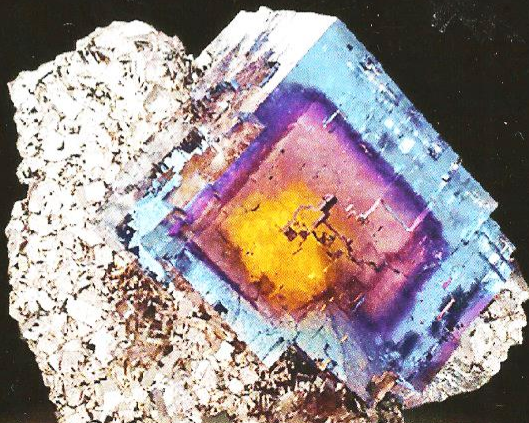
*The Grand Junction Gem & Mineral Club  
Presents*

*the 70th  
Gem, Mineral,  
& Jewelry Show*

*Mining for Gems*

*Two Rivers Convention Center*

*May 13th and May 14th 2017  
Saturday 9:00 a.m. - 6:00 p.m.  
Sunday 9:00 a.m. - 4:00 p.m.*



*One of the Largest Shows in  
Western Colorado and Eastern Utah*

**70<sup>th</sup> Annual Gem and Mineral Show  
Mining for Gems  
Two Rivers Convention Center  
May 13-14, 2017**

**Show Chairman Wayne McMacken.**

Plan to be there-Plan to Help!

You yet have time to create a display case, add some of your own class items to a case, pass out flyers and complimentary tickets, spread the word! You could also sign up to help demonstrate. You don't have to be a teacher. If you know a procedure please volunteer to demonstrate for a couple hours.

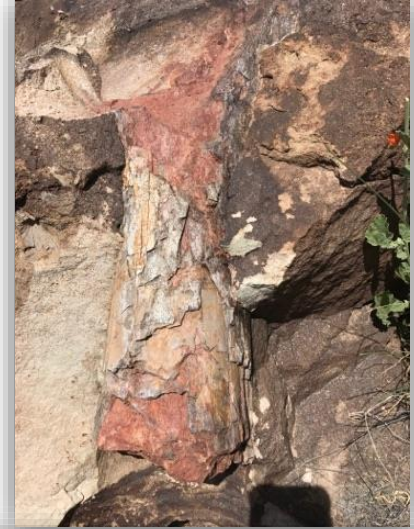
Thanks to those who helped assemble 600 grab bags for kids. Joyce Trump still needs a couple of volunteers to man the grab bag table. Pam Johnson has cases that need to be filled up. She is also assembling a memorial case dedicated to Irwin Nutting and needs samples of items made by students in the classes he taught. Vendor assignment to available tables is almost complete. However, we have a couple of 16' tables that need dealers. Thom Ericson needs a cashier and a couple of volunteers to man the Silent Auction tables.

Everyone's help is needed to load up tables, chairs, etc. that are stored at the club on Thursday, May 11<sup>th</sup> after cookie meeting. Then bring those items to Two Rivers Convention Center at 7:00 am Friday morning and help set up. Vendors areas need to be ready by 9:00. Saturday and Sunday be sure to help in those areas where you have signed up as well as circulate around for areas in need of extra help. Be sure to wear your vest and name tag to identify yourself. Then, Sunday at 4:00 pm be there with your trucks and trailers to help load up and return items to the club house.

With the help of everyone, this will be the best show we have ever had.

As usual, Complimentary Tickets are available to pass out to your family and friends. See Wayne Simms for these "complimentary" tickets. Admission is \$3 on Saturday, \$1 on Sunday for those returning to the show, and \$3 on Sunday for those attending on Sunday only.

## Field Trips



### April Field Trips—Looks like they had a great trip!

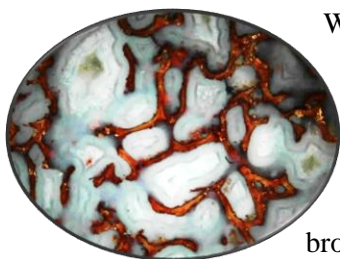
#### Henry Mountains May 6

The remote Henry Mountains comprise two million acres of backcountry beauty, with an elevation range from 3,700 feet at the north shore of Lake Powell to over 11,600 feet at Mt. Ellen. This rugged landscape offers an abundance of recreational opportunities such as hiking, off-roading, camping, wildlife viewing, nature studies, photography, and hunting. In fact, the Henry Mountains are home to the only hunttable herd of free-roaming bison in America, which can usually be seen on the South Summit Ridge of Mt. Ellen during the summer months. These extremely isolated public lands are managed by the Bureau of Land Management. Be prepared with extra water and a vehicle in good working condition when traveling in this remote region. Aside from Utah state highways, most of the roads in the Henry Mountains are dirt or gravel and may be washed out by heavy summer rains, rockslides or snow. These roads lead to stunning scenic vistas, such as the Blue Hills south of Caineville, Burr Point and Angel's Point which are excellent viewing spots for the Dirty Devil River canyons.

