



Flatirons Facets

Flatirons Mineral Club of Boulder County, Colorado
Volume 67, Number 1
January-February 2024

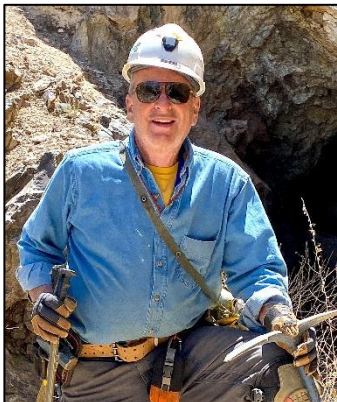


Kids Love Rocks! At this year's Rocks & Rails Show, Ron "Yam" Yamiolkoski shows kids how to sort magnetite sand and look for topaz crystals.

A review of this year's show starts on page 11. Photo credit: Brian Walko

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The Flatirons Mineral Club is a non-profit organization, which is dedicated to developing and maintaining interests in Earth science and associated hobbies. The purpose of this Club includes, but is not limited to, studying geology and Earth science, teaching others about our hobby, including young people, collecting gem, mineral and fossil specimens, and learning lapidary skills.

The Flatirons Mineral Club is affiliated with the Rocky Mountain Federation of Mineralogical Societies, the American Federation of Mineralogical Societies, and the Greater Denver Area Council of Gem and Mineral Societies.



President's Message

Rockhounding in the Winter

Cold temperatures, snow and short days limit even dedicated rockhounds from collecting. Here are some ideas to satisfy your rock, mineral, and fossil cravings. Now is a good time to evaluate your collection. Determine what specimens you would like to keep and which ones you can sell at our silent auction in April. Display your best specimens in a cabinet or cases. Be sure they are cataloged and labeled with name, chemical formula, and location found. This exercise will give you an idea of specimens that you may need. Then you can visit local earth sciences museums to view possible additions to your collection. Colorado School of Mines, Denver Museum of Nature and Science, and University of Colorado all have excellent displays. Take notes of the locations where your favorite specimens were found. It is possible the club may be taking a field trip to that location this summer.

You may also enjoy watching some YouTube videos on mining and mineral collecting. [Dan Hurd Prospecting](#) has many great educational videos. Some other YouTubers I follow are [Ask Jeff Williams](#), [Geology Hub](#), and [Mt Baker Mining and Metals](#). Jason, from Mt Baker Mining and Metals, has an excellent 11-part series on opening up an old gold mine in the North Cascade mountains of Washington.

Researching by reading books, mineral and fossil magazines, and geologic papers can fill the gap. These are available online or in your local library. Visiting some of the local rock and mineral shows being held this winter can be fun.

Of course, be sure to attend the monthly FMC meetings for some very interesting presentations!

Brian Walko, Club President

January 9th Club Meeting: Jamestown Uranium

Our speaker at our January 9th club meeting is our club President, Brian Walko, with a presentation on Jamestown, Uranium. Jamestown, Colorado and its surrounding mining district are primarily known for fluorspar, gold, and silver ores. But that's not all. Throughout the district are primary uranium occurrences and secondary uranium minerals in hydrothermal veins and granite pegmatites.

This presentation will cover radiation basics, types of uranium ores, occurrences, and how to safely prospect for uranium ores using Geiger counters, scintillators, and UV lights.





In addition to being the current president of Flatirons Mineral Club, Brian is a member of the Fluorescent Mineral Society (head of the Rocky Mountain Chapter), Colorado Mineral Society, and DREGS (Denver Region Exploration Geologists' Society).

We will also elect club officers and board members at this meeting. See below for information about serving as a club volunteer.

Club meetings begin at 7:00 pm in Barker Hall at Mountain View United Methodist Church, 355 Ponca

Place in Boulder. Park in the west parking lot, come through the main entrance of the church, and follow the signs down the stairs to Barker Hall.



February 13th Club Meeting: Mining Rhodochrosite at the Sweet Home Mine

Most of us have seen the beautiful rhodochrosite crystals from the Sweet Home Mine in Alma, Colorado. At our February meeting, we will see updated photos from the Detroit City Portal, a new entrance that hopes to discover additional pockets of Colorado's state mineral. Included in the program is a video showing how these specimens are recovered.

