The CMS Tumbler

January 2023

The monthly newsletter of the Cascade Mineralogical Society, Inc., Kent, Washington

Next Meeting:
January 12, 2023
7:00 p.m.

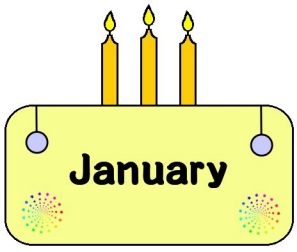
American Legion Hall
25406 97th Pl S
Kent, WA

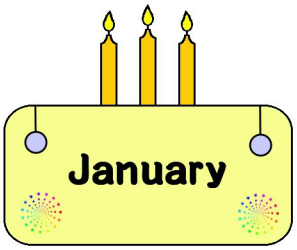
The Program is
Thunder Eggs

The Show & Tell
Theme is Thunder Eggs

Connect with us!
Website: https://www.cascademineralogicalsociety.org
Club Facebook: https://www.facebook.com/CasMinSoc/
Facebook Groups: https://www.facebook.com/groups/1168207926650075
Show Facebook: https://www.facebook.com/cascadegemandmineralshow
Instagram: https://www.instagram.com/cascaderockclub/
YouTube Channel (Please like and subscribe):
https://www.youtube.com/channel/UCaGIJxaWFAtV_JjgZRm9ESA

This month remember
to wish a
Happy Birthday to
Roger Danneman on January 8
John Haworth on January 13
Becky Trepanier on January 19
Ruby Wasley on January 29





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New Club Mailing Address:
Cascade Mineralogical Soc.
c/o 25838 W. Lake Wilderness Dr. SE
Maple Valley, WA 98038

Keith Alan Morgan, Editor
3802 W Tapps Dr. E
Lake Tapps, WA 98391

Postal, or Email, Exchange
Bulletins are welcome.
Email preferred.
greenrockdraggin@yahoo.com

2023 Elected Officers

President Kat Koch	425-765-5408	president@cascademineralogicalsociety.org
Vice President Linda Jorza	206-478-1642	ljorza@gmail.com
Treasurer Ananda Cooley	206-683-7787	ali.cooley@gmail.com
Secretary Pete Williams	425-228-5063	petewill02@gmail.com
Director 1 – At Large Kathy Hartzell	253-277-0329	k.hartzell@yahoo.com
(Shared Position) Garry Hartzell	253-277-0329	santacruz1@yahoo.com
Director 2 - Field Trips Roger Danneman	425-228-8781	roger.danneman@gmail.com
Director 3 – Programs Paul Ahnberg	941-704-2063	runhikebird@icloud.com
Director 4- At Large Richard Russell	253-736-3693	richru1@yahoo.com
Past President Malcolm Wheeler Sr.	253-569-5185	facetguru@aol.com
Show Chairman Kat Koch	425-765-5408	president@cascademineralogicalsociety.org
Federation Representative Michael Blanton	425-271-8757	mblanton41@hotmail.com
Federation Representative Kat Koch	425-765-5408	president@cascademineralogicalsociety.org
Mineral Council Diana Horsfall	425-226-3154	dianahorsfall@comcast.net

2023 Show Committee Chairs

Cascade Show Chairman		
Show Treasurer Pete Williams	425-228-5063	petewill02@gmail.com
Show Silent Auction (shared) Richard Russell	253-736-3693	richru1@yahoo.com
Show Silent Auction (shared) Noelle Barnes	206-914-0514	noelleb@outlook.com
Pre-Show Raffle Case & Donation Requests Kat Koch	425-765-5408	president@cascademineralogicalsociety.org
Show Raffle Case Display Terri Gerard	206-437-0240	eyeballgraphics2002@yahoo.com
Raffle Prize Distribution		
Show Demonstrators Richard Russell	253-736-3693	richru1@yahoo.com
Show Load In/Out		
Show Display Case Presenters		
Show Road Signs		
Show Event Volunteer Recruiter		
Show Refreshments for Vendors & VolunteersAngie & Brian Bayer	253-569-0245	Text to her number (no email)
Spinning Wheel Angie & Brian Bayer	253-569-0245	Text to her number (no email)
Show Website Kat Koch	425-765-5408	vendorchair@cascademineralogicalsociety.org
Show Vendor Chairman Kat Koch	425-765-5408	vendorchair@cascademineralogicalsociety.org

2023 Committee Chairs

Club Historian		
Donations Kat Koch	425-765-5408	president@cascademineralogicalsociety.org
Field Trip Roger Danneman	425-228-8781	Roger.Danneman@gmail.com
Health & Welfare Bev Williams	425-228-5063	britbev1957@outlook.com
Library Diana Horsfall	425-226-3154	dianahorsfall@comcast.net
Meeting Greeters Angie & Brian Bayer	253-569-0245	Text to her number (no email)
Meeting Programs Paul Arhnberg	941-704-2063	runhikebird@icloud.com
Membership Charles Benedict	425-306-0456	charlesbenedict@comcast.net
Newsletter - Tumbler Editor Keith Alan Morgan	253-316-9935	greenrockdraggin@yahoo.com
Shop Instructors (Temp) Roger Danneman	425-228-8781	roger.danneman@gmail.com
Shop Reservations Diana Horsfall	425-226-3154	dianahorsfall@comcast.net
Public Relations Kat Koch	425-765-5408	president@cascademineralogicalsociety.org
Refreshment Angie & Brian Bayer	253-569-0245	Text to her number (no email)
Raffle Master Roger Pullen	206-387-3214	Phone calls only. No email or texting.
Show & Tell Michael Blanton	425-271-8757	mblanton41@hotmail.com
Webmaster Gina Manso	425-281-3502	ginamanso51@gmail.com
Facebook Group Roger Danneman	425-228-8781	Roger.Danneman@gmail.com
Facebook Club Page Gina Manso	425-281-3502	ginamanso51@gmail.com
Instagram Gina Manso	425-281-3502	ginamanso51@gmail.com
All Other Social Media Kat Koch	425-765-5408	president@cascademineralogicalsociety.org
West Seattle Timebank Volunteers Linda Jorza	206-478-1642	ljorza@gmail.com

2023 CMS Dues are $25 per year per family
Pay online, by mail, or at our meetings.
New Mailing Address: Cascade Mineralogical Soc., c/o 25838 W. Lake Wilderness Dr. SE, Maple Valley, WA 98038

You can pay your dues via credit card!! We now accept all cards through our website or at the meeting. You can renew your membership or enroll as a new member and pay your dues all in one shot online. You will find it under the “Membership” tab on our website. http://www.cascademineralogicalsociety.org

The object of the Society shall be to stimulate interest in the study of the earth sciences, lapidary arts and related subjects. This Society is affiliated with the American Federation of Mineralogical Societies; the Northwest Federation of Mineralogical Societies; and the Washington State Mineral Council.