Date	Type	Location	Leader
May 6	Overnight	Henry Mountains	Mel Bersch
May 21	Day	Floy Wash	
Announce later	Day	Grape Agate	
Announce later	Rain Date		
June 18	Day	San Rafael Reef	Jim and Diana Grindle
June 24	Day	Gold Claims	Chris Henderson
July 29-Aug 5	Overnight	Wiggin Fork, WY	Sue Smith
July 22	Day	Portland Mine	Wayne Sims
August 2-14	Overnight	Barite dig.	Buena Vista Show
September 23	Overnight	Lake George	Chris Henderson
September 16	Day	State Bridge	Wayne Sims
October 21	Day	West Water	Mike Burritt
November 4	Day	Sand Flats	Jim Schultz



## Mineral Group



We never know how many to expect for our mineral group. We had to add a card table and four more chairs to accommodate the group this time. We mainly socialize but we did look at some very interesting specimens. Linda Dunham brought her rare piece of Schilderia petrified wood from Arizona. Under the scope it showed some interesting chevrons. Mike Burritt had several pieces of dinosaur bone. One with some interesting and colorful cell structures and another that was different and very beautiful that everyone loved. Kay brought several pieces that a relative had given her, one being a crinoid stem. Pat had a stromatolite and coprolite talking about the similarities and differences. This was our last meeting until the fall. Everyone have a wonderful summer. Mel & Pam

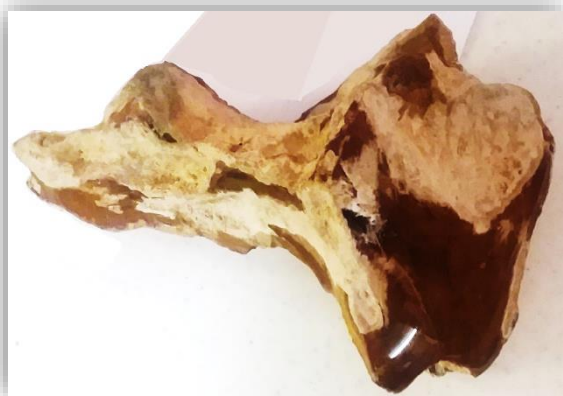
## April Program

A special thanks to Anthony Kovschak for an interesting and informative program about the microstructures in the bones of dinosaurs. The microstructures of dinosaur bone can help identify fast-growing bone from slow-growing bone or warm-blooded vs cold-blooded, the climate and environment the dinosaur lived in, and whether they were four legged.

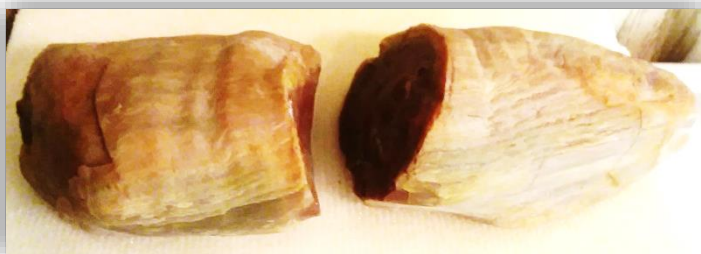
## June Program



June 8<sup>th</sup>, Cookie Night, will be the in-house rock auction. Come early to set up your items and check out those you want to have for your own! This is always a fun night and a great way to not only add to your own income but help support the club at the same time. The auction will be a 60-40 split with the club receiving 40% of the proceeds. It is asked that you bring 5 units to be auctioned-a unit can be one rock or a group of rocks. You may also bring equipment, supplies, etc. that pertain to gem and mineral functions. Have your items carefully marked so the auctioneers can efficiently describe each unit.



Spend the summer searching for brag rocks! We have some great specimens each meeting but could use more participants!



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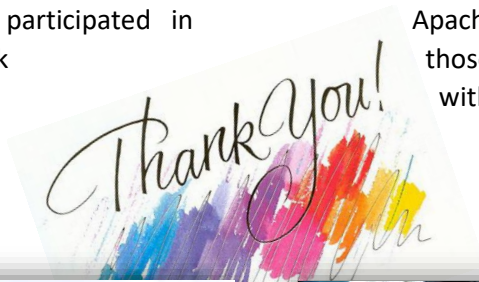
email sales@stoutselectric.com

LARGEST STOCK OF CAPACITORS IN  
WESTERN COLORADO

### Education Opportunities--Heritage Days

It was a beautiful spring day at Palisade Riverbend Park Saturday as The Gem and Mineral Club participated in the Heritage Days event. There were outdoor activities that youth and their families participated in including fishing, archery, rock climbing, shooting,

nature hikes and a hunting simulator. Club members talked to families about the club, the upcoming show, gem and minerals and to let kids mine for rocks, such as Apache tears and petrified wood. Thanks to all those who organized, donated, and help with this educational event.



