



Wildflowers, Cottonwood Pass, Colorado. Photo by Ning Tranquiligold Jin. 51493873102\_d4f7b38c9f\_o.jpg  
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# The Rocky Mountain Federation News

April 2024



The official publication of the Rocky Mountain Federation of Mineralogical Societies, Inc. The RMFMS is a regional member of the American Federation of Mineralogical Societies, Inc. Email receipt of the *RMF News* is a privilege of membership in the RMFMS, and it cannot be exchanged by the editor for individual club newsletters from other regional federations. Accessible to the public on [www.rmfmts.org](http://www.rmfmts.org).

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Information for the **May** issue is due to [LJGRALG@aol.com](mailto:LJGRALG@aol.com) by **April 15**.

**President's Message**

*Bob Regner, RMFMS President*



This month the message will probably be short and sweet (I never know once I start writing). It has a been a very long couple of weeks, and this next month will be even longer. I will be having back surgery first thing tomorrow morning (March 19th), and it sounds like I will be in rehab for two to four weeks. I have not been able to work for the last couple of weeks, and yet there was a whole lot of stuff going on. My nephew got married (congratulations Micalah and Patrick Regner), and our club had our annual show. I had a great group of people helping me with moving stuff to and from the show, and nobody would let me carry anything. I think it was for fear of what would happen if Donna found out anybody let me do anything. She really does watch out for me. A really big shout out to a really great group of people who jumped in to help with everything.

By the time this Newsletter gets out it will all be over, I hope. I “invoked the 25th Amendment,” and Jim will have had his first taste of being President, for at least a couple of days. I am sure I will not be able to make any command decisions for that time. Also by the time you see this, we should have filled a couple of the vacant Committee Chair positions. We do still have quite a few vacant positions and could use some help filling them. Please go to our website to see which positions are vacant and let me know if anyone in your club would be a good fit. You can find all of the job descriptions on the website or give me a call — I will help you out.

Once again, things you can do to help make you club or this organization better than it already is; read the contest list and see who can write an article, story, poem or maybe send in a collage of pictures. Maybe write about your last club meeting or your last club field trip. Also plan on coming to the next convention and set up a display of minerals you have collected or cabochons you made over the last couple of years. There are so many things you can do and be recognized; if that's not your thing, do it so you can take some awards back to your club or your state. Or do it to educate us or share your love of the hobby. First thing is to read what is available for you and maybe, just maybe, something will pique your interest.

I suppose I should cut this off before I think of anything else to write about. I have to be over at that big building where they are going to do some things to me really early in the morning. Next month I promise to get back to Linda's list of suggested topics.

*Prez Report - continued on page 3*

## Treasurer's Report

Gene Maggard, RMFMS Treasurer

All clubs except for one have now turned in their annual report and paid their dues. Dues collections are now at \$18,889 compared to budget of \$18,000. Dues collections are up as a result of increasing membership. We now stand at 13,946 total members compared to 12,887 members last year.

We have two new clubs, the Bottineau (North Dakota) Rockhounds and the Hell Creek Paleontological Society (Spearfish, South Dakota). Please welcome these clubs to RMFMS membership.

The major expense this month was \$1,300 for directory printing and mailing. The directories have all been mailed. All clubs should be receiving a copy. If you don't get it, let me know and we will get your club a copy. RMFMS finances continue to be under control and in good shape.



### Prez Report — continued from page 2

There are still some really great ideas on there, and I need to get to them before November rolls around. I hope to hear from a whole lot more of you with entries for your club or the RMFMS. You can also make plans to show up at the AFMS convention in Ventura on May 24th - 26th and show your support for the AFMS. Our own regional Federation show will be in Oklahoma City, Oklahoma on October 25th - 27th. This gives you plenty of time to make plans to come to the show and support your RMFMS. Just go to the website for all of the details or give someone on your board a call.



Dr. Frances M. Berting,  
Ph.D. May 21, 1927-  
February 23, 2024

All —

It is with deep regret that I inform everyone of the passing of our dear friend Fran. Dr. Frances M. Berting PhD. (Fran) has been a shining star in the RMFMS for way longer than I have been involved in this great organization. Every time I walked into a room where Fran was present, I was always instantly aware. She lit up a room just by her presence, and she always had something nice to say. I know people always say nice things when people pass but I can honestly say I really wish I had a chance to know Fran better than I did.

Bob  
Robert N. Regner  
RMFMS President

Full obituary at:

<https://losamosreporter.com/2024/02/28/obituary-dr-frances-m-berting-may-21-1927-feb-23-2024/>

## Quick Tips for Editors–WHICH or THAT –How do you know?

Linda Jaeger, RMFMS BEAC



As I read judges comments on this year's [2009] entries in the articles and features categories, I noticed several comments about using "that" instead of "which" and vice versa. **So how do you know when to use each one?**

Let's look at a couple of examples:

1 - **"We found limestone and sandstone, which are sedimentary rocks."** The phrase "which are sedimentary rocks" describes all limestone and all sandstone. In other words, limestone and sandstone are members of a group called sedimentary rocks. When nouns that are members of a group are being described by naming the group, we use a phrase beginning with "which."

If we left the "which" phrase out of the sentence, it would not change the meaning of what it was we found. The "which" phrase just gives extra information about all sandstone and all limestone (they are sedimentary rocks) – this information could even go in parentheses.

2 - **"We found a geode that was filled with amethyst crystals."** In this example, notice we cannot say that all geodes have amethyst crystals. In other words, not all geodes are members of the group that has amethyst crystals. Only some geodes have amethyst crystals. When the descriptive phrase is a group that contains only some of the nouns being modified, we use a "that" phrase and no comma.

Consider the question, "which one (of the noun being modified)?" If the answer is "that one (referring to the modifier phrase)," then use a "that" phrase. If the answer does not make sense, it's time to use a "which" phrase.

Okay. Test yourself with these sentences:

- A. We have sapphires that came from Helena, Montana.
- B. We have sapphires, which came from Helena Montana.
- C. Oklahoma is one of the states that has dinosaur remains.
- D. Oklahoma is one of the states, which has dinosaur remains.
- E. Our club belongs to the RMFMS that is a regional federation of the AFMS.

F. Our club belongs to the RMFMS, which is a regional federation of the AFMS.

G. A collection of petrified wood that has absorbed iron during petrification is inside the front door.

H. A collection of petrified wood, which has absorbed iron during petrification, is inside the front door.

How'd you do?

A. **yes** – only some sapphires come from Helena, Montana; *which sapphires? – the ones from Helena*

B. **no** – to use "which," all sapphires must come from Helena, Montana

C. **yes** – only some states have dinosaur remains; *which states? – the ones with dinosaur remains*

D. **no** -- to use "which," all states must have dinosaur remains

E. **no** – to use "that," only some of the RMFMS can be a regional federation of AFMS; *which RMFMS? – this sounds like there is more than one RMFMS and does not make sense!*

F. **yes** – all of RMFMS belongs to a regional federation of AFMS

G. **yes** – only some petrified wood has absorbed iron during petrification; *which petrified wood? -- the wood that absorbed iron*

H. **no** – to use "which," all petrified wood must have absorbed iron during petrification

References:

Lica, Lorraine, PhD. "The Distinction Between 'Which' and 'That'." The Distinction Between "Which" and "That" with Diagrams Especially for Scientists. Lorraine Lica. 25 May 2009. <http://home.earthlink.net/~lica/wichthat.htm>

Stewart, Jennifer. "Using Which and that." *Write101.com*. Jennifer Stewart. 9 February 2001. 25 May 2009. <http://www.write101.com/W.Tips115.htm>

Reprinted from *AFMS Newsletter, August 2009*

(Clip art above from Discovery Channel School Image Gallery, 2003. Permission to use for educational, not for sale publications granted.) RMF News, 10/2006.

## Update on RMFMS Contests Information

Linda Jaeger, RMFMS BEAC Chair

Here are the latest updates to RMFMS/AFMS contests. Do consider entering some or all of these — or if your club doesn't have something that can be entered this year, go ahead and get started for next year! Dale Brite has been updating the RMFMS website with the same information. Please have a look — he continues to work on and improve this for us! RMFMS website: [www.rmfmts.org](http://www.rmfmts.org).

### [RMFMS Bulletin Editors Contest Update](#)

We had 44 entries in the bulletin editors contest this year, including three entries that were sent directly to AFMS. Direct entries are for authors/artists who won first place in RMFMS in a category but did not take first place in that category in AFMS. Direct entries must be sent to the regional BEAC (me!). The BEAC then completes the paperwork and sends to AFMS.

All editors who had entries that placed in the top five for RMFMS in the 2024 contest have been notified by email. The top three entries in each category have been forwarded to the AFMS contest.

This year our RMFMS show/convention is after the AFMS show/convention. That means the AFMS results will be made public before the RMFMS awards are given. If you are planning to attend the AFMS show in Ventura (and perhaps the Awards Breakfast on May 26), you can complete and pay for all registrations online at:

<https://2024cfms-afms.com/files/2024CFMS-AFMSAdvanceRegistrationForm.pdf>

AFMS advance registration is due by May 1, 2024.

### [2024 RMFMS Regional & AFMS Website Contest](#)

The 2024 website contest guidelines, application and scoresheet have been uploaded to the new AFMS website. The forms will be available on the AFMS website and the RMFMS website.

Webmasters, please consider entering the 2024 RMFMS and AFMS Website Contest. This is a great opportunity to have your site evaluated by winning website judges to help improve your website. Your

club Website serves several functions. Three of the major functions of the Website are to:

- Attract new members
- Provide member information
- Assist the Club in fulfilling the Club's Mission.