Every member of the club should be receiving a copy of the Northwest Newsletter. If you are not receiving a copy contact Mike Blanton in person or by telephone at (425) 271 -8757 or by computer at mblanton41@hotmail.com

Our Club is a Member of these Federations and Associations

AFMS: The AFMS governs our Northwest Federation. http://amfed.org/index.html
The bulletins are published quarterly. You can find the news bulletins at http://amfed.org/news/default.htm

NFMS: The Northwest Federation is our home federation. To keep up on the goings-on in our own backyard. http://northwestfederation.org/
The link for the news bulletins is http://northwestfederation.org/Newsletters.asp

ALAA: The American Lands Access Association, Inc. represents the rockhounding interests of 325 gem & mineral clubs/societies in 47 States and the District of Columbia.
The association's purpose is to promote and ensure the rights of amateur fossil and mineral collecting, recreational prospecting, and mining. The use of public and private lands for educational and recreational purposes. They also carry the voice of all amateur collectors and hobbyists to our elected officials, government regulators, and public land managers. http://amlands.org
The front page also has a lot of current news, rockhounding restrictions or lack of, etc. http://amlands.org
ALAA also publishes a quarterly newsletter. To keep up on the news and lobby efforts on our behalf, check out http://amlands.org/

Washington State Mineral Council: The Washington State Mineral Council is dedicated to the location and conservation of rock and mineral sites of interest to the rockhounds of Washington state. https://mineralcouncil.wordpress.com/
You can find local rock and gems shows and planned field trips. It's a great resource if you want to plan on an outing.
Also check out “Misc. News” for all the latest updates on collecting sites around Washington. https://mineralcouncil.wordpress.com/news-updates/
When the weather is good, they have regular monthly field trips. So take advantage of these great outdoor rockhounding adventures! The field trip details are under “Field Trips” on the left side of the side. Check out the link for additional information for the time and place to meet and the field trip leader.
You can find all this information and a whole lot more about what is happening in our state at https://mineralcouncil.wordpress.com/

Rockhounding Code of Ethics

I will respect both private and public property and will do no collecting on privately owned land without permission from the owner.
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 such as fences, signs, buildings, etc.
I will leave all gates as found.
I will build fires only in designated or safe places 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 supplies.
I will cause no willful damage to collecting material and will take home only what I can reasonably use.
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.

from the AFMS website

Our meetings are now on YouTube. The meeting will be available, at the latest, on Sunday night following the meeting. Don't forget to “Like” and “Subscribe”! YouTube Link

To get information to the Tumbler via the Internet send it to greenrockdraggin@yahoo.com Please put the word "Tumbler" and subject in the Subject Line. The deadline is the 20th of each month.

NFMS Needs Your Canceled Postage Stamps

Every year the NFMS collects postage stamps from its member clubs. They have a stamp company that buys them, and in turn, these funds are donated to cancer research. Every year NFMS donates around $5,000.

On letters that you receive, tear the corner with the stamp off. Try to leave about 1/4" of the envelope around the stamp. Be careful not to damage the stamp. Place the stamps in a plastic baggie and bring them to the meeting. Our member, Mike Blanton, collects the stamps and turns them over to the NFMS at the regional rock and gem show. You can give them to Mike as often as you want throughout the year.

Collecting the stamps is another way we rockhounds give back to our community.

Don't Forget To Show Your Membership Card At These Retailers

The following businesses are loyal supporters of our rock club.
Show your membership card at the following stores and get a 10% discount on most purchases.

Jerry's Rock Shop – 804 W Valley Hwy, Kent, WA 98032
Minerals, rough or polished rocks, lapidary machines, lapidary supplies, polishing grit, fossils, rock hounding tools, beautiful display specimens, jewelry, and much more. *Please be aware there are a few items they can't offer the 10% discount on.*
Jerry is a great supporter of our club. They make it possible to have nice door prizes at our meetings.

Blackjack Metal Detectors and Mining Equipment – 101 Park Ave N, Renton, WA 98057
They sell beautiful mineral specimens, fossils, books, metal detecting and gold panning equipment and supplies.
Chris Holden is a CMS member!

New for Members Only – New Texting Service

We are busy and often forget that CMS has an upcoming meeting or event. Therefore, we have a texting service to remind members of CMS meetings and events.

Everyone is automatically entered into this service. You can opt out anytime by responding with STOP.

For quick access, you can scan the following codes.