### Area Shows

Colorado Shows		
June	Club	City
2-4	Pikes Peak Gem, Mineral/Jewelry	Colorado Springs
8 - 11	Fairplay Contin-Tail	Fairplay
16-18	Victor Gem and Mineral	Victor



May	Club	City	State
5-7	McPherson Gem & Mineral Club	McPherson	KS
5-7	Yucaipa Valley Gem & Mineral	Yucaipa	CA
6-7	Reno Gem and Mineral	Reno	NV
6-7	Billings Gem and Mineral	Billings	MT
6-7	Mohave Co. Gemstoners	Kingman	AZ
6-7	Searchers Gem & Mineral	Anaheim	CA
11-13	Cache Rock and Gem	Logan	UT
12-14	Gem Faire	Costa Mesa	CA
12-14	Gem Faire	Sacramento	CA
13-14	Bozeman Gem and Mineral	Bozeman	MT
19-21	Bitterroot Gem and Mineralogical	Hamilton	MT
19-21	Gem Faire	Santa Barbara	CA
20-21	Pacific Crystal Guild	San Francisco	CA
26-28	Karmic Beads and Gems	Cloverdale	CA
27-28	White Mountain Gem & Mineral	Pinetop	AZ
27-28	City of Bisbee, Queen Mine	Bisbee	AZ

## Grand Junction Gem and Mineral Club

### Officers

President	Mel Bersch	242-3134
Vice President	Mike Burritt	260-3897
Co-Secretary	Anita Martinez	434-9270
Co-Secretary	Chris Henderson	719-244-3192
Treasurer	Pam Bersch	242-3134

### Directors

Pat Martinez	434-9270
Cindy Teare	462-6806
Teri Drost	256-0983
Jim Schultz	242-0428
Betty Jo (BJ Brown)	241-3051

### Committee Chairpersons

Audit	Kathy Ericson	623-2522
Building and Ground	Sylvester Spaeth	846-5716
	Judy Nason	250-9128
Compliance	Jim Schultz	242-0428
Correspondence	Bambi Harmon	216-4540
Decorating	Linda Dunham	623-3610
Display Cases	Val Meduros	773-4244
	Carmen Bruno	773-4247
Education	Cindy Teare	462-6806
Field Trips	Wayne Sims	314-2970
Funding/Constr.	Mike Cosby	589-0687
Historian		
Hospitality	Judy Nason	250-9128
Inventory		
Name Tags	Melinda Hanson	712-6972

### Leaverite Editors

Lorrie Wallace	250-1122
JoAnn Whalen	424-2007

### Librarian

Evita Schultz	242-0428
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### Meet-Up

Jim Schultz	242-0428
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### Membership/Badges

Carrie Riggs	
Sue Smith	245-5602

### Nominating

Teri Drost	260-2478
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### Publicity

Wayne McMacken	208-2534
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### Scholarships

Bill Hood	241-8020
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### Shop Foremen

Thom Ericson	623-2522
Scott Pugsley	972-953-7735

### Show

Wayne McMacken	208-2534
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### Show Assistant

Bambi Harmon	216-4540
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### Supplies

Linda Sims	314-2970
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### Vests

Linda Sims	314-2970
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### Website

John Mayerik	243-8589
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### Board Meeting

The board will meet at Mel Bersch's house, 248 Little Park Road, at 7:00 pm on the Wednesday before the 2<sup>nd</sup> Thursday Cookie Meeting each month. All club members are welcome to attend. Hope to see you there.

### Club Information

The Grand Junction Gem & Mineral Club, Inc. is affiliated with the American Federation of Mineralogical Societies, and the Rocky Mountain Federation of Mineralogical Societies. The club is located at 2328 Monument Road Grand Junction, CO, mailing address: P. O. Box 953, Grand Junction, CO 81502 The Club is a nonprofit, 501(c)3 tax-exempt, educational organization. Our purpose shall be exclusively educational and social: To increase and disseminate knowledge of the earth sciences pertaining to minerals, gems, rocks, artifacts, fossils and similar subjects; To promote and perpetuate knowledge of the lapidary arts; To encourage field trips; To encourage greater public interest and education in gems, fossils and minerals, cooperating with established institutions in such matters. The Grand Junction Gem and Mineral Club meets on the second and fourth Thursday of each month at 6:30 pm in our club building. June, July, and August meetings will be on the fourth Thursday only. November and December meetings will be on the second Thursday only. Our Annual Show is Mother's Day Weekend and is held at Two Rivers Convention Center at 159 Main St, Grand Junction, CO 81501. Classes and workshops are offered throughout the year and are announced in the newsletter.

### The Facetors Group

The Facetors Group meets at the clubhouse on the 3<sup>rd</sup> Saturday of each month at 9:30 am. They have a Project of the Month and a People's Choice. They also have teachers available for one-on-one classes. Contact Connie Duncan at 244-2984 for information about the group or classes.