The Webmaster award not only honors technical expertise but also celebrates the ability to engage and educate online audiences about the fascinating world of the earth sciences.

### **2024 RMFMS Website Contest**

- **Contest Entry Date: August 1, 2024**
- **Contest Closing Date: August 31, 2024**

Webmasters can submit the club website to your regional federation contest as a competitive or non-competitive entry. A non-competitive website entry will be scored, but the entry cannot advance to the AFMS Website Contest and cannot receive any awards.

If you submit a competitive entry and your website scores in the top two for your regional federation, it will advance to the AFMS Website Contest. If your website advances to the AFMS Website Contest and you receive the highest score, you will receive a plaque, and you cannot submit your website competitively for the 2025 contest. You will also be asked to be a judge in the 2025 contest.

**Please send COMPLETED Website Contest application and Scoresheet filled out with your club information in the header portion, to: [jgerring@gmail.com](mailto:jgerring@gmail.com)**

For questions and more information contact:

The **RMFMS Website Contest Chair, Jennifer Gerring, [jgerring@gmail.com](mailto:jgerring@gmail.com).**

## Club Corner – Silvery Colorado River Rock Club

Mary Jackson, Club Editor



Silvery Colorado River Rock Club originated in 1962 with 60 members. In 1964 we



tears, crystals, meteorites, Colorado River gravels that contain everything and many other types of materials. Visitors may attend a meeting and field trips one time, and then are asked to join.

became incorporated with more than 100 members. Needless to say, through the years membership has fluctuated with people coming and going, due to moving, health issues, old age and no longer being able to enjoy, etc. Membership has been from 50-86 each season. Many of our members are from the Tri-State Area as well as other states, joining us as snow birds.

With two sales a season, our members are able to present their crafty designs, created with rocks/cabochons, etc. in November and another in early February.



Our shows are indoors to avoid the weather but are limited by the space in the Family

We have at least 2 field trips per month and a couple of camping outings per season. Our field trips are fun as well as educational.

Life Center. We have high winds and heat much of the time. Each child is given an egg carton and as they go from vendor to vendor, they receive rocks.



Our purpose is to help people recognize the rocks and share in the excitement. There is a Find of the Day prize and a Find of the Month each meeting.



When they go home, they can start their collection of materials and learn what each rock is called.

We are always looking for new places within a 120-mile radius. We have petrified wood, jasper, agate, geodes, Apache



Photos by Leroy Jackson, Mary Jackson, Julie Kapa, and other club members.

## Update – New AFMS Website!

Marty Hart, AFMS Webmaster

The new AFMS website went live February 17 at <https://www.amfed.org>

If you type in the website URL, **be sure to include the www.** There are DNS changes that may not have yet propagated and could take a couple of days. We will be making more DNS changes in the coming days and weeks that might cause temporary interruptions while those settings are being updated.

Unfortunately, all links to pages on the old website were broken in this migration. The domain is the same, but all the pages have changed. If you try to reach a page that does not exist on the new website, you will get a 404 error. If you have any links to pages on your website, they need to be updated. Google was requested to update its links to the website, but it may take a while for all their old links to be updated. *There is a page on the new site that has a cross-reference for many of the common page links from the Old Website to the New Website. Here is that link:*

<https://www.amfed.org/Old-New-Xref>

Since all the (old) page links were broken, the new website has a whole new hierarchy of the web pages, which is much simpler and should make it easier to find what you are looking for.

The site also scales for screen resolution, so it works on mobile devices. When using your mobile

device, if you do not see a menu on the left side of the page, click the menu button on the top left of



the page. The menu button (sometimes called the hamburger

icon) is the “3 horizontal line” icon on the top left of the page. Clicking this button multiple times will toggle the visibility of the menu.

The credit for creating the new site goes to Lori Carter. Our most popular page has historically been the Mohs Scale of Hardness. Be sure to check out the fantastic job she did with the new Mohs Scale of Hardness. Clicking on the “More>>” links will allow you to see more details. Also check out the Find a Club map of clubs. It should help visitors find a club near them and the Regional Federation associated with the club. The map only gives general locations, and visitors will need to go to the Regional Federation or club website to get detailed information.

There are more things planned for the website. If you run across something missing that was on the old website or find any other issues, be sure to email us with a detailed description of the problem at: [webmaster@amfed.org](mailto:webmaster@amfed.org)

**[Editor’s Note: You really need to take a look! Beautiful website and easy to navigate!]**

### 31st Flagg Mineral Foundation Minerals of Arizona Symposium Steve Kaminski, AZ/NV State Director

The 2024 symposium marks the 31st anniversary of this event! The symposium will have a one day format this year **(8AM to 5PM) on Saturday, April 13** and will include mineral sales, lectures, and a variety of other mineral related events. This years topics highlight field collecting. Lunch and refreshments will be included! There will be several dealers including the premiere by Shannon Family Minerals of a 10,000 piece collection of micro-mounts and thumbnail specimens. **The venue will be the Southeast Regional Library, 775 N. Greenfield Rd., Gilbert, AZ 85234.**

## Undergraduate Research Award Program

Mike Nelson, [csrockguy@yahoo.com](mailto:csrockguy@yahoo.com), CSMS


RMFMS colleagues. If your club is interested in learning about the successful Colorado Springs Undergraduate Research Award program, please contact Mike Nelson at [csrockguy@yahoo.com](mailto:csrockguy@yahoo.com). Additional information may also be obtained from a blog posting at [csmsgeologypost.blogspot.com](http://csmsgeologypost.blogspot.com) (March 16 post).




Our program had amazing success before the “pandemic” created numerous problems, and the club needed to pause the program. However, spring with its new beginnings has arrived in Colorado Springs, and the 2024 program is up and running.

Many RMFMS clubs award student scholarships; however, I have been a long-time advocate of helping students achieve success by their engagement in an undergraduate research program. For several years CSMS has sponsored such a program, and we would be happy to converse with interested colleagues.

*The primary goal of the Colorado Springs Mineralogical Society (CSMS) Student Research Grant Program is to promote and support original research on Colorado geology by **undergraduate students**. The grant program does not seek to cover all the researcher's expenses but instead should be viewed as a professional endorsement of the research endeavor. Requests for grants are judged on how well the proposed research will advance the science of geology and its related branches **within the State of Colorado**. Since the grant program budget is not anticipated to be large enough to fund every research proposal, the grants will be awarded on a competitive basis.*





### Where in the RMFMS is Rocky?

- Border between Arizona & Nevada? or
- White Sands, NM? or
- Rocky Mountains, near Aspen, CO?




Photo at left by Zach Dischner. CC BY 2.0 DEED, [https://pxhere.com/en/photo/478753?utm\\_content=shareClip&utm\\_medium=referral&utm\\_source=pxhere](https://pxhere.com/en/photo/478753?utm_content=shareClip&utm_medium=referral&utm_source=pxhere).  
Clipart at top by Phillip Martin. CC BY NC ND 3.0.  
Answers on page 20.

## Friends of Mineralogy Colorado Chapter Symposium: “Mineral Oddities: Twinning, Inclusions, Pseudomorphs, and More”

Benjamin Murphy, FMCC

The 2024 Symposium will be **June 13-16** at the Mines Museum of Earth Science, Colorado School of Mines, in Golden, Colorado. The program will include field trips (June 13), a mineral photography workshop (June 14), a reception at the Mines Museum (evening of June 14), and two days of presentations pertaining to the theme (June 15-16). <https://friendsofmineralogycolorado.org/symposium/>



## Club Corner – Southern Nevada Gem & Mineral Society

Mary Savage, Club Editor



### Our Start

People who came to Boulder City, Nevada to work on Hoover Dam created a rockhound club in 1932. The club disbanded because many members moved away when the dam was finished in 1936. In 1940, the group was restarted, with an impressive number of locally prominent members. WWII limited rockhounding, but members pooled gas rationing cards and crammed six people to a car for field trips. After the war, we hosted our first show and began publishing our newsletter, "The Polished Slab." We are still here!

### Education Programs

The SNGMS has an energetic kids' club, the Rock Stars. They work on AFMS badges. Activities include field trips, first-aid training, lapidary skills, book larnin', and holiday celebrations. Ages range from about 5 – 16. The kids are eligible to participate in the Society's monthly cabochon contests, and sometimes they win!



Rock Star Member with a Trilobite  
She Found on a Field Trip

We give presentations about fossils and minerals to Scout groups, elementary schools, and other community groups.

We fund scholarships for high school students interested in geology programs at the University of Nevada, Las Vegas.

### Steffire Collection Identification

The University of Nevada, Las Vegas (UNLV) contacted SNGMS in 2024 for help identifying and pricing the Steffire Family's donation of rocks and minerals, including many fluorescent specimens.

SNGMS advised UNLV on how to package the rocks for shipment and explained to them how important it was to not lose labels!



SNGMS Volunteers and UNLV Staff  
Identifying Items from the Steffire Collection

Once the rocks made it to UNLV, SNGMS members got to work examining the specimens. We spent days identifying and valuing them. UNLV needs the identification and value information so the donor gets a tax deduction and for insurance purposes. They plan to make a display of some of the rocks, to use some of them in the classroom, and to sell some to benefit the Geology program at UNLV.