Access CMS Club Instagram page

Access our CMS YouTube channel

Access our CMSclub website for the latest on meetings and club events

Access CMS Facebook Groups

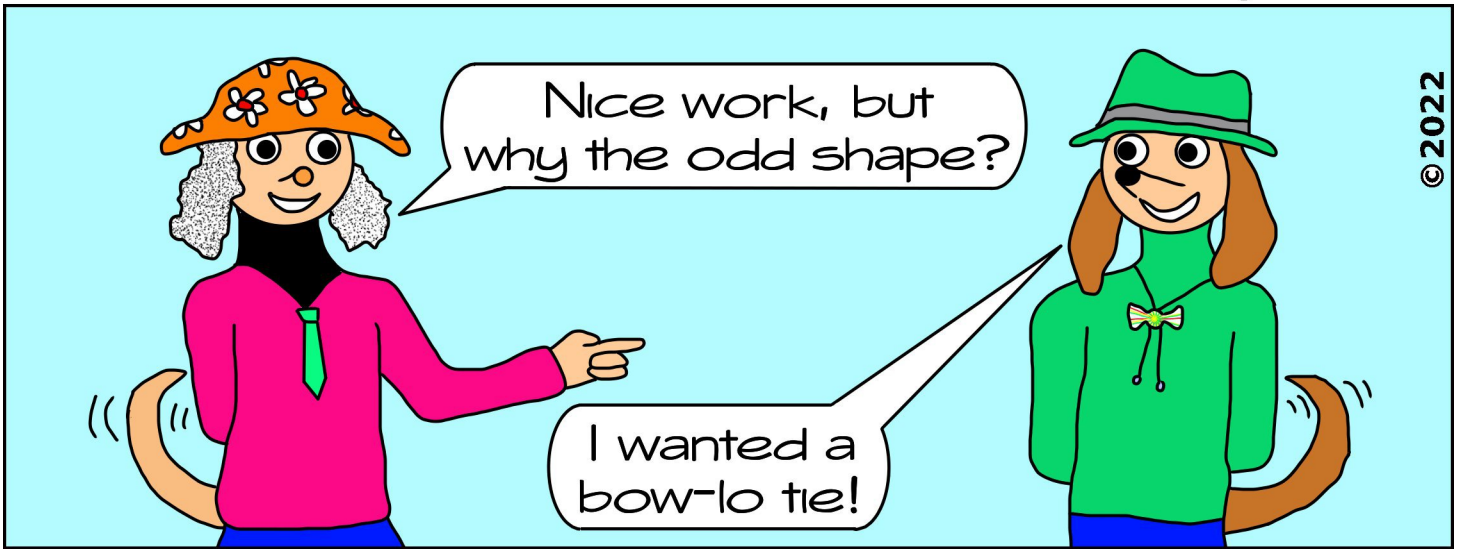
January

Sun	Mon	Tue	Wed	Thur	Fri	Sat
1	2	3	4	5	6	7
8	9 Board Meeting 7:00 pm	10	11	12 General Meeting 7:00 pm	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	Happy New Year!			

CMS Show Committee Meeting:…Monday, January 9……6:30 pm to 7:00 pm
CMS Board Meeting:……Monday, January 9……7:00 pm to 8:00 pm
CMS General Meeting:……2nd Thursday, January 12……7:00 pm to 9:00 pm

Lapidary Class Hours:……By appointment, call to set a time & day for your lesson (425) 226-3154
Lapidary Shop Hours:……Most Tuesdays…… 2:00 pm to 5:00 p, call ahead (425) 226-3154
Lapidary Shop Hours:……3rd Saturday…… by appointment only (call a few days ahead to set time)

Mr. & Mrs. Rockhound by KAM



CMS Board Meeting Minutes December 5, 2022

by Pete Williams, 2022 Secretary

Meeting called to order: 7:14

Attendees: Kat Koch; Linda Jorza; Pete Williams; Roger Daneman; Paul Ahnberg; Kathy and Gary Hertzel; Mike Blanton; Charles Benedict; Ananda Cooley

Items discussed by the Board were: The financial report looks good. There were 33 people at the Christmas dinner and auction. The auction brought in $980 which was much more than the auction in the summer. The meeting room rental was proposed to go up from $50 to $75 per meeting. After some negotiation the American Legion agreed to raise the rental $5 per year until the $75 is reached. The liability insurance is expected to go much higher when renewal comes up on 3/25. Paul will set up a meeting with an agent with Kat and Pete. Roger will write an article for the Tumbler on the dinner. John and Dave Cornell donated a box of polished rocks to be used for raffles.

The candidates up for election at the December party were: for directors – Rich Russell; Gary and Kathy Hertzel; for Treasurer – Ananda Cooley. The open show chair position was broken out into 3 positions – show chair, co-chair 1 and co-chair 2. The candidate for co-chair 1 is Peggy Shashy. The other 2 show positions are unfilled at this time. All candidates were elected by voice vote.

The club needs a minimum of 100 family memberships to cover all expenses. We need to do a better job of retaining members. Board members were asked to come up with ideas for the next Board meeting in January to better retain members. Doing PR events help to bring members in. These include Gem Faires and the arboretum plant sale.

The January meeting is going to be about thundereggs. A possible topic for the Feb or Mar meeting is to have members bring an example of what they work on or collect. The April program may be on fluorescent rocks. Kat would like the club to have a permanent club collection of fluorescent rocks that could also be shown at our show. We could also do a winter field trip to the Burke Museum or a get-together at some location.

A motion was made, seconded and approved to raise the annual family membership dues to $30 from $25 in February of 2023. An ability to make a donation to the club needs to be added to the website.

Meeting adjourned at 8:10

CMS General Meeting Minutes December 4, 2022

by Roger Danneman

On Dec. 4th we had our annual holiday party and auction at the Legion Hall. There were 33 people in attendance, excellent food selections, door prizes, and a fun and spirited auction of club material and donated rocks. Rich and Kat prepared the club provided ham and turkey. Angie prepared the beverages and coordinated the food table (the cranberry punch was excellent Angie). And everyone brought food items to add to the pot luck as well as help set up the tables. Rich did his usual entertaining performance as auctioneer and we raised over $1000 for the club. This is an important fund raiser for us as our rental fees have gone up for next year and we expect our insurance to also increase. Club officers were voted in. Of note is that Ananda Cooley will be taking over as Treasurer next year. Welcome to the Board Ananda. It was a fun way to cap off 2022.

Our Annual Dues Are Going Up

Save $5 in January!

As of February 1st, our annual dues are $30 per family.

The clock is ticking!

So make sure you renew your membership during January and save $5.

More Party Pictures by Keith Alan Morgan

Setting up.

Auction

Kat, the red-headed reindeer.