### The Grand Valley Gold Prospectors Group

The Grand Valley Gold Prospectors Group is now part of the Gem and Mineral club. They will meet each month at the clubhouse at 7:00 pm on the 2<sup>nd</sup> Tuesday. Everyone is welcome to attend the group. P.O. Box 1357 Grand Junction, CO 81501. Laura Adamson pres., 260-6375; Robert Hubbard vice pres., 254-1449; Chuck Shepard Secretary, 270-5807

### The Mineral Group

The Mineral Group meets at the Bersch's, 248 Little Park Rd, at 6:30, on the Friday after the 4<sup>th</sup> Thursday's Club Meeting and is open to all club members and guests. A potluck will be followed by discussion and microscopic images of various minerals. Please bring up to 5 specimens, and/or other minerals you wish to look at for the discussion.

## New Members

Welcome to the Grand Junction Gem and Mineral Club. Include your email address when you register to receive newsletters and updates. Check out the website for past newsletters and general information. Order a vest made to your size from Linda Sims for \$20.00 and a name Tag from Melinda Hanson for \$10.00. Be sure to sign up for some classes to learn how to use the machines in our shop so you can participate in open shop.

## Dues

Our calendar year is January 1 - December 31. Dues are due by December 31 but must be in by January 30 for names to be included in the Club Directory. Please pay your dues at the meeting or send check made out to Grand Junction Gem and Mineral Club, P. O. Box 953 Grand Junction, CO 81502. Prospective members should attend one general meeting to obtain a membership application. Annual dues will be prorated after July 1st.

Adult Member - \$30.00 (18+), 2nd Adult, same household - \$10.00 Children under 18 years, same household - No Cost

## Club Rules and Regulations

The notebook of rules and regulations is available on the front table at all meetings for members to read.

## Gem and Mineral Classes

Most classes are 6 weeks. Member's cost \$30.00. Non-member's cost is \$60.00. The cost of the classes is based on 6 weeks and prorated when the class is shorter. Please contact instructors to sign up for classes.

Class	Instructor	Phone	Open Shop
Beading	Tiny Blasdal	858-7975	<b>Shop Chairman:</b> Thom Ericson 623-2522
Chain Making	Cindy Teare	462-6806	<b>Shop Supervisors:</b>
Faceting	Connie Duncan	244-2984	Wednesday: 12-3 Thom Ericson 623-2522
Filigree	Pam Bersch	242-3134	Saturday: 9-12 Scott Pugsley 972-953-7735
Intarsia	Jim Lynch	361-2123	Previous instruction in use of equipment is required
Lapidary	Jim Schultz	242-0428	before using any tools or machines in the shop.
Lapidary	Mike Burritt	260-3897	Sign in each time you use the shop.
Silversmith	JoAnn Piburn	245-1669	Help with the clean-up before leaving.
Silversmith	Wayne McMacken	208-2534	Shop fee is \$5.00/session.
Wire Weaving	JoAnn Piburn	245-1669	Slab saw \$.26 per square inch.
Wire Wrap			<b>Always—Safety First</b>

## The Leaverite News

The Leaverite News is your newsletter. Articles, ideas and news should come from the club members. If you are an officer, director, or committee chair person you should plan to submit monthly updates by the 15th of each month. News should be emailed to [leaveritenews@gmail.com](mailto:leaveritenews@gmail.com) or contact Lorrie Wallace (250-1122 or JoAnn Whalen (424-2007, 554 Casa Rio Ct., Grand Junction, CO, 81507. *Leaverite News is published nine months of the year (Sept-May by the Grand Junction Gem and Mineral Club, Inc. Articles printed in this newsletter are the experiences and/or opinions of the individuals submitting them. They do not necessarily reflect the views or opinions of the Grand Junction Gem and Mineral Club, nor of the editors. Articles written without a byline are written by the editor. We are not responsible for authenticity, safety, or reliability of publications. All articles/photos are included in accordance to fair use for research and education. Caution and safety should always be practiced when trying out any new idea, venture or exploration in the field. We request corrections and/or additions to articles.*

## Grand Junction Gem and Mineral Website

Our website, [www.grandjunctionrockclub.org](http://www.grandjunctionrockclub.org), has meeting information, Leaverite Newsletter, Classes, Field Trips, & Photo Gallery. Send information to John Mayerik; 243-8589; email [Grandjunctionrockclub@gmail.com](mailto:Grandjunctionrockclub@gmail.com)

## Meetup

Meetups are neighbors getting together to learn something, do something, share something. The Club is registered at the Grand Junction Meetup. Go to [http://www.meetup.com/cities/us/co/grand\\_junction/](http://www.meetup.com/cities/us/co/grand_junction/) to register or for information or call Jim Schultz at 242-0428.