### Gem and Mineral Shows

Gem and Mineral Shows are a part of our fund raisers. Every year, we participate in a community arts and crafts show in Boulder City, Nevada – the Spring Jamboree. We offer free demonstrations of how to cut geodes, and SNGMS members sell specimens, slabs, cabochons, jewelry, gem trees, clocks, and other items. Our kid's club sponsors a raffle.

We also host the Viva Las Vegas Rocks show annually. Members sell their materials and lapidary work, and we rent spaces to outside vendors. The Silent Auctions are a big hit with customers.



SNGMS Member  
At A Parking Lot Sale

*continued on page 10*

## Club Corner, SNGMS — continued from page 9

Twice a year, one of our corporate sponsors hosts a Parking Lot Sale. This is another opportunity for SNGMS members to sell their materials and lapidary work as well as introduce the public to the club membership and benefits.

### Field Trips

Luckily, we have some great rock collecting sites nearby. These range from quick day trips to longer overnight



SNGMS's Ore Car Mining Claim

expeditions and include both pay-to-dig and "free" collection sites. Our members enjoy collecting minerals, fossils, and gem materials. Some of our field trips even take place at night so we can collect fluorescent materials. A few of our members have mining claims that they generously share with the group. We also have our very own claim, the Ore Car Mine, near Lake Mead. This site is perfect for collecting agate and stromatolites.

### Recent Awards

The SNGMS is proud to share that our webmaster won first place in the AFMS 2023 web site contest and in the RMFMS web site contest.

*Photos taken and shared by SNGMS club members.*

## MSA Heritage Show

*Chris Whitney-Smith, MSA President*

The Phoenix Heritage Mineral Show (PHMS) is becoming established as THE Premier Quality Mineral Show North of the Gila River, featuring competitive mineral exhibits, museum exhibits, well-known regional and national quality dealers of fine minerals, gemstones and fossils that includes a Saturday night program with bar, dinner, keynote speaker, awards ceremony, and silent/live auctions. This year's theme is "Fluorite."

PHMS will highlight four new competitive trophies to engage and encourage high quality exhibits:

- BOB JONES TROPHY for Best Display of Minerals
- DAVID SHANNON TROPHY for Best Display of Field Collected Minerals
- ARTHUR L. FLAGG TROPHY for Highest Scoring Junior Display
- BEST OF THEME TROPHY for Best of Theme Mineral Specimen for two size categories

*All trophies with exception of Best of Theme will come with monetary prizes in addition to quality engraved crystal trophies.*

Mineralogical Society of Arizona's  
The 4th Phoenix Heritage Mineral Show

**Phoenix Shrine Auditorium, June 1-2, 2024**

### Admission:

CASH ONLY - ATM Available

\* \$5.00 Adults

\* \$3.00 MSA Members

\* FREE 12 years & younger with paying adult \*

FREE Parking during show

\* Special Hotel Partner Rate at **Radisson Hotel Phoenix Airport** (\$75 any style room) + (2) free drink coupons for hotel lounge, free parking and free airport shuttle \* Learn more at: [msaaz.org](http://msaaz.org)

*See the show poster on page 25 for code to scan.*

## Wavellite &amp; Fluellite on the Road to Winnemucca

Mike Nelson, csrockguy@yahoo.com

Colorado Springs Mineralogical Society

*I was totin' my pack along the dusty Winnemucca road  
 When along came a semi with a high and canvas covered load  
 "If you're going to Winnemucca, Mack with me, you can ride"  
 So I climbed into the cab, and then I settled down inside  
 He asked me if I'd seen a road with so much dust and sand  
 And I said, "Listen, Bud, I've traveled every road in this here  
 land. I've been everywhere man, I've been everywhere man..."*

Hank Snow version



Google Earth© image of Basin and Range Province around Lovelock, Nevada, and the West Humboldt Range, home of the Willard Mine. The Basin and Range is defined by narrow faulted mountain ranges with adjacent rather flat basins—a horst and graben topography. The topography is due to extensional tectonics (pull-apart) of the later Tertiary (Miocene, ~17 Ma and probably continuing). The famous geologist described the Basin and Range as “An army of caterpillars crawling northward.”

*If you make that drive  
 And you like tunes you better have a tape deck  
 Airwaves are empty  
 Ain't a lot on the radio  
 Better yet you can sit and ride  
 And listen to the dry wind  
 Flappin' through the window  
 Breathe in the scent of sage  
 Breathe it in real slow  
 And you breathe deeper  
 I swear you will*

That description of driving across Nevada is one for the ages. Try the drive with a couple of youngsters sometime---been there, done that.

*If you ever drive  
 From Lovelock to Winnemucca  
 I suggest you stop at every Dairy Queen  
 Towns are few and they're far between  
 And you'll have to fill up anyway  
 And there's something 'bout a frosty  
 Makes the pain go away*

The name Willard conjures up a vivid picture of Ben and his rat friends devouring their former human friend Willard! I am not a big fan of Sci Fi or horror films, but Willard is not one to watch before hitting the rack. But 1971 was many decades ago, and now the name is much more exciting---a mining district and mine, located in a desolate part of Pershing County, Nevada, in the north end of the West Humboldt Range not too far from the County Seat of Lovelock. In fact, Lovelock is the only town in this large county. What is the landscape like? Ask Center Divide, a music group who recorded the album *From Lovelock to Winnemucca*:

continued on page 12

## Wavellite and Fluellite on the Road to Winnemucca — continued from page 11

Somewhere near Lovelock is the Willard Mine, or the Willard Mines, all clustered together in the Willard Mining District. The area has a long history of exploration dating back to the early 1900s with most tunnels and shafts producing minor amounts of silver, gold, and antimony until mid-century. Drilling exploration found mineable gold in the 1980s and production lasted for about two to three years from 1990-1993. The initial gold was from near surface free-milling gold and later recouped by heap leaching. The mineralization was in the Late Triassic to Early Jurassic Auld Lang Syne Group (slightly metamorphosed siltstones and limestones). Fractures and brecciation zones in these sedimentary rocks allowed for gold- and silver-bearing hydrothermal solutions, associated with Tertiary intrusive rocks, to spread throughout. I could not locate production figures; however, exploratory drilling continued into the early 21st century, but today mandatory remediation has covered much of the area.

So, other than *there's a whole lotta room to lose a broken heart* (Center Divide) what else is neat about the area? Well, for starters a 1905 paleontological expedition led by John C. Merriam of UC Berkeley found a substantial number of Ichthyosaurs (Mesozoic marine reptiles), *Cymbospondylus petrinus*, and transported most back to the UC Museum. Twenty five years later even larger and better-preserved Ichthyosaurs, *Shonisaurus popularus* were located in nearby Nye County that later became Berlin-Ichthyosaur State Park. More importantly for this Post, there are 41 mineral species known from the Willard (MinDat), and the mine "is the site of the world's largest crystals of fluellite and perhaps also minyulite; and it has furnished what are by far the finest quality specimens of wavellite, fluellite and minyulite ever discovered in the state [Nevada]... along with other minerals including... crandallite, dufrenite, gypsum, jarosite, native selenium and

strengite/variscite" (Jensen and others, 2001). It is a treasure trove of spectacular supergene phosphate minerals in a sediment-hosted, epithermal, Carlin-type gold deposit.



Over the years I have picked up Willard specimens of fluellite (mineral was unknown to me) formerly in the collection of Robert Pederson, and wavellite formerly in the collection of Jim Thow--- or Jim Thon—?



*Transparent fluellite crystals on top of quartz crystals. Largest crystal, top left microphotograph is ~1 mm in width. Most are sub-millimeter.*

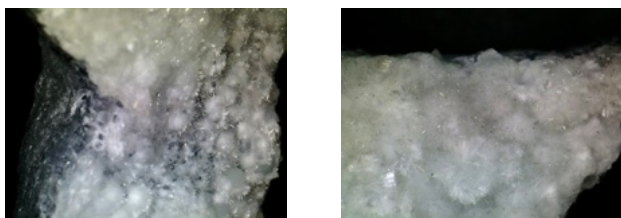


*continued on page 13*

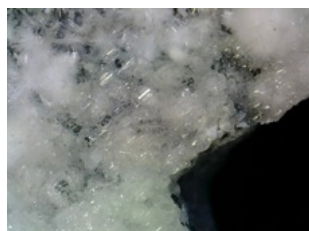
Wavellite and Fluellite on the Road to Winnemucca — *continued from page 12*

Fluellite crystals at Willard (at least in my specimen) are colorless, transparent, sharp, mirror-lustrous, euhedral, orthorhombic crystals. A few other localities may produce lavender or yellow crystals. Fluellite is a rather rare fluoro-hydroxyl, secondary, phosphate  $[Al_2(PO_4)F_2(OH)\cdot 7H_2O]$  that is usually associated with pegmatites and phosphorite deposits. At Willard, fluellite is found in a supergene phosphate zone and is paragenetically late and often occurs directly upon lustrous quartz crystals. "These are very likely the best and largest examples of the species found in the world" (Jensen and others, 2001).

Photomicrographs below show numerous radiating clusters of clear to white fibrous crystals of wavellite. Most are 1-2 mm in size although some are sub-millimeter.

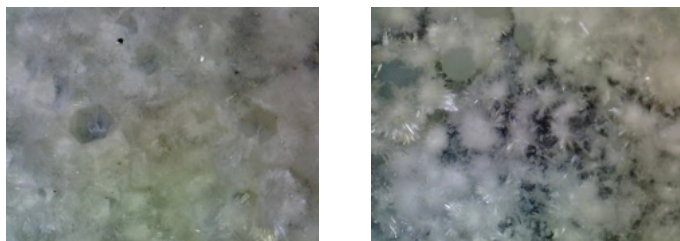


At right, chalcedony-like mass of what I presume is wavellite--note striations. The dark flakes might be native selenium?