From the Top of the Rock Pile... by Kat Koch, CMS President

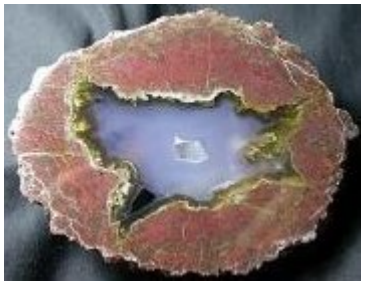
We are starting to plan our 2023 Cascade Gem and Mineral Show. We still need a Show Chairperson. The show dates are September 16 & 17, 2023. The venue has been booked, we have a 1st Co-Chairperson, and many major show areas already have volunteers committed to covering them. Now we need a coordinator – that's the Show Chairperson. I have copious notes on what needs to be coordinated. I am very willing to work closely with the Show Chairperson; to guide them, share my knowledge, and give you my two cents when you ask for it. Please seriously consider volunteering. It is a coordinating job that can be done from home.

2023 is the year our club starts its 75th anniversary. There is so much to celebrate in reaching this milestone. There was a period of about 5 or 6 years after the club left the Boeing property and also had to change its name that the board didn't think we would survive. Today we are entering 2023 as a financially healthy, growing, and active club. Thank you to everyone that has contributed to our success and the ability to celebrate 75years!

We have two interesting meetings coming up for January and February. I hope all of you attend the meetings. It is always great to see everyone at our meetings and to get a chance to visit with each other.

Welcome to all our new members. I also appreciate all the members that renewed their membership! When you attend our monthly meeting, please introduce yourself to me, as I look forward to meeting everyone.

General Meeting – Thursday, January 12th



Topic: Thunder Eggs

This January, we'll storm into the year's presentations with a crowd favorite - Thunder Eggs!

We'll begin with some fascinating Thunder Egg science - how they're formed, what they're made of, where they can be found, etc. - and then we'll jump into a fun Show-n-Tell: Share some of your favorite Thunder Egg specimens from your collection.

Members will vote on their favorite Thunder Eggs.

The door prize winners will be the 1st, 2nd, and 3rd place Thunder Egg owners.

Show 'n Tell: Bring a few of your favorite Thunder Eggs to share, along with your favorite Thunder Egg stories and cutting/polishing advice.

Myth: The Thunderegg was believed by the Pacific Northwest Native Americans to be thunderous rock eggs thrown across the valley between Mount Hood and Mount Jefferson in Oregon by the warring Thunder Gods whenever they became angry with or jealous of each other. Hence, the English version of the Indian name is "thunder eggs."

We'll see you there!

General Meeting – Thursday, February 9th

Topic: Let's take a look at what our members make or collect.

Do you intarsia, knapping, carve rocks, tumble, make jewelry, facet, field trip finds, cabbing, silversmithing, spheres, specific minerals, rocks or fossils, or ?

Please bring 3 to 6 samples and show them off at this meeting. Be prepared to tell us about your items.

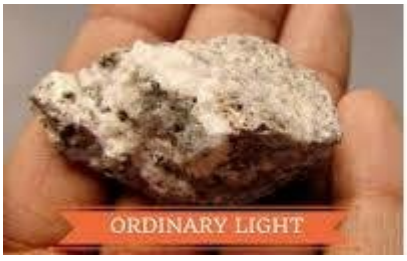
Show 'n Tell: The topic at this meeting is a big show 'n tell session.

Show Off Your Interests

We Would All Love To See What Our Members Are Doing

General Meeting – Thursday, April 13th

The following meeting has been planned for April because the Kent, Renton, and Covington School Districts are on spring break, so all our Young Tumblers plan on attending this fun meeting as there is no school the next day. Bring your friends too.



Topic: Fluorescent Rocks!!

Not all rocks are what they seem. We have all heard about shapeshifters in sci-fi movies. How about very real color shifters?

The club will have a collection of fluorescent rocks for everyone to see. It is interesting to see the different colors rocks become under short or long-wave UV lights.

We will then examine members' rocks and see what happens under UV light.

Show 'n Tell: Bring your rocks, and we will see if they change colors too.

This is a fun meeting, so gather up your rocks that you suspect might be fluorescent and bring them to the meeting!!

Looking For Volunteers

We really need a Show Chairman asap!

Show Chair: We need a Show Chairman for next year, September 16 & 17, 2023. This job is primarily coordinating everything. I have compiled a recipe for producing the show – very detailed notes. You can accomplish the job entirely from home on a computer or laptop. The only thing that can't be done from home is if you want to visit the college and see the venue.

The Board has decided to make the position of Show Chairman a progressive position. Show Chairman, 1st Co-Chair, and 2nd Co-Chair. Each year the person would move up a job, so by the time they reach Show Chairman, they have two years of experience under their belt.

Show Chairman – Open – Need a volunteer

1st Co-Chair – Peggy Shashy

2nd Co-Chair – Open – Need a volunteer

It's essential to have a Show Chair volunteer by January as we need to have flyers printed and distributed and the website up to the book vendors.

Kat will write the website to sell booth spaces and find and book the vendors.

Nicole Barnes and Rich Russell will handle the silent auction.

Several other volunteers have committed to handling the raffle and display cases, booking the demonstrators and case displays, and several other positions.

Videographer: Needed at our general meetings: A volunteer to videotape our meetings. Up to you if you want to edit the video or not. We have free editing software to post the video to our YouTube club channel. We meet on Thursday, and the video needs to be uploaded by the following Sunday.

Historian: Copies of the Tumbler, pictures from club events and club officers, and other memorabilia from the club. Put everything except Tumbler issues in a scrapbook. The club will reimburse you for any expenses to preserve our history. In addition, various members have older content they can provide you.

If you decide you can help out, text or call Kat Koch. president@cascademineralogicalsociety.org or 425-765-5408

Thank You For Your Donation

Thank you very much to Donn Heflin's family for donating to our club.

Donn Heflin, of Mt. Vernon, has donated her parents' rock collection to our club. Her parents had a collection of rocks and other artifacts they had picked up during their travels. Now that her parents had passed, she wanted the collection to go someplace with a purpose. There is one valuable item in the collection that we will display at the January meeting. It is so unusual that the club will retain it and display it yearly at our Gem Show. It will make an excellent display case.

You must attend the January meeting to find out what the item is.

So plan on attending our January general meeting on January 12th!

CMS is Celebrating 75th Years in 2023!

Happy Birthday CMS

75 years is such a milestone for our club.