## Summary of Minutes of the Gem and Mineral Club Board Meetings

### Board Meeting

April 12, 2017

**Old Business:**

1. Wayne Sims and Sylvester (Syl) Spaeth have installed shelves in new storage bin.
2. June 8 will be a club auction in addition to cookie night.
3. Building Fund: The members have contributed \$613 toward the \$1000 challenge.
4. Pat Martinez will inventory physical assets.

**New Business:**

**1. Upcoming Show** We'll use approximately 60 of our new chairs to save on rental fees. They need to be marked with "GJGMC". Two hundred 4"x9" rack cards that can be used as postcards and 75 posters have been printed. Our 2017 contract with Two Rivers Convention Center is very similar to the 2016 contract. In 2016 our cost was \$8500 in addition to an outstanding balance of \$600 after the show.

The web site needs to include our vendor chairman contact information so potential vendors can sign up for our show. Advertising: The show advertising may include printed items, free radio spots, TV announcement and social media via Facebook. We are within \$200 of the advertising budget. The Daily Sentinel has started advertising the Show.

**2. Finances** - Jim Schultz said we are up about \$1000. This includes an increase in shop income of approximately \$700, a decrease in class participation, and an increase in membership.

### General Meetings

April 27, 2017

**Membership:** The membership list will be sent out at the end of the month. Please check your information for accuracy and contact Meli Hanson or Carrie Riggs with corrections.

**Building Fund:** Donations are tax deductible and can be given to Pam Bersch. To date members have raised \$766 toward the \$1000 building fund challenge.

**Field Trips:** Chaired by Wayne Sims

Three field trips including Cisco and Crystal Gysler in Utah had 33 attendees. A field trip to the Henry Mountains will leave the Fruita Visitor Center May 5th at 9:00am. The trip leader is Mel Bersch. There will also be a field trip to Floy Wash in May.

**Education:** Colorado Division of Parks and Wildlife will host the Outdoor Heritage Day at River Bend Park on April 29th from 9:00am to 3:00pm. Pam has Apache tears which she'll put in dirt and the kids can "mine for gems". She still needs help manning the GJGMC booth. The booth will be set up at 8:00 am.

**John Mayerik** manages our web site. However, it is not working well with new technology such as smart phones and tablets. If anyone is familiar with this technology and web sites John could use some help.

**Annual Show Update:** See body of newsletter.

**New Business**

Mineral Night at Mel and Pam's will resume in the fall. Next Rock Auction for club members only will be on June 8. *Submitted by Anita Martinez (secretary)*

**3. Shop** It was suggested the Shop Log should include both money paid for cutting large slabs (slabbing) and fees paid by open shop attendees. An alternative would be to install time meters on each slab saw. Fees paid for slabs would then be based on the time it took to cut them. This will help raise funds to maintain these machines and replace saw blades. No longer can members get "free" slabbing if they donate a slab to the auction.

A maintenance sheet should be developed for the Genie to ensure regular upkeep. The Genie wheels need to be examined to determine the need for recapping.

To reduce congestion on the two open shop days it may be useful to have another open shop.

**4. Membership:** Six families from the Gold Club have joined the Gem and Mineral Club.

**5. A possible new building** is 50'x56' and costs \$49,800. This cost includes insulation but not electricity.

*Submitted by Anita Martinez, co-secretary*



## Museum offering Dino Digs during summer

Museums of Western Colorado will host half-day to three-day Dino Digs this summer and invites you to be a part of the fun. Last summer, an 8-year-old boy participating in a dig found what is thought to be the fourth known intact skull of an apatosaurus, a news release said. All ages can become paleontologists-for-a-day through Dino Digs, working with professional paleontologists at area sites.

Participants join "paleontological field crew where they learn hand quarrying techniques, as well as fossil identification and proper stewardship of paleontological resources on public lands," the release said.

A variety of Dino Dig experiences are available from May 22 through Aug. 16 and range in the cost from \$65–\$375 per person, including transportation, guide/instruction and tools. Full-day digs include lunch. Discounts are offered to youth and families and availability, activities and age requirements vary by site. Go to [dinodigs.org](http://dinodigs.org) or call Carla Hatch at 242-0971, ext. 212, for information and reservations.

## In the News

### Big Peanut-Shaped Asteroid Caught on Radar as It Zooms by Earth

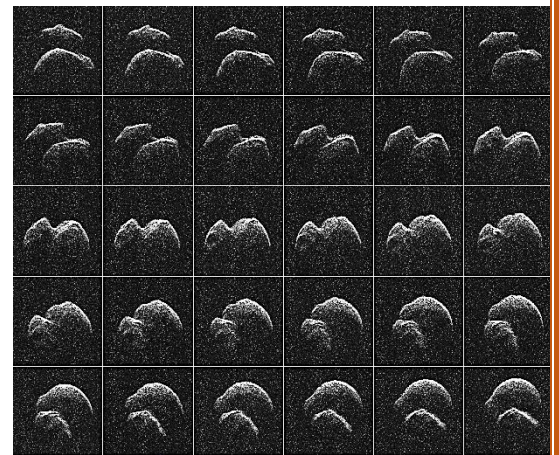
*By Elizabeth Howell, Space.com Contributor, April 19, 2017 01:43pm ET*