Although I usually associate wavellite as a green mass (colored by vanadium) of radial crystals found in Arkansas, the wavellite specimens in these phosphate rocks of Nevada are completely

different. The Willard wavellite include radiating clusters of clear to white (no vanadium) fibrous crystals in a delicate "jackstraw" type of arrangement. Almost hidden away among the fibers are scattered, quite tiny, pale gray to white wavellite spheres. Wavellite  $[Al_3(PO_4)_2(OH,F)_3\cdot 5H_2O]$  is also found in the phosphate supergene. "Paragenetically, wavellite occurs either on quartz or the phosphates crandallite, and/or variscite" and are easily ranked as the finest examples of wavellite ever found in Nevada" (Jensen and others, 2001).



Hexagonal molds left by quartz crystals (epimorph?)

But really confusing to me is that recently (Kampf and others, 2017) described fluorwavellite  $[Al_3(PO_4)_2(OH)_2F\cdot 5H_2O]$  as the F analogue of wavellite. It is visually indistinguishable from wavellite since it is essentially identical to wavellite in appearance and physical properties. It has the same structure as wavellite, differing only in having one of the two independent hydroxyl sites replaced by F. Therefore, MinDat at about the same time, noted that the Willard wavellite is actually fluorwavellite, distinguishable only with the use of electronic gizmos. Way above my pay grade!

#### References Cited:

Jensen, M., J. Leising, 2001, Wavellite, fluellite and minyulite from the Willard Mine, Pershing County, Nevada: Mineralogical Record vol.32, no.4.

Kampf, A.R., P.M. Adams, H. Barwood, B.P. Nash, 2017, Fluorwavellite,  $Al_3(PO_4)_2(OH)_2F\cdot 5H_2O$ , the fluorine analogue of wavellite: American Mineralogist 102.

*continued on page 15*

## AFMS Club Rockhound of the Year Honorees (ACROY)

Chris Whitney-Smith

RMFMS ACROY Chair

Be sure to email YOUR club honorees (and photos if possible) to Chris Whitney-Smith at [ask.chrisws@yahoo.com](mailto:ask.chrisws@yahoo.com). Your club honorees will receive a certificate and write-up in the *AFMS Newsletter* as well as a write-up in the *RMF News*.

### Remember, it is a simple process:

- choose the person
- write a few sentences why you believe the person should receive the honor
- submit the information to your Regional American Club Rockhound of the Year Chairperson

### Grand Junction Gem & Mineral Club, Colorado

The GJGMC is proud to recognize JoAnn and Don Piburn as our 2024 Rockhounds of the Year. They have been members of the GJGMC for 20 years. Don assists the Club as needed and supports JoAnn in her dedicated service to the Club. JoAnn serves the Club in many capacities. She has led the club's educational programs as the Education Chairperson for more than 10 years. She also just finished a 3-year role as Trustee on the Club's Board of Directors, where she was especially active to revise the club's Bylaws and Operations Manual. In addition to her diverse assistance with the Club's operations, she stands out in her commitment to the Club's ability to offer lapidary and jewelry-making classes in our onsite Rock Shop. As Education Chairman she secures instructors to teach a variety of classes of interest to Club Members. As the Class Scheduler, she reports, at every Club Meeting, on class scheduling and how members can enroll in a specific class. At the Club's annual Rock Show, JoAnn coordinates the display of items made by class members and the demonstration of lapidary and jewelry making techniques for Rock Show attendees. JoAnn also serves as a Shop Chairperson and Foreman. In these roles she 1) oversees the scheduling and use of the Shop for classes and by members on Open Shop day, 2) performs maintenance of rock machines and jewelry making equipment, and 3) helps maintain the Shop's inventory of supplies and



tools. In addition to all of her coordination and support for Classes and Shop activities, JoAnn possesses considerable jewelry making expertise that she generously shares with members as a Class Instructor. JoAnn teaches classes in basic and advanced silversmithing, chain making, and wire weaving. The ability of the GJGMC to offer a variety of lapidary and jewelry-making classes is due to the dedication of JoAnn and her Class Instructors who greatly add to the vibrancy and appeal of our Rock Club. The Club members greatly appreciate JoAnn and Don, and in particular, JoAnn's extraordinary contributions to the GJGMC.

## AFMS Endowment Fund

Richard Jaeger, RMFMS Chair



I am the Rocky Mountain Federation Chairman for the AFMS Endowment Fund. Cheryl Neary, a member of the Eastern Federation, is the AFMS Endowment Fund Chair as well as the AFMS Central Office Administrator.

This is a raffle drawing with tickets being sold at \$5 each or five tickets for \$20. The drawing will be held at the CFMS/AFMS Convention in Ventura, California in May of 2024. People from around the American Federation donate prizes for the raffle – they may be jewelry, crystals, minerals, fossils, books, or other items, each valued from \$75 to \$200. The drawing is handled so there is at least one winner from each of the seven regional federations; last year we had three winners from the Rocky Mountain Federation. You do not have to be present to win.

This is a major way to financially support the American Federation's efforts on behalf of our hobby. Currently the funds go toward the Junior Rockhound Program, Judges Training, and preparing Programs for distribution to Regional Federations. Over \$5,000 was raised last year. Cheryl requests that the checks be sent to the regional chairs so that we may issue tickets and have a record of who has entered. **Checks should be made payable to the "AFMS Endowment Fund."** Then I forward those checks to Pat LaRue, the AFMS Treasurer.

I will fill out the proper number of tickets for each contribution, send the stubs to the donating individual, and get the tickets to the CFMS/AFMS Show in Ventura in May to be put into the RMFMS bag. **You may also purchase Endowment Fund Tickets in Ventura if you haven't done so before then.** Normally we also sell the raffle tickets at our RMFMS Show, but this year our show is in October (after the drawings).

I hope that many of you will participate and hopefully be winners in Ventura; remember, you need not be present to win. I would also be happy to accept any donated prizes for the raffle, or they can be sent directly to Cheryl Neary; the more prizes, the more winners, and

hopefully the more money raised. *Cheryl's address is: 42 Jefferson Ave., Patchogue, NY 11772.* My wife Linda and I are donating a piece of jewelry and a pair of Lapis/Onyx cups for the two of the Endowment Fund prizes.

Hopefully some of you will donate prizes too. My contact information is provided below. Please share this information with your club members and thanks for your consideration.

Please purchase some tickets; many of you have in past years - and hopefully get your ticket drawn in Ventura in May. These donations are really important for our Juniors Programs.

Richard D. Jaeger  
3515 E. 88th St.  
Tulsa, OK 74137-2602  
918.481.0249  
RJGRSci@aol.com

Wavellite & Fluellite — continued from page 13

Also see:

Conelea, R. and W.C. Howard, 2010, The geology and gold-silver mineralization of the Wilco Project–Willard Mining District, Pershing County, Nevada *in* Great Basin Evolution and Metallogeny: 2010 Symposium Proceedings of the Geological Society of Nevada.

AND REMEMBER:

*If you ever drive  
From Lovelock to Winnemucca,  
It's a good idea to pack your cares along  
The desert's big and wide  
Those mountains stand far apart.*

Note: *I've Been Everywhere* was written by Australian Geoff Mack in 1959 using place names in Australia. Mack's publisher gave the North American rights to Hank Snow in 1959, and Snow (or his team) rewrote the song to use North (and some South) American names, and Snow recorded the hit in 1962.

Center Divide was formed in the early nineties at Dartmouth College in New Hampshire. Upon graduating, singer/guitarist Justin Wells, pianist Joey Muller, and bass player Todd Miller uprooted and drove out to San Francisco, California, where they met drummer Ben Leinbach and re-established their home (info from Centerdivide.com).



### Where in the RMFMS is Rocky?

- Border between Arizona & Nevada? or
- White Sands, NM? or
- Rocky Mountains, near Aspen, CO?

Photo by Carol M. Highsmith, PDM 1.0 DEED  
Clipart at top by Phillip Martin. CC By NC  
ND 3.0.

Answers on page 20.



## Badge of the Month: Maps

from *Crack the News*, March 2024



The AFMS has 20 badges you can earn with your friends in your club's junior program. In each **CRACK THE NEWS** we will feature one badge that you can earn.

This month's badge is the Maps Badge. On the following page, you can read about one project that Lunnella did to earn this badge. To earn this badge, you need to do three of the following:

- Learn about the different types of maps and how to read them.
- Learn where to find paper maps.
- Learn how maps are made
- Navigate using the Earth's magnetic field with a compass.
- Use a GPS to go geocaching.
- Learn about maps on the web.

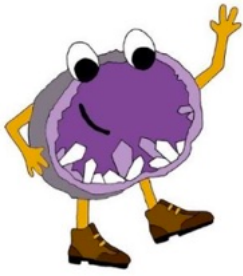
Talk to your juniors club leader about how you can earn this badge. To learn more about the badge program, go to the AFMS Juniors website at <https://www.juniors.amfed.org/fra-badge-program>.