When Boeing divested itself of their employee clubs in 2010, CMS didn't know for a few years if we would survive.

We have thrived and grown with a lot of work from the Board and our membership.

Thank you to each and every one of you for making CMS a success!

The Mysterious "Living Stones" by Kat Koch, Cascade Mineralogical Society

These "living stones" stones, Trovants, were first discovered in the small town of Costesti, Romania. Trovants are unusual geological manifestations – a bulging bulbous boulder. These stones have long puzzled locals, with strange cement oozing and their organic-looking shapes. They seemed to be living beings rather than inanimate objects. In Romanian myths, there are stories about the stones' ability to grow and move. The stories of trolls could have been based on these stones.

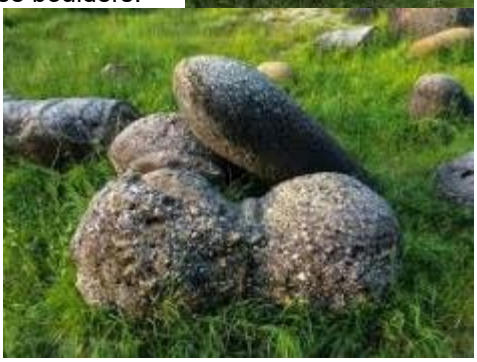
Trovants vary in shape and size - from less than an inch that can fit in the palm of your hand or 32.5 feet tall, weighing over 880 pounds. There are now 100s of known Trovants throughout 20 sites in Romania. Some were only discovered after the sand around them was quarried.

The Romanian Trovants that grow are made up of calcium carbonate (sandstone). Sandstone gives the rocks an absorptive capacity. These boulders were formed at the beginning of the Cenozoic Era, 66 million years ago. Cenozoic, in Greek, means "new animals," as this was when mammals started to appear. Trovants were created in exposed areas of tectonic activity. The brutal collisions of the continental masses deformed the cataclastic crust into its current position. The stones emerged from volcanic, seismic events, and earthquakes as pebbles, gravel, sand, or sedimentary rocks. Trovants starter pebbles were exposed to a minimum of 300F to 400F, 3to 4 miles beneath the surface. They settled in quiet areas and later hardened via the lithification process. Lithification refers to the process that loose and unconsolidated sediment particles transform into hard and solid rocks. Water infiltration still occurs at this depth, and various substances are dissolved. The solution produced allows for the compaction or cementation of the stones. The Romanian Trovants that grow is correlated to the color of its core or mother stone and spherical weathering outside on the earth's surface.

Except for the growth of stalagmites and stalactites, composed of carbonate or limestone rocks found underground, stones exposed to above-ground agents do not usually grow. But instead, their size decreases by eroding atmospheric effects such as water, wind, etc. However, some Trovants do grow.

For generations, these strange rocks have fascinated people. Throughout the centuries, many people and scientists have tried to explain how they grow. Geologists of today have a theory that would explain this strange phenomenon. Their approach is that Trovants can only occur in highly-porous sand buildup and sandstone deposits that have been cemented by waters rich in calcium carbonate. Rainwater has an acidic pH and contains many dissolved minerals to create carbon dioxide. Trovants grow when it rains, and the sediments absorb some of the water. This absorption increases the pressure inside the stones and causes them to grow over time. These boulders grow very slowly from the center out.

The ability to grow is one of many things that make Trovants seem alive. They're also known to "reproduce" through new sandstone deposits after heavy rains. They also move very slowly and not very far, likely because of temperature changes in the soil around these boulders. Some Trovants only move.



The Trovants can be found in edgeless shapes, cylindrical, nodular, or almost spherical. Trovants develop odd shapes because of their irregular growth process. It is also speculated that some Trovants actually grow root-like extensions and even have interior "aging rings" like trees. In Romania, the living stones are popular; there is a "Trovants Museum" Natural Reserve in the Costeşti village. Although the most famous examples of the Trovant "living stones" are in Romania, various types of "living stones" have been found in around the world.

Bibliography: ToYou.International, Science Alert, National Geographic, Merriam-Webster Dictionary, Wonderopolis, ScienceAlert, WhenOnEarth.

Young Richard's Almanac by Dick Morgan

Since history tends to repeat itself, let us hope the last few years do not as we wouldn't want that to happen again.

And as history repeats itself, so do my old jokes.

Hollandite Quartz aka Urchin Quartz by Kat Koch

Hollandite is a primary mineral in manganese ore. It is a weathered product of manganese that has metamorphosed as a secondary mineral. Its widely used name is Hollandite, but as of 2012, its technical name is now ferrihollandite. Initially found in India, it has now been found worldwide.

Hollandite Quartz has very small inclusions that look like tiny black stars. The little stars are a mineral called Hollandite, an oxide mineral. Because the Hollandite stars look like little sea urchins, it is often called Urchin Quartz.

Hollandite Quartz is a rare variety of quartz, silicon dioxide, that has dark gray or black "star" inclusions of the mineral Hollandite. Star Hollandite inclusions are formed when deposits of Hollandite become trapped within quartz during its formation. Within the Earth, the Hollandite was subjected to high thermal temperatures; then, the Hollandite can burst into star formations within the quartz. The crystals come in many shapes and sizes, are brittle, and easily break. Hardness ranges from 4 to 6. This variety of quartz is very rare.

Bibliography: Geology In, Mindat.org, Dakota Matrix Minerals.

Jimbacrinus Crinoid Fossils by Kat Koch

Jimbacrinus was approximately 10 inches tall.

Lived in the Early Permian (280 million years).

This fossil plate of Jimbacrinus bostocki was discovered in Gascoyne Junction, Western Australia.

The Cundlego Formation

The Jimbacrinus bostocki is a crinoid. Crinoids are marine animals (not plants), with this particular species inhabiting the deep-sea sea floor. As the crinoids belong to the Echinoderm phylum, it is related to starfish, brittle stars, and sea urchins. Crinoids have kept the same basic body shape throughout time.

Jimbacrinus Crinoids had five arms lined with fine tentacle-like structures called pinnules (smaller jointed appendages). Like all crinoids, it used these unfurled arms to feed on small animals and particles in the water. In addition, adult crinoids had a stalk attached to the sea floor.