An asteroid that zoomed by Earth April 19, 2017, at less than five times the distance between the Earth and the moon has been caught on radar. The new images capture features on the near-Earth asteroid 2014 JO25 as small as 25 feet (7.5 meters) across, scientists said. The photos — which were combined to make this video of asteroid 2014 JO25 — reveal that the space rock rotates once every 5 hours and has a peanut-like structure, with the larger of the two lobes about 2,000 feet (620 m) wide. "The asteroid has a contact binary structure — two lobes connected by a neck-like region," Shantanu Naidu, a scientist from NASA's Jet Propulsion Laboratory in Pasadena, California, who led the observations, said in a statement. "The images show flat facets, concavities and angular topography."

The images were taken with NASA's 230-foot (70 m) antenna at the Goldstone Deep Space Communications Complex in California. Additional observations will be made by Goldstone and the 1,000-foot-wide (305 m) dish at the Arecibo Observatory in Puerto Rico today through Friday (April 19 to April 21) and could provide even higher-resolution images, NASA officials said in a statement.

Credit: NASA/JPL-Caltech/GSSR 2014 JO25 was discovered in May 2014 by astronomers at the Catalina Sky Survey near Tucson, Arizona. Its closest approach occurred this morning at 8:24 a.m. EDT (1224 GMT), when the rock got within 1.1 million miles (1.8 million kilometers) of Earth — roughly 4.6 times the distance from our planet to the moon. This close encounter is the nearest the asteroid has come to Earth in 400 years; it won't get this close again until the 2500s, NASA scientists have said. Radar is commonly used to study asteroids, as it offers a way to learn more about space rocks' structure without having to send a probe out to meet them. Radar has been used to investigate hundreds of asteroids near Earth and provides information about sizes, shapes, rotation, surface features and roughness.

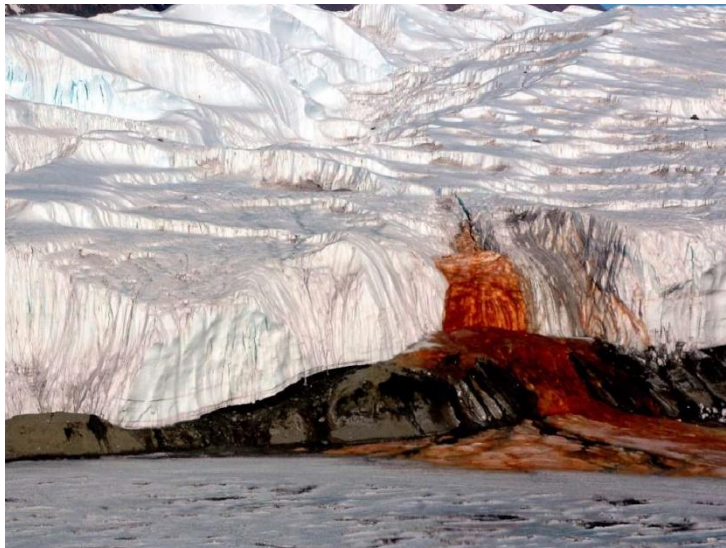
Editor's note: If you capture a photo of asteroid 2014 JO25 through a telescope and would like to share it with Space.com, please send images and comments in to: [spacephotos@space.com](mailto:spacephotos@space.com). Follow Elizabeth Howell @howellspace, or Space.com @Spacedotcom. We're also on Facebook and Google+. Originally published on Space.com.



This composite of 30 images of asteroid 2014 JO25 was generated with radar data collected using NASA's Goldstone Solar System Radar in California's Mojave Desert. The asteroid flew by Earth on the morning of April 19, 2017.  
Credit: NASA/JPL-Caltech/GSSR

## Scientists Solve Mystery Behind Antarctica's Blood Falls

10 / 21 Condé Nast Traveler Cassie Shortsleeve Exploring the frozen beauty of Antarctica often involves sights of, well, white. But at Taylor Glacier, a 34-mile-long polar glacier, you'll find startling sights of red—a blood-like deposit of iron-rich, salty water flowing into West Lake Bonney. For years, Blood Falls (as the area has been aptly named) has been a mystery of nature to scientists. When a geologist named Griffith Taylor first discovered the frozen falls in the early 1900s, he thought algae was to blame for the red color (proof, perhaps, that life really can exist anywhere). But in 2003, researchers determined that red hue actually came from iron and water pulling from a super old (like, 5-million-year-old) lake. The flow would turn red when the iron came into contact with the air.



© Photo by National Science Foundation/Peter Rejcek Image via [CNTraveler.com](http://CNTraveler.com)

Now, a new study from the University of Alaska Fairbanks and Colorado College adds the final piece to the century-old puzzle: Using radio-echo sounding (read: no drilling necessary!), researchers were able to track exactly where the water was flowing from.