[RMFMS Editor's Note: Does your club have a juniors group? Have you checked out the activities available for juniors through the AFMS? Are your juniors writing articles about their interests and activities? They can submit their photos and written and drawn items to **CRACK THE NEWS**, the AFMS newsletter written by kids for kids. **The submission form is on page 19.** Access all issues at: <https://www.juniors.amfed.org/juniors-newsletter> ]



## How to Make a 3D Topographical Map

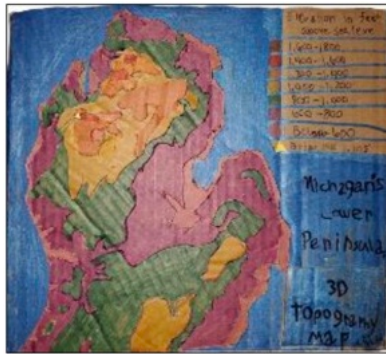
*Lunnella Duffy (9), Indian Mounds RMC, Michigan*



**GEORGE** says, "Here is a fun project to do while you earn your Maps Badge."

I was getting ready to earn my Maps Badge for Rock Club Juniors. My mom teaches the little kids, so she was looking at different types of maps to bring to show the younger kids. She told me about 3D topographical maps, but we didn't have one. So, I thought, why not just make one!

Well, it all started with this idea. And then, I had to get a ton of cardboard. Then, it took me two days to finish my masterpiece, the topographical map. My topographical map is a 3D map of everything above sea level. My topographical map is only for Michigan and only the lower peninsula. The tallest point on my topographical map is Briar Hill. Each level of cardboard I did represents an elevation higher and higher above sea level.



To make one of your own, start by getting either a really big box or a bunch of smaller boxes. You are going to look up topographical map pictures on Google or whatever. Then, you are going to print it. You need to cut your state out. Then, you trace it on your cardboard piece. And then you cut the next elevation layer out of your paper state map. Then

you trace it again but on a different piece of cardboard. And once you have all your layers traced out you are going to cut them out but don't throw away your paper pieces yet. So, to cut the cardboard your best choice is probably an Exacto knife, but if you don't have one you can try to cut it out with scissors or a box cutter. When you are using a sharp knife like that, make sure you always have a parent standing by. You don't have to do all the details. When I made my map, I didn't do every single little detail because it is going to be really hard. It's cardboard!



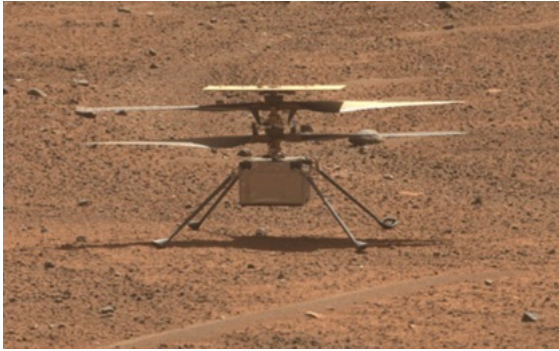
Image 1

And then for the next step, you need to figure out how to stack it on top of each other. After you cut the state out, you should have pieces of paper from your state map left. You are going to set them on the layers of cardboard to help you figure out where to put them. (Image 1) Then, you are going to glue them all together. And then last, but not least, you can add some color when the glue dries. But there is one more thing you need to add before you say it's finished. You have to add the key which tells you and other people how high above sea level the color is. And then you can finally say you are finished. Warning - it is harder than it sounds!



## Ingenuity & Perseverance on Mars

from mars.nasa.gov



(L) This view of NASA's Ingenuity Mars Helicopter was generated using data collected by the Mastcam-Z instrument aboard the agency's Perseverance Mars rover on Aug. 2, 2023, the 871st Martian day, or sol, of the mission. The image was taken a day before the rotorcraft's 54th flight, and about a week and a half after Flight 53, which was cut short by an unexpected landing.

(R) NASA's Ingenuity Mars Helicopter captured this view of sand ripples during its 70th flight, on Dec. 22, 2023. The smooth, relatively featureless

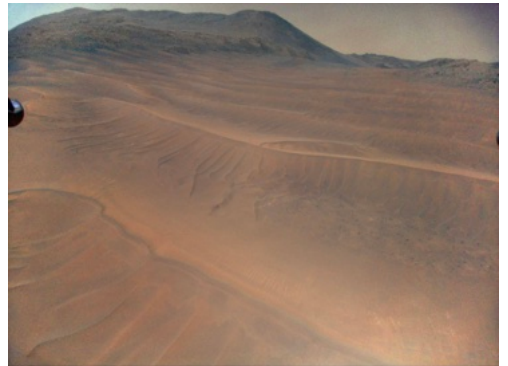
terrain proved difficult for the helicopter's navigation system to track during Flight 72, on Jan. 18, 2024, resulting in a rough landing. **Credits: NASA/JPL-Caltech.**

NASA's history-making Ingenuity Mars Helicopter has ended its mission at the Red Planet after surpassing expectations and making dozens more flights than planned. While the helicopter remains upright and in communication with ground controllers, imagery of its Jan. 18 flight sent to Earth this week indicates one or more of its rotor blades sustained damage during landing and it is no longer capable of flight.

Originally designed as a technology demonstration to perform up to five experimental test flights over 30 days, the first aircraft on another world operated from the Martian surface for almost three years, performed 72 flights, and flew more than 14 times farther than planned while logging more than two hours of total flight time.

"The historic journey of Ingenuity, the first aircraft on another planet, has come to end," said NASA Administrator Bill Nelson. "That remarkable helicopter flew higher and farther than we ever imagined and helped NASA do what we do best – make the impossible, possible. Through missions like Ingenuity, NASA is paving the way for future flight in our solar system and smarter, safer human exploration to Mars and beyond."

<https://mars.nasa.gov/news/9540/after-three-years-on-mars-nasas-ingenuity-helicopter-mission-ends/>



### Where in the RMFMS is Rocky?

- Border between Arizona & Nevada? or
- White Sands, NM? or
- Rocky Mountains, near Aspen, CO?

Photo by USGS, Public Domain via Wikimedia. Clipart at top by Phillip Martin. CC By NC ND 3.0.

Answers on page 20.





## Juniors Newsletter Submission Form American Federation of Mineralogical Societies

Thank you for submitting an article, pictures, poetry, artwork, or other contribution for publication in the juniors newsletter. Your article or other contribution can be on any rockhounding subject that interests you. Juniors need to be 17 years or younger. The top part of this form is for the junior to fill out and the bottom part needs to be completed and signed by a parent.

### FOR THE JUNIOR TO COMPLETE

Name: \_\_\_\_\_ Age: \_\_\_\_\_

Title of the article or other contribution: \_\_\_\_\_

Rock club name: \_\_\_\_\_

School (optional – your school will receive a copy of your published work)

Signature of junior: \_\_\_\_\_

### FOR THE PARENT TO COMPLETE

I grant permission for the American Federation of Mineralogical Societies to publish this article or other contribution, along with your child’s name, age, and rock club, both electronically and in print. Your child retains the right to publish elsewhere, anytime, and anyplace in the future.

Please note that any photo(s) with identifiable children’s faces will need each child’s parent’s permission to publish.

Parent’s name (printed): \_\_\_\_\_

Parent’s signature: \_\_\_\_\_

Parent’s email address: \_\_\_\_\_

Street address: \_\_\_\_\_

City or town: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

**Please scan or photograph this completed form and send it to [youth@amfed.org](mailto:youth@amfed.org) along with your article or other contribution for the juniors newsletter.**



### Where in the RMFMS is Rocky? — Answers

Linda Jaeger, Editor

We have clubs from 13 states in the RMFMS. Have you been there? Do you recognize the terrain from the three states shown this month? **I would love for you to send a n awesome photo from your state with a caption and location to print!** RMFMS has amazing country and activities to fill your senses.

Here are the answers for the photos on pages 8, 16, and 18:

-page 8: Pink Elephants in Rocky Mountains, **Colorado**

-page 16: Hoover Dam on Colorado River, border between **Arizona & Nevada**

-page 18: Fossilized human footprints (21K-23K years old according to radiocarbon dating), White Sands, **New Mexico**



Look for more beautiful locations next month from our member states: Arizona, Arkansas, Nebraska, New Mexico, Nevada, North Dakota, South Dakota, Texas, Utah, Wyoming.

## Did you know? April is National Poetry Month!

### Dreams in a River of Gold — Steven Wade Veatch

from: CSMS Pick & Pack, 2/2024

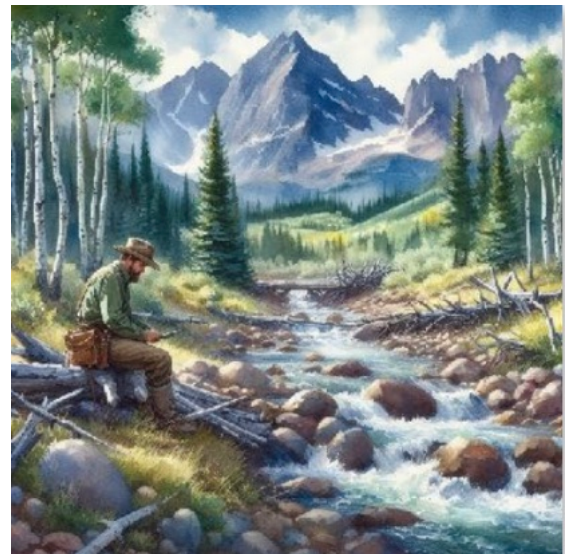
Beside the meandering stream,  
a prospector worked his gold pan  
while water tumbled over  
smooth granite boulders.

Here the mountain stream  
grew deeper in its channel  
and formed pools, a likely place  
for gold to settle.

The prospector tirelessly shoveled,  
sifted, screened, and panned—  
then picked gold nuggets  
from the black sand in his pan.