Fossils of Jimbacrinus show that they were abundant sea floor animals in what is now Western Australia during the Permian.

Bibliography: Geology Science, Pinterest, Fossilera, Crystal World Australia.

A Bit About Wyoming Jade

The first discoveries of Jade in Wyoming were at around 1937 in central regions of the state in the Granite Mountains.

In the recent past there has been is overwhelming interest in Wyoming jade. Serious and intensive exploration dates back to the 1940s and currently there has been an increased mining of jade in the Granite Mountains, and to be precise, geological investigations are ongoing to ascertain the specific types of gemstones in the state, including high concentration of Nephrite Jade.

Nephrite Jade can be found in several regions but at the moment the areas that are known to have it are around central Wyoming at the Sage Creek basin along Sierra Madre near the town of Lysite.

Another part that the Wyoming's Jade can be explored with high optimism is within the Wind River Range, heading towards the western part in the Platte River. Some can also be traced at Jeffrey City and Crooks Gap. These are the primary regions that have been identified to be rich in the deposits of Wyoming's jade, and prospectors have been flocking these regions for decades.

Gemologists have identified two distinct types of gem that look very similar but are in fact very different minerals. The two species are jadeite and nephrite. The two are very similar to the extent that it is difficult to tell the difference at hand, and most casual prospectors cannot tell the difference.

The distinction of the two requires a series of tests by experts which have already been done, the major factor that has contributed largely in the distinction of the two is the geological origin. Tests such as the petrographic test, specific

gravity, chemical tests, X-ray Defraction, have given productive results in the distinguishment of the two similar but unrelated Jade.

Due to different species of the Jade minerals that have been introduced in the market, and the fact that the number of people who have the knowledge to identify real jade are very few, it is important to reiterate here the distinctive features of genuine Wyoming's Jade. Many have been fooled while rockhounding Wyoming by thinking they had made a valuable discovery that was actually not jade at all.

A few basic tests you can do to evaluate a potential jade specimen:

*Upon holding the stone against light, you will observe that there are small granules interweaved together; this can only be observable with the aid of a 30x loupe.

*Real jade can be identified through carrying out a scratch test. True Wyoming jade when scratched will not respond to the scratch, the process will appear slippery and on the point of scratch, it might appear white, this is the pilings of the blunt material that was used to perform the test.

*Jade is one of the gemstones that are formed through tectonic forces, very strong indeed, the particles forming the jade are held together by strong bonds thereby the compactness is high, this makes it possible absorb heat and retain it for a long time, It can also take time to take the room temperature. When it held in the hand, the holder will feel cold and the condition will take time for the jade to fluctuate with your body temperature.

*Because of its fibrous nature and structure, they lack cleavages and when broken it breaks with no uniformity. Jade can sometimes show the point of separation if they underwent or developed schistosity.

*If two pieces of jade are hit together they are likely to produce a high pitched sound that is uniform and pleasant.

The obvious and easy method of jade identification is by observing it should have a uniform texture, without perforations, true Wyoming jade as we have said, if the Wyoming nephrite does not have air bubbles in any way then you don't have jade.

from Golden Spike News, 11/22

Rockhound Safety: Creatures to Watch For In the Field by Sharon Marburger

Here are a few safety items to keep in mind while getting out in the field to hunt rocks, minerals, and fossils. Rattlesnakes are the largest of the venomous snakes in the United States. They can accurately strike at up to one-third their body length.

Rattlesnakes may be found sunning themselves near logs, boulders, or open areas. These snakes may be found in most work habitats including the mountains, prairies, deserts, and beaches. If bitten, seek medical attention as soon as possible. Dial 911 or call local emergency medical services. Keep still and calm.

Bees, wasps, and hornets are found throughout the United States and are most abundant in the warmer months. Nests and hives may be found in trees, under roof eaves, or on equipment such as ladders. Stinging or biting insects, spiders, ticks, and other arthropods can be hazardous to you. Health effects range from mild discomfort or pain to a lethal reaction for those allergic to the venom. If a person is stung by a bee, wasp, or hornet, have someone stay with them to be sure that he or she does not have an allergic reaction.

Scorpions usually hide during the day and are active at night. They may be hiding under rocks, wood, or anything else lying on the ground. Some species may also burrow into the ground. Most scorpions live in dry, desert areas. However, some species can be found in grasslands, forests, and inside caves.

Venomous spiders found in the United States include the black widow, brown recluse, and hobo spiders. Spiders are usually not aggressive. Most bites occur because a spider is trapped or unintentionally contacted.

Tick-borne pathogens can be passed to humans by the bite of infected ticks. Lyme disease is the most commonly reported tick-borne disease in the United States. Areas with woods, bushes, high grass, or leaf litter are likely to have more ticks. Some common symptoms of infection with tick-borne diseases include body/muscle aches, fever, headaches, fatigue, joint pain, rash, stiff neck, and facial paralysis.

Check your skin and clothes for ticks every day that you're in the field. Shower or bathe as soon as possible after working outdoors to wash off and check for ticks. Remember to check your hair, underarms, and groin for ticks.

Immediately remove ticks from your body using fine-tipped tweezers. Clean the area with soap and water. Wash clothes, then dry them in a hot dryer, to kill any ticks present. If you develop symptoms of a tick-borne disease, seek medical attention promptly.

via The Quarry, 10/22; via MWF Newsletter, 10/22; from Pick & Shovel, 5/22

Torbernite $Cu(UO_2)_2(PO_4)_2 \cdot 12H_2O$ by Dr. Raymond Grant

Torbernite, copper uranyl phosphate hydrate, $Cu(UO_2)_2(PO_4)_2 \cdot 12H_2O$. It is tetragonal, light to dark green, and the hardness is 2 – 2.5. Metatorbernite $Cu(UO_2)_2(PO_4)_2 \cdot 8H_2O$ has the same chemistry only 8 waters instead of twelve. Over time torbernite will dehydrate and change to metatorbernite and so the two are always found together. The best way to identify them is by the green square crystals. Telling them apart visually is not possible although metatorbernite may have a dull luster because of the loss of water.