Rhodochrosite from the Sweet Home Mine in Colorado. Credit: Rob Lavinsky, licensed under the [Creative Commons Attribution-Share Alike 3.0 Unported](https://creativecommons.org/licenses/by-sa/3.0/)

Volunteer as a Club Officer or Board Director

Each year, the club elects club officers (who serve for one year) and Board directors (who serve for two years) to lead our club. All are members of the club Board, which meets six times a year by Zoom to plan and run our club's programs and activities, plus handle the administrative needs of the club. Below are the offices and a brief description of the responsibilities of each:

President: The President presides at all monthly club meetings and Board meetings, provides general supervision over the affairs of the club, and provides leadership to the other Officers.

First Vice President: The primary duty of the First Vice President shall be program chair, responsible for the speakers at monthly club meetings and other club programs.

Second Vice President: The primary duty of the Second Vice President shall be field trip chair, coordinating club field trips.

Third Vice President: The primary duty of the Third Vice President shall be the chair of our annual club show, Rocks & Rails in December.

Secretary: The Secretary is responsible for writing up and keeping the minutes of all Board and club meetings and shall perform all other duties needing the attention of this office.

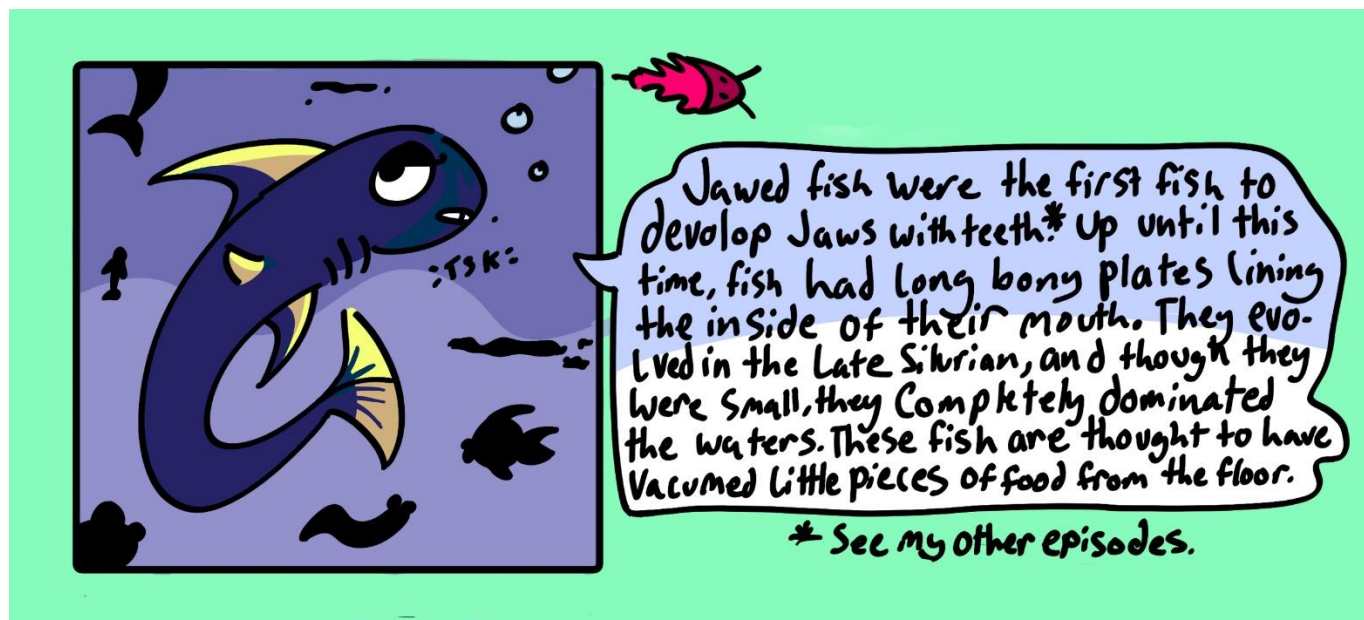
Treasurer: The Treasurer has custody of all Club funds, signs checks for the club, maintains the financial records of the club, and reports these at Board meetings.

Board Director: In addition to providing input to the club Board, Directors assume responsibilities for specific club needs. The club has six Board Directors, three elected each year for two years.