Laboring by the stream, he knew why  
he left home, saying goodbye—  
swapping his life for one on the frontier,  
a life of hardship, danger, and brutal work.

The reason was clear when he bedded down  
by a crackling campfire, under a cold  
sky filled with stars and a half-moon.  
As he slept, next to the stream,  
the aspens whispered dreams  
making a strike, taming a new land,  
and building the West.



The author created this AI image with the assistance of Microsoft Bing.

## Upcoming Shows and Events

4/13/2024	31st Annual Arizona Mineral Symposium	Southeast Regional Library, 775 N Greenfield Rd, Gilbert, AZ 85234	<a href="http://www.flaggmineralfoundation.org">www.flaggmineralfoundation.org</a> , <a href="https://flaggmineralfoundation.org/home/minerals-of-az-symposium/">https://flaggmineralfoundation.org/home/minerals-of-az-symposium/</a>
4/13-14/2024	Northwest Arkansas Gem, Mineral & Jewelry Show	Siloam Springs National Guard Armory, 1333 E Main St, Siloam Springs, AR 72761	DeLane Cox, 479.254.0894
4/19-21/2024	Wasatch Gem Society Annual Gem, Mineral, Fossil Show	Bastian Agricultural Center, 2100 West 11400 South - Jordan, UT	<a href="http://www.waatchgemsociety.com">www.waatchgemsociety.com</a>
4/26-28/2024	Wichita Gem & Mineral Society	Cessna Activity Center, Wichita, KS	
5/3-5/2024	McPherson Gem & Mineral Club	4-H Fairgrounds: 710 W Woodside, McPherson, KS 67460	Larryrocks538@gmail.com
5/4-5/2024	Mohave County Gemstoners Gem & Mineral Show	Mohave County Fairgrounds, 2600 Fairgrounds Blvd, Kingman, AZ 86401	<a href="http://www.gemstoners.org">www.gemstoners.org</a>
5/11/2024	Enid Gem & Mineral Society Rock Swap & Sell	Enid, OK	John Haacke, 580.478.9058 or enidgemandmineralsociety@gmail.com
5/17-19/2024	Cache Rock & Gem Show 2024	Cache County Events Center, 450 South 500 West, Logan, UT	<a href="http://cacherockandgemclub.com">cacherockandgemclub.com</a>
5/24-26/2024	CFMS/AFMS Gem Show & Convention	Ventura County Fairgrounds, Ventura, CA	<a href="https://2024cfms-afms.com">https://2024cfms-afms.com</a>
5/30-6/1, 2024	Wyoming State Mineral & Gem Show	Park County Fairgrounds, Powell, WY	wyojones@wyojones.com or gilbert@tctwest.net or lapidary2@gmail.com
6/1-2/2024	The 4th Phoenix Heritage Mineral Show	Phoenix Shrine Auditorium, 552 N 40th St, Phoenix, AZ 85008	<a href="http://msaaz.org">msaaz.org</a>
6/7-9/2024	Pikes Peak Gem, Mineral, and Jewelry Show	Norris Penrose Event Center, 1045 Lower Gold Camp Rd, Colorado Springs, CO 80905	<a href="http://www.PikesPeakGemShow.com">www.PikesPeakGemShow.com</a> , ppgmjshow@gmail.com
6/13-16/2024	Friends of Mineralogy Colorado Chapter Symposium: "Mineral Oddities: Twinning, Inclusions, Pseudomorphs, and More"	Mines Museum of Earth Science, Colorado School of Mines, Golden, CO	<a href="https://friendsofmineralogycolorado.org/symposium/">https://friendsofmineralogycolorado.org/symposium/</a>
6/14-16/2024	Sublette County Rockhounds	Sublette Co Fairgrounds Event Center, 10937 Hwy 351, Big Piney, WY	jimgray@wyoming.com or maschaffer61@gmail.com
7/27-28/2024	Western Dakota Gem & Mineral Society 41st Annual Show	Nerdy Nuts Expo Hall, entral States Fairgrounds, 800 San Francisco St, Rapid City, SD	<a href="mailto:westdakota.rocks@gmail.com">westdakota.rocks@gmail.com</a>
10/12-13/2024	50th Annual Huachuca Mineral, Gem, Jewelry and Fossil Show	The Mall at 2200 El Mercado Loop, Sierra Vista, AZ	Contact: Maudie Bailey, <a href="mailto:gmbailey@msn.com">gmbailey@msn.com</a> , 520.249.1541
10/25-27/2024	Oklahoma Mineral & Gem Society/RMFMS Convention	Modern Living Building, 608 Kiamichi Place, OKC Fairgrounds	<a href="http://omgs-minerals.org">omgs-minerals.org</a>

If your club has show information that you would like to have listed in the *Rocky Mountain Federation News*, please email the information to the editor — <LJGRALG at aol.com>. As with many of the other email addresses in the newsletter, you will need to remove the chevrons, < >, and replace the spaces and the "at" with the correct symbol, @ .

Below are upcoming regional federation shows:

	California Federation	Eastern Federation	Midwest Federation	Northwest Federation	Rocky Mountain Federation	South Central Federation	Southeast Federation
2024	<b>AFMS/CFMS Ventura, CA May 24-26</b>	Sterling Hill Mine Ogdensburg, NJ June 8	East Peoria, IL August 24-25	Hermiston, OR May 10 - 12	Oklahoma City, OK Oct. 25 - 27		
2025		AFMS/EFMLS Hickory, NC 3/2025	Lincoln, NE April 5-6		Grand Junction, CO Sept. 19-21		
2026			St. Charles, IL May 23-24				

### 31st Annual Arizona Mineral Symposium

**When:** April 13, 2024  
8am to 5:30pm  
**Where:** Southeast Regional Library  
775 N. Greenfield Rd.  
Gilbert, AZ 85234

A series of speakers, highlighting field collecting, includes the following:

- Karen Wenrich, Ph.D.** - *The Sweet Home mine, Alma, Colorado*
- Mark Hay** - *Fluorite from the Oatman District, Mohave Co., AZ*
- Mark Pecha** - *Where did that turquoise come from?*  
*A case study of the turquoise deposit from Bisbee, Arizona*
- Anna Domitrovic** - *Field Collecting & Collectors at the Desert Museum*
- Jeff Smith** - *The Peculiar Geodes of the Trancas Station, Chihuahua, Mexico*
- Erin Delventhal** - *A rediscovery of epidote pseudomorphs after orthoclase from the Orogrande district, Otero County, New Mexico*
- Phil Richardson** - *Collecting Contemporary Utah*
- Mike Sanders** - *Three decades of Collecting Adventures in the Hansonburg Mining District, Socorro County, New Mexico*

There will be several dealers including the premiere by Shannon Family Minerals of a 10,000 piece collection of micromounts and thumbnail specimens.

A final agenda will be posted on the Flagg Mineral Foundation website, [flaggmineralfoundation.org](http://flaggmineralfoundation.org), by mid-January.

Payment may be made by cash, check or Zelle. Cost is as follows:

- \$80 for members
- \$90 for non-members

Symposium program, lunch and refreshments will be included.



[flaggmineralfoundation.org](http://flaggmineralfoundation.org)

The Flagg Mineral Foundation was formed to promote popular interest and education in the Earth Sciences, support the mining industry and the mineral, fossil and gem collecting hobbyists of the State of Arizona. In our continuing efforts to Preserve, Educate and Collect, the Foundation hosts the annual FLAGG GEM & MINERAL SHOW. The Foundation also hosts the annual MINERALS OF ARIZONA SYMPOSIUM featuring speakers on the historical, scientific, and educational aspects of minerals and mining with an emphasis on Arizona.



For more information, see the website at [www.flaggmineralfoundation.org](http://www.flaggmineralfoundation.org)

Dues: \$25.00 Individual | \$40.00 Family

**YES! I'D LIKE TO BECOME A MEMBER**

Please complete below and return along with a check or money order made out to the Flagg Mineral Foundation.

\_\_\_\_\_ Name

\_\_\_\_\_ Name/s (Family Membership)


\_\_\_\_\_ Address

\_\_\_\_\_ City, State & Zip Code

\_\_\_\_\_ Phone/Cell

\_\_\_\_\_ Email

**Mail to:**  
Flagg Mineral Foundation  
P.O. Box 41834, Mesa, AZ 85274



NORTHWEST ARKANSAS  
GEM & MINERAL  
SOCIETY  
★ Siloam Springs

2024  
**Gem, Mineral & Jewelry Show**  
"Hey, Arkansas – It's ROCKS!"

**Saturday, April 13, 9 am – 5 pm**  
**Sunday, April 14, 10 am – 4 pm**

**LOOK! New Location !!!**  
**Siloam Springs National Guard Armory**  
1333 E. Main Street  
Siloam Springs, AR 72761

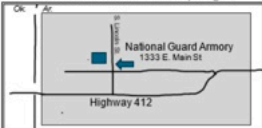
**Admission: \$3.00 Donation**  
(Children under 10 years free with adult)

**Featuring:**  
Gems & Minerals, Fossils, Jewelry, Door Prizes, Displays and Exhibits, Lapidary Demonstrations, Silent Auction  
**New! "Gem Wash" – find your own FANCY ROCK!**

*It's Fun for the Whole Family*

For More Information, Contact,  
DeLane Cox, Show Publicity  
479-254-0894

Directions in Siloam Springs

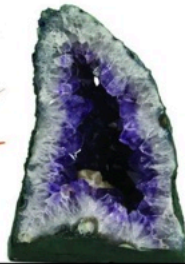


# WASATCH GEM SOCIETY

Annual **LARGEST CLUB SHOW IN UTAH...**

## Gem Mineral Fossil Show!

**\$2.00 ADULTS  
KIDS UNDER 12 FREE!**



<b>FRIDAY</b>	<b>SATURDAY</b>	<b>SUNDAY</b>
<b>APRIL 19TH</b>	<b>20TH</b>	<b>21ST</b>
2024	10am - 6pm	10am - 4pm

**DOOR PRIZES • WHEEL OF FORTUNE  
ROCK BAGS • KIDS TABLE • DEMONSTRATIONS  
SHOW CASE DISPLAYS • SHOW & TELL**

DEALERS OF CRYSTALS, ROCK, MINERALS,  
FOSSILS, WOOD, GEMSTONES, JEWELRY, DINO BONE  
AND MUCH MORE...