They are widely distributed; commonly found in the oxidized zones of uranium deposits, and are both found at many localities in Arizona. Mindat.org has a long list of localities for them in Arizona. They are found at all the uranium mines on the Colorado Plateau, especially around Monument Valley, and the uranium mines in the Sierra Ancha Mountains, and because they are copper minerals they are found at many copper mines such as Ajo, Ray, Silver Bell, Copper Cities, and Morenci.

from The Rockhound Record, 3/18

Young Tumblers News

Just a reminder that all Young Tumblers under 15 can easily earn "Rock Bucks."
Earn $2 “Rock Bucks” for attending a meeting
Earn an additional $3 "Rock Bucks" if you bring something for Show 'n Tell and tell us about your item.
Attend the Annual Club Picnic in July or Holiday Party in December and earn $5 “Rock Bucks.”
The "Rock Bucks" can be spent like real money at our meetings or club auctions.
You can save your "Rock Bucks" during the year and spend them just like cash on auction items you would like, or you can buy raffle tickets at our monthly meeting.
Join us at our meetings and build your rock-buying piggy bank.

About the New Juniors Website by Lora Hall, AFMS Juniors Chair

The Juniors Committee is moving forward and making progress on the new website as suggestions and ideas are coming in from around the federation. If you are starting a juniors group and not ready to launch into the badge program, be sure to check out the website for ice breaker activities and games you can use at club meetings.

If your club is hosting a show this spring and you plan to include junior volunteers, be sure to have them log their hours. Any junior member of your club, age 10-17, may earn the Junior Volunteer Award by contributing 20 hours of volunteer work for their home rock club or mineral society. For hours to count toward this award, the juniors work must be:

(1) Truly Voluntary – Service offered by the junior.
(2) Truly Cheerful – Not requiring, or done with, parental bribes or coercion.
(3) Truly Useful – something of real benefit to the club, not busywork.

Easy-to-follow instructions can be found on the website at https://www.juniors.amfed.org/awards-contests-scholarships/juniors-volunteer-award.

These same teens will become the lifeblood of your club in a few years, and this award is meant to start them out well.

from AFMS Newsletter, 5/22

Araucarioxylon arizonicum is an extinct species of conifer and is the state fossil of Arizona. The petrified wood of this tree is frequently referred to as "Rainbow wood" because of the large variety of colors some specimens exhibit. The red and yellow are produced by large particulate forms of iron oxide, the yellow being limonite and the red being hematite. The purple hue comes from extremely fine spherules of hematite distributed throughout the quartz matrix.

In the Triassic period (around 250 to 200 million years ago), Arizona was a flat tropical expanse in the northwest corner of the super-continent Pangaea. There, a forest grew in which Araucarioxylon arizonicum towered as high as 60 meters (200 ft) and measured more than 60 centimeters (2.0 ft) in diameter.

from The Rockhound Record, 5/17

The First Garnets As Gems by Martin Novak

The first garnets were used by the ancient Greeks. There were a few peoples who made beads out of them but the Greeks absolutely loved garnets. When they first came on the market, they were worth a couple of hundred gold pieces for every garnet. Having a grape garnet was the equivalent of having a red diamond back then. They carved little seals into it. Nobody knows where they mined this garnet. There’s an archaeo-gemologist in California who’s trying to figure that out right now. She’s looking at Ethiopia or there are trade networks that came up from Tanzania and she thinks the garnets were carved in Turkey and then brought over to Greece.

from Facets, 3/15

What To Do With All Those Rocks? by Linda Jorza

Here are some things club members have done with rocks. Please share what you made, or did with your rocks.

This was made with a piece of Washington jade won as a door prize at a club meeting. First the slab was tumbled then wire wrapped.

Nifty Rockhound Bumper Sticker Slogans

Love a Geologist – Feel your earthquake

Love a Faceter – They're a cut above the rest

Love a Mineralogist – but don't take them for Granite

Love a Paleontologist – but be aware, they collect old, dead things.

I collect rocks too! – Diamonds, rubies, topaz, emeralds…

Amateur Paleontologist – Professional Rock Collector

Amateur Mineralogist – Professional Rock Collector

from Strata Gem, 11/05

Wulfenite by Dr. Raymond Grant.

Wulfenite can occur in a variety of colors from colorless to brown, yellow, orange, red, and rarely green, blue, or black. It is in the tetragonal crystal system and most often is found as square flat crystals or pyramidal crystals. It is lead molybdate in composition and found in galena deposits where oxidation of the galena by ground water has occurred.

Wulfenite was found in Arizona from the early days of mining. W.P. Blake in his Annotated Catalogue, 1866, lists wulfenite (molybdate of lead) in good crystals from an unnamed mine in the Weaver District (There were two Weaver Districts listed for the late 1800s, one by Rich Hill and one south of Quartzsite, that was probably the area where the wulfenite was found.) Blake in 1881 described wulfenite from Castle Dome District, Red Cloud Mine, Oakland Boys Claim, and other points in the Silver District. Benjamin Silliman also in 1881 described wulfenite crystals of rare beauty found in the Red Cloud Mine. By the early 1900s there were many wulfenite localities known in Arizona.

At present Randel Heath and I have a list of about 273 wulfenite localities for Arizona (Mindat.org has about 250 wulfenite localities listed for Arizona). We think that when we are done compiling all the data, it is possible there will be more than 300 localities.

Wulfenite has been found in every county in Arizona with the exception of Apache and Navajo Counties. The following is a list of Arizona counties with the number of wulfenite localities that we have for each: Coconino – 1, Cochise – 37, Gila – 24, Graham – 7, Greenlee – 3, La Paz – 28, Maricopa – 12, Mohave – 37, Pima – 42, Pinal – 31, Santa Cruz – 21, Yavapai – 12, and Yuma – 18.

Many of these localities are world famous (Red Cloud Mine, Glove Mine, Defiance Mine, Mammoth-St. Anthony Mine, Tombstone, Rowley Mine, Old Yuma Mine, and 79 Mine) and well known to collectors. Many of the others have produced only micro-crystals and some are not well documented and need further investigation.