The election for our 2024 officers and directors will be at the monthly meeting on January 9th. If you would like to serve the club in one of these positions, contact Brian Walko at bwalko@earthextractions.com or 303-931-4283.

Fossil of the Month: Jawed Fish

Charlotte Small, age 15



Each month Charlotte provides an excerpt from her new comic *Grey's Prehistoric World*. If you like, you can read more of her comic on Webtoon.com, https://www.webtoons.com/en/canvas/greys-prehistoric-world/list?title_no=847316&webtoon-platform-redirect=true&page=1.

Member Name Tags

Would you like a Flatirons Mineral Club name tag to wear at club events and field trips? The club places orders for name tags several times a year for members.

If you would like a name tag, please log onto our website and choose the "Request a Name Tag" link in the Members Area. Add your name to the list as you want it to appear on your name tag, and it will be ordered for you. Your first name tag is free!



Example of a club name tag

Member Spotlight: Trick Runions

I first met Trick almost 20 years ago when our kids were in the Junior Geologists program together. On our field trips, the most enthusiastic “kid” out there was Trick! I have never met anyone with more energy and joy of discovery than this man. He loved being out in the field, eyes on the ground, especially if that ground might yield fossils. It is not too surprising, then, that he has managed to discover not one, but two new species of fossil invertebrates which now bear his name: a crab, *Zygastrocarcinus tricki*, and a horseshoe crab, *Vaderlimulus tricki*.

Trick grew up in the wilds of Northern Minnesota, on the north shore of Lake Superior. His mother was fond of fancy agates and taught her son how to look for them. This penchant for looking on the ground for interesting rocks has lasted a lifetime. Over time, “interesting rocks” began to include fossils of all kinds.



As an adult, Trick went to a rock show at the College of DuPage in Glen Ellyn, Illinois, and discovered the Earth Science Club of Northern Illinois (ESCONI). Northern Illinois is the home of the Mazon Creek fossil beds which have yielded a large array of beautifully preserved life forms from marine, freshwater, and land environments of 300 million years ago. The most exciting find from this site was the “Tully Monster” (*Tullimonstrum gregarium*), a soft-bodied animal which is now the state fossil. Trick joined ESCONI and was in seventh heaven on their many field trips.

But then, around 2000, he moved to Colorado. Nothing to cry about, though, as the west also has some great fossils. He joined FMC and WIPS (Western Interior Paleontological Society), and later the Ft. Collins Rockhounds Club, and was glad they had lots of field trips to offer. Over the years, he has been to at least a hundred different fossil sites, from Texas to Idaho, collecting countless specimens. On a WIPS trip to Baculite Mesa in Pueblo County, Colorado, he discovered a new species of fossil crab (75-80 million years old). Later, when vacationing in Idaho, he discovered tracks of a 250-million-year-old horseshoe crab. Following them, Trick was able to discover the owner. Again, it turned out to be a new species! Some may call it luck, but this man certainly has “the eye”. And, as Trick says, “It helps to be out in the field a LOT.”



Having a lot of energy is also a big asset for any fossil hunter, and Trick has plenty. He enjoys biking, snowboarding, camping, and playing soccer. He is especially proud of his basketball skills. Playing outdoors all summer and indoors all winter, Trick can score endless 3-pointers. But fossil hunting is still his greatest love, although he has become more particular about what he brings home these days. “I used to collect every single fossil I found, but now I like to leave most of them for the next person.” We appreciate it, Trick!

Trick holding the fossil crab he found, which is named *Zygastrocarcinus tricki* for him.

Jr. Geologists Activities

Meetings Moved to the Third Tuesday

Beginning this month, Jr. Geologists meetings will now be on the third Tuesday of each month. We will continue to meet at 6:30 pm at Mountain View United Methodist Church, 355 Ponca Place in Boulder. By moving our meetings to the third Tuesday, we can meet in Room 215, a much larger room than where we met this fall. Park in the west parking lot, come through the main entrance of the church, and follow the signs up the stairs.

November Meeting

At our November meeting, we prepared for December's Rocks & Rails Show by learning how to set up a display case and practiced the Rocks R Magic Show. Several of you put together nice displays for the show, and many of you enjoyed running the Rocks R Magic Show at Rocks & Rails.