**"1/2 OFF ADMISSION WITH THIS FLYER"**  
\*Discount applied for one person per flyer.  
**BASTIAN AGRICULTURAL CENTER**  
2100 WEST 11400 SOUTH - SOUTH JORDAN, UTAH  
www.wasatchgemsociety.com

**Wichita Gem & Mineral Show**  
70th Annual Show  
April 26, 27, 28 2024  
Cessna Activity Center

WICHITA GEM & MINERAL SOCIETY

Adults \$5 12-17 \$1 Under 12 FREE w/Adult

CRYSTALS MINERALS FOSSILS BEADS METEORITES

McPherson Gem & Mineral Club  
30th Annual Sale  
May 3 – 5, 2024  
Minerals, Fossils, Jewelry, Lapidary & More!  
Free Admission

Enter the raffle for Carved Amethyst Hummingbirds 1 ticket for \$10 3 for \$20

Friday: 9:00 am – 5:30 pm  
Saturday: 9:00 am – 5:30 pm  
Auction (Sat): 7:15 pm  
Sunday: 10:30 am – 3:00 pm

Located at the 4-H Fairgrounds:  
710 W. Woodside McPherson, KS 67460  
FOR INFORMATION OR VENDING SPACE REQUESTS EMAIL:  
Larryrocks538@gmail.com

## Mohave County Gemstoners

WWW.GEMSTONERS.ORG



### GEM & MINERAL SHOW

Join us for a weekend of fun, family and shopping!

**MAY 4<sup>th</sup> and 5<sup>th</sup> 2024**

Saturday 9am-5pm  
Sunday 9am-4pm

Location:  
**MOHAVE COUNTY FAIRGROUNDS**  
2600 Fairgrounds Blvd.  
Kingman, AZ. 86401

[2600 Fairgrounds Blvd - Google Maps.html](https://www.google.com/maps/place/2600+Fairgrounds+Bldv,+Kingman,+AZ)

**FREE ADMISSION**  
(Donations are Appreciated)

**EDUCATIONAL DISPLAYS & EXHIBITS**

- Gemstones
- Minerals
- Fossils
- Rocks
- Jewelry
- Woodwork
- Clothing

**GREAT SHOPPING**

- Mineral Specimens
- Petrified Wood
- Fossils
- Handmade Jewelry
- Gems
- Rock Art & Carvings

**ALSO FEATURING**

- Kids Activities
- Raffles
- Hourly Door Prize Drawings
- Food Vendors

# Cache Rock & Gem Show 2024

**May 17, 18, 19**  
Adults \$3.00, Family \$10.00,  
12 and under free

Friday & Saturday 10:00 a.m. - 7:00 p.m.  
Sunday 10:00 a.m. - 6:00 p.m.

**Cache County Events Center**  
450 South 500 West, Logan, Utah

Rocks, Minerals, Fossils, Jewelry, Displays  
Educational Exhibits, Demos, Supplies  
Vendors, Door Prizes, Concessions

Activities for the kids:  
Wheel of Fortune, Mystery Bags,  
and Gem Dig

**Fabulous Fluorescence**  
[cacherockandgemclub.com](http://cacherockandgemclub.com)

Facebook: Cache Rock and Gem Club

Thank you to our sponsor!

# 2024 Wyoming State MINERAL and GEM SHOW

**May 30-31 & June 1**  
**Powell, Wyoming**  
 Park County Fairgrounds

**12 and older: \$5 Per Day or \$10 for All 3 Days; Under 12 Admitted Free**  
 Hours: Thursday and Friday, 10 a.m. to 6 p.m. • Saturday 9 a.m. to 5 p.m.

**Theme: Minerals of Wyoming**


**Many Vendors**  
**Rock I.D.**  
**Kids' Activities**  
**Raffle Prizes**

**Demonstrations**  
**Educational Info**  
**Silent Auction**  
**Showcases**

Find us on Facebook: **2024 Wyoming State Mineral and Gem Show**

Hosted by Wyoming State Mineral and Gem Society,  
 The Shoshone Rock Club of Powell and The Cody 59ers Rock Club

*Powell, Wyoming, is 75 miles east of Yellowstone National Park. Come join us and have some fun!*



Contacts: [wyojones@wyojones.com](mailto:wyojones@wyojones.com) • [gilbertc@tctwest.net](mailto:gilbertc@tctwest.net) • [lapidarygary2@gmail.com](mailto:lapidarygary2@gmail.com)

## The 4th PHOENIX HERITAGE MINERAL SHOW

Largest, Quality Mineral Show in the Phoenix Area!



**FLUORITE with Baryte**  
 Berbes mining area, Ribadesella, Asturias, Spain  
 © Scott - Neck Pictures Collection - Jeff Savill Photo

Cafe & Bar: Open - 4pm  
 Admission:  
 CASH ONLY - ATM Available  
 • \$5.00 Adults  
 • \$3.00 MS&A Members  
 • FREE 12 years & younger with paying adults  
 • FREE Parking during show  
[msaaz.org](http://msaaz.org)

**JUNE 1st & 2nd 2024**  
**PHOENIX SHRINE AUDITORIUM**  
 552 N 40th STREET • PHOENIX, AZ 85008  
 Saturday 9am - 5pm | Sunday 10am - 4pm  
 Featuring: Minerals, Competitive and Guest Exhibits  
 Saturday Night: Dinner, Talk, Awards and Auctions!




# 60th Annual Pikes Peak Gem, Mineral, and Jewelry Show

Featuring Petrified Wood

**June 7, 8, 9, 2024**

**Friday, June 7, 10:00-6:00**  
**Saturday, June 8, 10:00-5:00**  
**Sunday, June 9, 10:00-4:00**

**Adults \$5.00 / Multiple Days \$8.00**  
**Agers 12 & Under FREE**

**NORRIS PENROSE EVENT CENTER**  
 1045 Lower Gold Camp Rd  
 Colorado Springs, CO 80905

Sponsored by: Colorado Springs Mineralogical Society  
[www.csm1936.com](http://www.csm1936.com)

[www.PikesPeakGemShow.com](http://www.PikesPeakGemShow.com) [ppgmjshow@gmail.com](mailto:ppgmjshow@gmail.com)

## FRIENDS OF MINERALOGY COLORADO CHAPTER 2024 SYMPOSIUM

**MINERAL ODDITIES**  
 Twinning, Pseudomorphs, Inclusions, and more!



June 13th - 16th, 2024, at the Mines Museum of Earth Science at Colorado School of Mines in Golden, Colorado

Scan me for more information and to sign up for the mailing list!



[friendsofmineralogycolorado.org/symposium](http://friendsofmineralogycolorado.org/symposium)







Sublette County Rockhounds present their 8th annual

# Gem & Mineral

## Show

### June 14 - 16, 2024

Friday & Saturday, 9am - 5pm

Sunday, 9am - 3pm

Sublette Co. Fairgrounds  
Event Center, 10937 Hwy 351  
Big Piney, Wyoming

Vendors: Opals, jade, jewelry, slabs, cabs, rough rock,  
decorative items, fossils, specimens, & more!

Demonstrators Raffles Exhibits Door Prizes  
Mr. Bones Dinosaur puppeteer Kid's Activities

Contact: Jim Gray jimgray@wyoming.com or Mike Schaffer maschaffer61@gmail.com



### 50<sup>th</sup> ANNUAL HUACHUCA MINERAL, GEM, JEWELRY and FOSSIL SHOW

12th AND 13th, OCTOBER 2024

THE MALL AT 2200 EL MERCADO LOOP, SIERRA VISTA, AZ

For Information; Contact Maudie Bailey,

[gmbailey@msn.com](mailto:gmbailey@msn.com), 520 249-1541

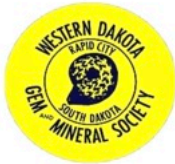
### 41<sup>st</sup> Annual

## GEM & MINERAL SHOW

July 27-28, 2024

SATURDAY 9 AM – 5 PM • SUNDAY 9 AM – 3 PM

Admission \$4 per day • Children 12 and under FREE with a paying adult



Hosted by: WESTERN DAKOTA GEM & MINERAL SOCIETY

CENTRAL STATES FAIRGROUNDS, Rapid City, SD

NERDY NUTS EXPO HALL

•Dealers offering Rock, mineral & fossil specimens

• Free Rock and Mineral Identification

- Silent Auction
- Children's Activities
- Hourly Door Prizes
- Panning for Gold
- Exhibits/Fluorescent Display
- Grand Prize Drawing



For more information Contact: [WestDakota.Rocks@gmail.com](mailto:WestDakota.Rocks@gmail.com)

[www.WDGMS.org](http://www.WDGMS.org)