Why does Arizona have so much wulfenite including the best in the world? There are several reasons for that. First, you need lead and molybdenum to make the chemical formula of lead molybdate ($PbMoO_4$). There are many lead deposits in Arizona and molybdenum is also fairly abundant. Second you need to have the right conditions for the formation of the wulfenite. This is complex and depends on ground water availability, acidity of the water, oxidation conditions, and other factors. Conditions over much of Arizona must have been good for the formation of wulfenite.

from The Rockhound Record, 5/17

Pyrope by Martin Novak

Pyrope are famously found in Four Corners, Arizona. That material is famous for having chromium in it and it has this bright, red color in it and I've sold it for a hundred dollars a carat. It's very hard to find anything cut or anything over a carat. They're really tiny things and they're also known as "anthill garnets," because the ants, like sunstone, will bring it up to the top of their anthills and Indians used to pick it up and sell it to the traders. The Apache Indians were even known to use it as gunshot because they believed they would inflict greater wounds on their enemies. Another classic source is Bohemia, which is where it's been mined for well over a thousand years. All of the Victorian jewelry you see is predominantly pyrope.

from Facets, 3/15

No Shows This Month

Common Baby, Love My Sapphire by Shawnie Leaf

Sapphire (which is the official birthstone for September) comes in a variety of different shades based on the chemicals that are present during formation. In its purest form, Sapphire is Corundum, which is used on the lens of your smartphone and is colorless. Add a bit of iron, and you'll get purple. Iron + Chromium will get you orange, and nix the iron; you'll get pink. Too much Chromium, and you'll get Ruby.

Titanium and Chromium net a pretty bluish color, Magnesium, Iron, and Gallium creates that iconic teal color found in Montana Sapphires, but that iconic bright blue color that Sapphire is known for comes from Aluminum and Oxide, which always reminds me of something.

Pop quiz time! What 1990's movie featured a giant, heart-shaped Sapphire? Trick question.

That iconic deep blue, heart-shaped hunk of rock featured in James Cameron's Titanic was made from Cubic Zirconia! (And modeled after the Hope diamond). However, just because Hollywood is full of look-alikes doesn't mean that the movie is entirely fictional.

Historical records show that the Titanic set sail with a Sapphire necklace, although not as prominent as the one featured in the film. Only a little more than an inch in length, the "The Love of the Sea" necklace was a wedding gift to Kate (whose name is also, coincidently, Kate in the movie) by her soon-to-be husband, Henry Morley.

Already married and with a 12-year-old child, Henry Morley had fallen madly in love with one of his employees and needed to escape to America to start a new life.

After selling several of his businesses for money (which he gave to his wife and kid), he secretly purchased the necklace as a wedding present and set sail on the Titanic with his beloved. According to interviews, Henry had draped the necklace lovingly around her neck moments before she was tossed into a very roomy lifeboat. And the rest?

Well, you know the story. It turns out that Kate was pregnant and gave birth to a daughter named Ellen, who sold the necklace to a private collector. Ellen died in 2012 and had her remains scattered into the sea so that she could finally rejoin her father.

Ellen was their "Heart of the Ocean," after all.

from Chips 'N Splinters, 9/22

Got Calcite, Why Calcite? by Mr. Phil Richardson

Calcite, as a mineral specimen, may arguably be the most sought after and collected mineral species. It could be speculated that specimens of calcite reside in every collection, and by the way, some collections consist only of calcite, with maybe a few auxiliary, accessory minerals. How so? Calcite is almost as common, abundant, and as ubiquitous as quartz, rivals and exceeds the many crystal forms of pyrite, and comes close to the bright, vivid colors of fluorite. All three of these other minerals highly sought after, heavily collected, and well represented in collections.

What is calcite? It is a carbonate of calcium, with the chemical formula $CaCO_3$, which crystallizes in the trigonal system. It has a low hardness of 3 on the Mohs scale and well developed rhombohedral cleavage; cleavage being the ability to split the crystalline material along three distinct planes creating blocky rhombohedrons, reflecting its threefold symmetry with each cleavage direction inclined at the same angle. Calcite's colors are spread across the wide rainbow spectrum, with the majority being clear, white, yellow, brown, or grey, and can be heavily influenced by other mineral inclusions and internal impurities. Calcite is found in virtually every geological environment and as a constituent in all three rock types; sedimentary, metamorphic, and igneous. As a collectible mineral, calcite does have three distinct drawbacks; its low hardness and vulnerability to surface scratching upon handling, its well developed cleavage if mishandled or dropped, and as a carbonate, its susceptibility to a strong reaction with many acids. Despite these drawbacks, its attributes of a great variety of distinct shapes and colors makes it highly coveted as an aesthetic displayable mineral.

from The Rockhound Record, 11/17

Researchers discovered a rare mineral that comes directly from Earth's lower mantle.

Researchers claim they have discovered a rare mineral that comes directly from Earth's lower mantle- the region between the planet's core and crust - in a new study published in Science.

The finding is a surprise because no one has or expects to retrieve such a high-pressure mineral on the Earth's surface after decades of searching.

However, thanks to a diamond- in which it was entrapped - the new mineral dubbed 'davemaoite,' managed to make the improbable voyage from at least 412 meters within the lower mantle. The discovery is a step forward in scientists' quest to model the evolution of the Earth's mantle in greater detail.

Davemaoite makes up mostly 5-7 percent of the material in Earth's lower mantle and is one of three significant minerals there. It is mostly composed of calcium silicate perovskite ($CaSiO_3$)- arguably the most important phase (geochemically) of Earth's lower mantle.

One reason for this is due to davemaoite's unique ability to scavenge radioactive isotopes of uranium, thorium, and potassium.

These isotopes generate a lot of heat in the lower portion of Earth's mantle, making davemaoite an essential player in managing how heat moves through the deep Earth. In turn, this aids in controlling how heat is transferred from the mantle to the crust to power processes like plate tectonics.

Never before has $CaSiO_3$ perovskite been observed in nature since it usually disintegrates when removed from its high pressure surroundings.

from Withlacoochee Rock Talk, 12/22