Turns out Taylor Glacier doesn't just have a lake under it, it also has its own unique, briny water system that has likely been in action for a million years. The research smashes the idea that flowing water can't exist in a freezing cold glacier at the end of the world—the saltiness of the water means it has a lower freezing temperature, making that continuous flow possible.

"Taylor Glacier is now the coldest known glacier to have persistently flowing water," co-author Christina Carr, a doctoral student at University of Alaska Fairbanks, said in a release about the study.

Cheers to science—and to brilliant geologists and scientists (and students) who keep making fascinating discoveries about our planet. View our complete list of the best places to visit in the U.S.

## Geologists Uncover Three New Uranyl Minerals

Feb 8, 2017 by News Staff / Source

A team of geologists has discovered three new minerals — leesite, leószilárdite and redcanyonite — growing on the walls of old uranium mines in southern Utah. Uranyl minerals have distinct bright colors even after the uranium-rich ore interacts with air and water to form crusts like leesite. Image credit: Travis Olds.

Uranyl minerals have distinct bright colors even after the uranium-rich ore interacts with air and water to form crusts like leesite. Leesite, leószilárdite and redcanyonite are like uranium rust and while the glowing green stereotype of uranium is close it's not quite right.

These three yellow minerals represent a small and unique slice of the Earth's crust where human activity spurred the formation of previously unknown minerals. All three specimens were uncovered by Travis Olds, a graduate student at Notre Dame University, Owen Mills, director of Michigan Tech's Applied Chemical & Morphological Analysis Laboratory, and Shawn Carlson, an independent geologist.

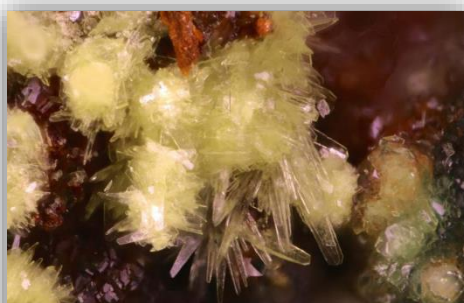
“The only way to better understand the chemistry of uranium is to go out and find new minerals — and describe their topology, their structures,” Olds said. “They teach us a lot about how uranium can then be moved in the environment.”

Though small and barely visible to the naked eye, leesite occurs in bright yellow aggregates of stacked blades or radiating needles up to one millimeter in length. This mineral also forms powdery masses nestled against a backdrop of companion minerals, most notably gypsum. Leesite’s atom arrangement stacks in alternates of



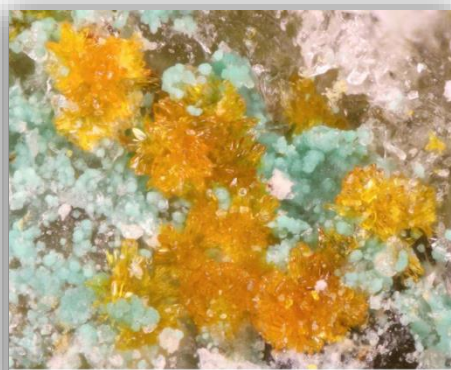
Uranyl minerals have distinct bright colors even after the uranium-rich ore interacts with air and water to form crusts like leesite.

Image credit: Travis Olds.



The crystals of leoszilardite are only a couple millimeters long at most.

Image credit: Travis Olds.



Redcanyonite.

Image credit: Travis Olds.

uranium and oxide layers, and potassium is what sets it aside as a new mineral. Given its chemistry and structure, it’s a member of the schoepite mineral family; miners called the general mess of these minerals growing on the tunnel floors ‘gummites.’ A carbonate formed through uranium ore interacting with air, it’s also water soluble. Its most distinctive feature are bladed crystals.

“If you look at leószilárdite in a picture, you can kind of pick out that they have an unusual shape,” Olds said. “But put them under the scanning electron microscope and it’s obvious.”

This mineral varies in hue from orange to red-orange and the color comes from what chemically makes the mineral new — manganese and ammonium in its structure — and being a sulfate, it is not soluble in water, unlike leószilárdite.

Redcanyonite is one of the rarest uranyl minerals known because it can only grow within narrow constraints: access to manganese ions is the main driver, but it also can only form in organic-rich layers, the most likely source of ammonium.

The new minerals are described in the December 2016 issue of the Mineralogical Magazine.

### **New Technique Shows San Rock Art Is 5,000 Years Old**

By Jason Daley, smithsonian.com, April 19, 2017

Using a highly refined form of carbon dating, researchers were able to date the pigments in art in Botswana, Lesotho and South Africa. Dating rock art is difficult. Chips of paint—likely contaminated with all different sources of carbon due to centuries and sometimes millennia of weathering—are first removed from the delicate pieces of art. Then researchers must use these pigments to isolate dateable carbon in order to come up with an age. Laura Geggel at LiveScience reports that one researcher just spent more than seven years overcoming some of those obstacles to date rock art from the San people of southern Africa. Her efforts paid off—her team found that some of the art is 5,000 years old, much more ancient than researchers previously thought.