Karen Simmons shows Maxwell and Kai examples of the three types of rocks. Credit: Dennis Gertenbach



Connel demonstrates special rock and mineral properties in the Rocks R Magic Show. Credit: Laurie Casson

Also at the meeting we learned about the three different types of rocks – igneous, sedimentary, and metamorphic – and examined examples of each. This completed some of the requirements for the Rocks and Minerals Badge. We took home specimens of each rock type to add to our collections.

January Meeting

Our next meeting is Tuesday, January 16th, where we will learn more about minerals, including how to identify them, completing requirements for the Rocks and Minerals Badge. The GeoExplorers will cover more advanced topics about minerals, learning how different minerals are classified by their chemistry. As always, we will present badges that have been earned and have specimens for you to take home.

Why I Like the Jr. Geologists

Emilyn Bubba, age 10

There are many fun things in the FMC Jr Geologist program, from field trips to events like shows and the club's silent auction.

My favorites are the auctions, because you can bid on getting cool new minerals.

Not just that, but you can also put up your own things, and when it is done you can use the money to spend on other rocks for your collection.

Next, field trips are also great. You can lead them or go on other people's trips. When I lead them, I feel happy from hearing the "wows," "Oooos," "awesome" and seeing people's smiles and what they have collected.

When I go on one, I like to spot cool things and scenery, to collect they types of rocks and minerals that are there, and to hang out with interesting people from the club.

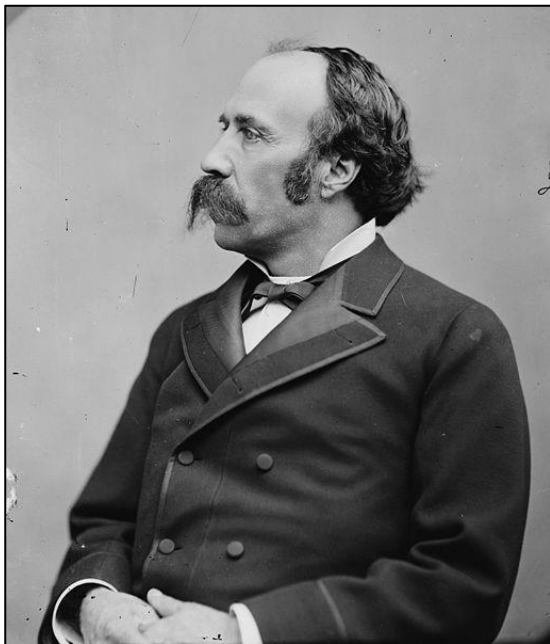
Last, I like the shows, like the Rocks & Rails Show. Those are fun for me because you get to see collections and rocks that you have probably never seen before.

Leadville's Tabor Trio: The Silver King, the Angel of Mercy, and Baby Doe

Jean Orr

From modest beginnings to power and riches, Horace A. W. Tabor and his two wives, Augusta Pierce Tabor and Elizabeth McCourt Doe Tabor, lived a real-life rag to riches, and back to rags for two of them fairytale. Aesop's fable of The Ant and the Grasshopper also comes to mind when considering the different styles of the two women. Their triumphs and woes kept society agog and newspapers in business for some time, and have inspired a movie, an opera (a fitting tribute, as you shall see), and a restaurant chain.

Born in 1830 in Vermont, Horace trained as a granite cutter and met Augusta Pierce in Augusta, Maine, while working as a supervisor of stone cutters in 1853. He fell in love with the proverbial boss's daughter, but they needed money to marry.



Horace Austin Warner Tabor between 1870 and 1880. Credit: Brady-Handy Photograph Collection, public domain.



Augusta Pierce Tabor, 1870. Credit: From History Colorado, public domain

As both were ardent abolitionists, he decided to go to Kansas to buy a farm and get established; he also worked as a stone mason at Fort Riley. The New England Emigrant Aid Company was facilitating potential settlers' move there to help John Brown fight slavery in Kansas. He fought in the Sacking of Lawrence in 1856 and was elected to the state legislature as a member of the Free Soil Party.

In 1857, he and Augusta married and settled in Zeandale, Kansas, where they had a son, Maxcy. Life was hard and lonely on the farm. Luckily for them, gold was soon found in Denver, then in Kansas Territory, and off they went via covered wagon with two milk cows. The journey took six weeks to cover the approximately 500 miles, so don't complain if you have to drive I-70 east in your comfy vehicle!