### 2024 Annual Mineral and Gem Show Oklahoma Mineral and Gem Society

*Hosts the*

### Rocky Mountain Federation of Mineralogical Societies Convention

Modern Living Building  
608 Kiamichi Place  
OKC Fairgrounds

October 25th, 9—6 pm

October 26th, 9—6 pm

October 27th, 10—5

pm

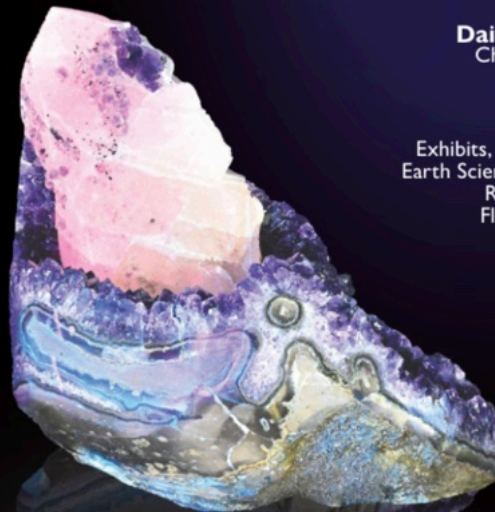
Daily Admission \$8

Children under 12 free

#### Show Features:

Exhibits, Gem Stones, Fossils,  
Earth Science Education, Tools,  
Rough Rock, Crystals,  
Fluorescent Room and  
Children's Activities

Oklahoma Mineral  
and Gem Society  
[omgs-minerals.org](http://omgs-minerals.org)  
See us on Facebook



**2023-2024 Executive Committee – composed of the Officers & the State Directors**

**Officers:**

President	Bob Regner	<Rnregner at aol.com>
Vice President	Jim Gray	<jimgray at wyoming.com>
Secretary	Liz Thomas	<mygemsrock at gmail.com>
Treasurer	Gene Maggard	<gandpmaggard at gmail.com>
Historian	Cinda Kunkler	<cindakunkler at att.com>
Past President	Sheri Johnson	<SherisRocks89121 at gmail.com>
Past President	Richard Jaeger	<RjgrSci at aol.com>

**State Directors:**

AZ/NV	Steve Kaminski	<scsckimin at gmail.com>
CO	Kathy Honda	<Kathrine.honda at ucden.edu>
KS	Brad Davenport	<brad7254 at gmail.com>
ND	Steve Fasching	<steve.fasching at gmail.com>
NM/TX	Bob Regner	<Rnregner at aol.com>
OK/AR	Roberta Wagle	<waglemom at gmail.com>
SD/NE	Lori Green	<sdnestatedirector at gmail.com>
UT	Tracy Jensen	<tracyjensen0515 at gmail.com>
WY	Jim Gray	<jimgray at wyoming.com>



**Please note:** All email addresses are enclosed in chevrons, < >, and the @ symbol has been replaced by the word "at" with a space before and after the word. This is to prevent bots from picking up our email addresses. You will need to remove the chevrons and replace the word "at" and the two spaces with the @ symbol to have the correct email.

## 2023-2024 Committee Chairs

ACROY (AFMS Club Rockhound of the Year)	Chris Whitney-Smith	<ask.chrisws at yahoo.com>
All American Club	Roberta Wagle	<wagemom at gmail.com>
BEAC (Bulletin Editors Advisory Committee) & Bulletin Editors Contest	Linda Jaeger	<LJGRALG at aol.com>
Boundaries	vacant	
Convention Advisor	Liz Thomas	<mygemsrock at gmail.com>
Credentials		
Directory	Liz Thomas	<mygemsrock at gmail.com>
Editor of Newsletter	Linda Jaeger	<LJGRALG at aol.com>
Finance	Wayne Cox	<WayneC3 at earthlink.net>
Fluorescent Tech	Pete Modreski	<pmodreski at aol.com>
Fossils Tech	Patrick Rowe	<rowe_patrick at gmail.com>
Gold Pan Award	Richard Jaeger	<RjgrSci at aol.com>
Insurance	Gene Maggard	<gandpmaggard at gmail.com>
International Relations	Mike Nelson	<csrockguy at yahoo.com>
Juniors Program	Terri Harris	<seeingeagle at comcast.net>
Lapidary Tech	vacant	
Long Range Planning	Liz Thomas	<mygemsrock at gmail.com>
Long Range Planning	Richard Jaeger	<RjgrSci at aol.com>
Long Range Planning	Judy Beck	<Lkbeckfam at gmail.com>
Mineralogical Tech	vacant	
Name Badges	Richard Jaeger	<RjgrSci at aol.com>
New Program Contest	Gene Maggard	<gandpmaggard at gmail.com>
Nominating Committee	Bob Regner	<Rnregner at aol.com>
Nominating Committee	Liz Thomas	<mygemsrock at gmail.com>
Nominating Committee	Richard Jaeger	<RjgrSci at aol.com>

*continued on next page*

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**2023-2024 Committee Chairs – continued**


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Parliamentarian	Gene Maggard	<gandpmaggard at gmail.com>
PLAC - AZ	Dr. Alex Schauss	<Aschauss at arizona.edu>
PLAC - CO/NE/ND	Mike Nelson (Chair)	<csrockguy at yahoo.com>
PLAC - KS	Jared Kyner	
PLAC - NM/TX	vacant	
PLAC - OK/AR	Stan Nowak	<snowak48 at yahoo.com>
PLAC - SD	Brandon Nelson	<nelson.bc80 at gmail.com>
PLAC - UT/NV	Jack Johnson	<j4x4jj at comcast.net>
PLAC - WY	Richard Gerow	<rgwizzard at wyoming.com>
President's Hat	all past presidents	
Program Library	Gene & Peggy Maggard	<gandpmaggard at gmail.com>
Public Relations	vacant	
Resolutions		
Ribbons	Peggy Sue Moore	<moorepeggysue at gmail.com>
Safety	vacant	
Scholarship Committee	Richard Jaeger	<RjgrSci at aol.com>
Stationery/Trophies	vacant	
Supplies	Roberta Wagle	<waglemom at gmail.com>
Uniform Rules	Lee Whitebay	<lwhitebay at poncacity.net>
Uniform Rules	Leon Reeder	<leonreeder47 at yahoo.com>
Webmaster	Dale Bright	<webmaster at rmfms.org>
Website Contest	Jennifer Gerring	<jgerring at gmail.com>

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## RMFMS Purpose & Policies – Excerpts from 2023 Directory (Revised)

- To bring about a closer association of the Earth Science Groups in the Rocky Mountain region.
- To increase and disseminate knowledge about minerals and other geologic materials.
- To encourage mineral study, collecting, and fashioning as a HOBBY.
- To sponsor local organizations interested in similar purposes.
- To encourage all clubs to publish bulletins and newsletters.
- To continue building up and promoting the use of the Federation Library of slide programs, videos, CDs, and DVDs to each member club.
- To distribute information and suggestions on the preparation and arrangement of specimens and materials for exhibit and display.
- To provide information and assistance to clubs holding Gem and Mineral Shows.
- To encourage clubs to support the American Federation of Mineralogical Societies Scholarship Foundation Fund.

### AFMS Code of Ethics

- I will respect both private and public property and will do no collecting on privately owned land without the owner's permission.
- I will keep informed on all laws, regulations or rules governing collecting on public lands and will observe them.
- I will, to the best of my ability, ascertain the boundary lines of property on which I plan to collect.
- I will use no firearms or blasting material in collecting areas.
- I will cause no willful damage to property of any kind—fences, signs, buildings.
- I will leave all gates as found. I will build fires in designated or safe places only and will be certain they are completely extinguished before leaving the area.
- I will discard no burning material—matches, cigarettes, etc.
- I will fill all excavation holes, which may be dangerous to livestock.
- I will not contaminate wells, creeks or other water supply.
- I will cause no willful damage to collecting material and will take home only what I can reasonably use.

- To promote the concept that all members of all clubs are members of the RMFMS and the AFMS, and to encourage individual members and clubs to take responsibility for asking questions or making known that help is needed. To encourage more contacts between those working at the Federation level, between clubs, and between club members.
- To keep the members informed of problems and activities regarding the use of Public Lands.
- To continue to support Federation-sponsored programs.

The Rocky Mountain Federation is composed of a membership of approximately 9000 members in the following states: Arizona, Arkansas, Colorado, Kansas, Nebraska, New Mexico, Nevada, North Dakota, Oklahoma, South Dakota, Texas, Utah, and Wyoming.

The work of the Federation is directed by the Executive Committee, composed of: President, Vice-President, Secretary, Treasurer, Historian, State Directors, and the two immediate Past-Presidents.

**Reminder — next RMF Newsletter is the May 2024 issue. Deadline for articles is April 15, 2024.**

- I will practice conservation and undertake to utilize fully and well the materials I have collected and will recycle my surplus for the pleasure and benefit of others.
- I will support the rockhound project H.E.L.P. (Help Eliminate Litter Please) and will leave all collecting areas devoid of litter, regardless of how found.
- I will cooperate with field trip leaders and those in designated authority in all collecting areas.
- I will report to my club or Federation officers, Bureau of Land Management, or other authorities, any deposit of petrified wood or other materials on public lands which should be protected for the enjoyment of future generations for public educational and scientific purposes.
- I will appreciate and protect our heritage of natural resources.
- I will observe the "Golden Rule," will use "Good Outdoor Manners" and will at all times conduct myself in a manner which will add to the stature and public image of rockhounds everywhere.