According to Léa Surugue at The International Business Times, the researchers used a technique called accelerator mass spectrometry (AMS) to analyze paint chips from cave paintings in 14 sites in Botswana, Lesotho and South Africa. This newer technique allowed them to use tinier samples of the material. "With current dating methods, we need large samples—sometimes hundreds of milligrams of painting—which often means completely destroying these artworks," explains Adelphine Bonneau, post-doctoral fellow at Laval University and first author of the article in the journal *Antiquity*. "We also have to consider that in many cases, the art wasn't protected inside caves and rock shelters but created on outdoors rocks exposed to the elements and to human activity, which means that paintings are often in a bad state and cannot be dated."



Later Stone Age paintings  
(Antiquities/Bonneau) By Jason Daley

Bonneau and her colleagues selected samples made from organic materials that contained carbon, but avoided samples made from charcoal, since that material can last a very long time and paintings made with old pieces of charcoal could throw off the dates. They also worked to identify all the sources of carbon in the samples, since wind, rain, dust and all sorts of things can contaminate the paintings. Bonneau tells Geggel she's even witnessed sheep licking the paintings.

An eland and human figures of Later Stone Age tradition in the Maclear District, South Africa  
An eland and human figures of Later Stone Age tradition in the Maclear District, South Africa  
(Antiquities/Bonneau)

They then examined the samples using AMS, coming up with dates for when the paintings were made. The research showed that the ancestors of the San people created their images of animals and hunters using three primary materials including charcoal, soot and carbon black, a mixture of fat. The AMS dating showed that the paintings in rock shelters in Botswana ranged from 5,000 to 2,000 years old. The Lesotho paintings were from 1,500 to 150 years old and the South African art was 2,500 to 150 years old. The dates show that the rock shelters were used over several centuries.

"For the first time, it is possible to understand how the paintings on a shelter were created," Bonneau tells Geggel. "[It shows] when and where the artists started to paint in the shelter [and] for how long it was used. It opens up the possibility to discuss why some shelters were used for long periods and whereas other ones seem to have only one phase of paintings."

Surugue reports that dating the paintings will allow researchers to begin associating some of the archeological artifacts found in and near the rock shelters with the people who created the cave paintings. Even more importantly, the techniques used to date the rock art can be used in other areas of the world. For instance, rock art on the Indonesia island of Sulawesi was found to be a minimum of 40,000 years old using a technique called uranium-thorium radioisotope dating. Bonneau hopes her technique will help researchers paint a better picture of historical art by refining dating techniques even more.

Read more: <http://www.smithsonianmag.com/smart-news/new-technique-shows-san-rock-art-5000-years-old-180962948/#RPGS2uLCxFevh8oA.99>

More Field Trip Pictures

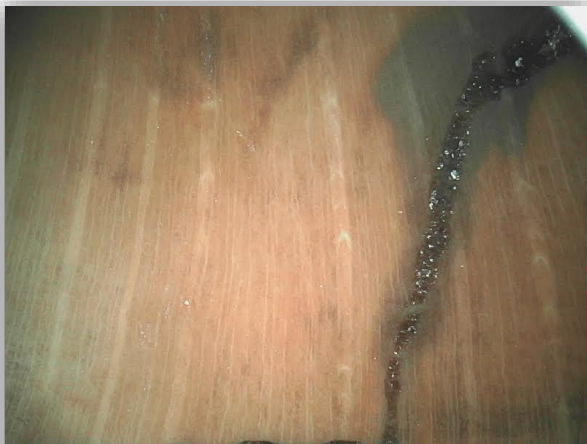


More Heritage Days Pictures





Mineral Group



Schilderia



Mike's Dino Bone

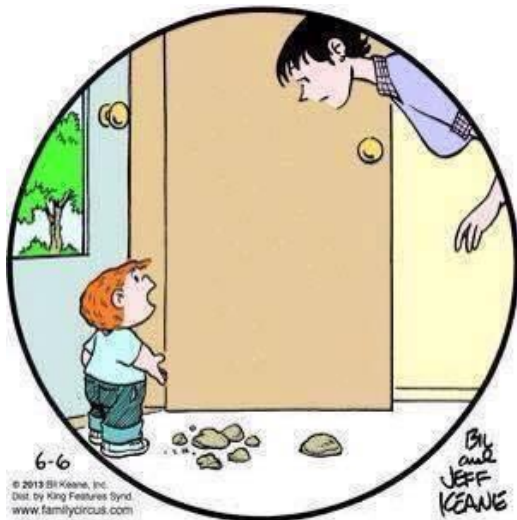


Crinoid Stem.

More Brag Rocks







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**"It's not a mess. It's my  
rock collection."**