After a brief stay there to rest and resupply, they continued to Idaho Springs, where Horace filed a claim and started to learn the business. When they returned to Denver for the winter, his claim was jumped. He didn't pursue the matter and decided to go to South Park. After an arduous journey, including almost losing the wagon with its precious passengers in the Arkansas River crossing, they arrived in Cache Creek, now the town of Granite. Horace now learned gold panning, but he had little luck. After a few weeks, in May 1860, Abe Lee found gold about 20 miles upstream and named it California Gulch, because "I've just got California in this here pan!"

When they arrived, they made a grand total of nine people at California Gulch. The miners built a 18' by 24' cabin for the industrious Augusta, who began doing the camp cooking, sewing, washing, nursing of the ill, and taking in boarders. She was also postmistress. A stamp cost 75 cents, and the letter went to Denver on horseback.

The newspapers announced the find, and by September, the population had increased to between 5,000 and 10,000 (sources vary). Most people left for the winter, and the Tabors returned to Maine to restock and visit family. They returned the next year to what was now being called Oro City and opened a store. Colorado became a territory that year, and Oro City was the county seat of Lake County. After producing about three million dollars, (according to the website Inflation Calculator, worth \$111,206,385.54 today), the placer was depleted that summer of 1861, so in 1862, the Tabors moved to Laurette, later called Buckskin Joe.

There in South Park, Horace reprised his role as postmaster and spent time prospecting. Augusta ran the store, did the bookkeeping, took in boarders, and made herself so generally useful that the townspeople hailed her as an angel of mercy.

They returned to Oro City in 1868, after a massive silver strike at the Printer Boy Mine. Once again, Horace opened a store, this time with a bar and a poker table. He himself did well at poker. He had a reputation for honesty, always a plus in a card player, so prospectors would leave their valuables in his safe keeping when prospecting in the wilds, with the understanding that Horace could keep them if the miners didn't return. Augusta now ran a four-room hotel and worked hard at her usual endeavors. She was frugal, and the family prospered.

Placer mining there had always been hampered by heavy brown sand, "black cement", that clogged sluice boxes and pans. In 1874, it was realized that the substance was cerussite with high values of silver and tracing it to its bedrock source led to rich silver deposits.

Nearby, Slab City was founded in 1877, but the name was soon changed to Leadville, in honor of the cerussite, a lead carbonate. Horace was elected its first mayor, and he proceeded to crack down on crime, a huge problem in the



Tabor's general store, originally in Buckskin Joe, Colorado, now in the Buckskin Joe theme park near Cañon City, Colorado. Credit: Plazak, licensed under the [Creative Commons Attribution 3.0 Unported](#)

mining camps. Extremely civic minded, he established a fire department, paved streets, and arranged water services, often using his own funds for supplies. Always generous to those in need, when an enterprising man brought scarce butter and eggs to Leadville, Horace bought them and sold them for the price he'd paid. The seller, astounded, asked why, and Horace said folks hadn't had them in a while and deserved them.

To Augusta's undying disapproval, he often grubstaked miners in return for a third of their profits. He took a chance in 1878 on two German former cobblers, August Rische and George Hook. Doubting that two such greenhorns would have any luck, he told them to take what they needed and leave before he changed his mind, then turned to other tasks. In addition to their supplies, they grabbed a jug of whiskey while he wasn't looking, signed for about \$60 worth of supplies (about \$1,800 today), and wandered about a mile up the hill, until they were hot and tired. They decided to dig in the nearby shade until the whiskey was gone, and voilà! There was a vein of silver at the bottom of the hole, in a site which a later government survey said was the only silver in that vicinity. They named it the Little Pittsburgh Mine, and Horace in its first year received about \$2 million, worth over \$61 million today.

Horace began buying and selling mine interests with his profits and in 1879 bought the Matchless Mine. He became the richest man in an area that produced more than 300 tons of silver a year, and to thrifty Augusta's dismay, began spending heavily. In November 1879, he opened Leadville's Tabor Opera House, still standing on the main road through town. He built mansions in both Leadville and Denver, but Augusta was appalled at the spending and became something of a recluse. Horace continued his philanthropy and civic good works, and Denver's Tabor Grand Opera House opened in 1881.

Mines were turning out so much silver that the price started to fall, but the Bland-Allison Act of 1878 required the US government to buy 2-4 million ounces of silver each month, to be minted as silver dollars; the sponsors intended to back our currency with bimetallism, not just with gold. The Sherman Silver Purchase Act of 1890 further increased the amount of silver the government was required to buy. But what the government gives, it can take away...



Tabor Opera House in Leadville, Colorado.
Credit: Plazak, licensed under the [Creative Commons Attribution 3.0 Unported](#)



Horace had long held political ambitions, and his friends encouraged him. Over the years, he spent about \$200,000, about \$6 million today, pursuing office. He was elected Lieutenant Governor of Colorado and served, while Leadville's mayor, from 1878 until 1884. From a Colorado governor of the opposite political party, he wrangled an interim appointment to fill a resigning senator's remaining term from February 3 to March 3, 1883, a month to which he put ostentatious use, as will soon be explained.

Meanwhile, a blond, blue-eyed divorcée, whose mother had spared her from chores as she was "too pretty to work," Elizabeth Bonduel McCourt Doe had left her ne'er-do-well husband, Harvey Doe, behind in Central City to try her luck in booming Leadville. She may have met Horace, whose interests by now had diverged greatly from those of his wife, in the fall of 1879. "Baby Doe", as she was called by the admiring miners, was 24 years younger than Horace, and she enjoyed the good life, as did he.

Baby Doe Tabor, circa 1883. Credit: Webster, public domain

Divorce in those days was considered quite the scandal, but Horace got one, with even further scandal as to the way he got it. Augusta didn't want the divorce, but did get the Denver mansion and some money, after a hard, bitter fight. Horace and Lizzie were privately married in a civil ceremony in St. Louis in 1882. While a senator in Washington, D.C., he and Lizzie were married, as if for the first time, in a lavish ceremony attended by President Chester Arthur and other powerful men - but their wives all refused to come. The president was considered a very fashionable dresser, but Horace outshone him in splendor. The priest who had married them was a few days later horrified to learn he had married two divorced people; Horace didn't assuage his feelings by informing him the fancy wedding was just for show, as he'd been secretly wed six months previously.

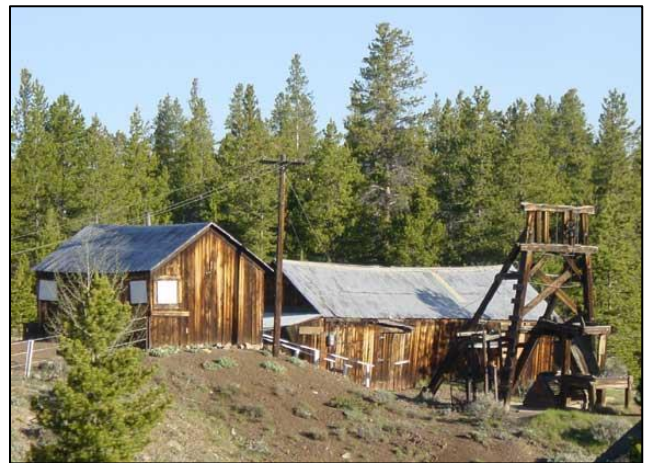
The happy couple returned to Denver and continued spending extravagantly. Denver society, especially the wives, largely snubbed them, but visiting dignitaries and celebrities were less choosy and were rewarded with lavish entertainment. William Jennings Bryan said of their second daughter that the baby's "voice has the ring of a silver dollar", so Rose Mary Echo Silver Dollar Tabor she became, "Silver" for short. (Unfortunately, she was murdered later in Chicago; her mother refused to acknowledge that and always claimed she had entered a convent. Her older sister, Elizabeth Bonduel Lilly Tabor, known as "Golden Eagle", fared better. She was considered a great beauty, as was her sister, and was featured in Harper's Weekly. Later she married and moved to Wisconsin, where she had three children.)

Life was great until the US government responded to the Panic of 1893 by repealing the Sherman Silver Purchase Act, and the value of silver crashed. Horace had always been lucky with investments and poker, but even those failed him now, and he was ruined. He went back to his fruitless prospecting at Cripple Creek and Boulder and spent the last of his money on a mine in Ward, to no avail. After his years of generosity and civic good deeds, his "friends" abandoned him. He finally got a job as Denver's postmaster but died soon after in 1899 of appendicitis.

Now the public remembered him fondly for all his good works, and he lay in state at the capitol building, followed by a long police-led procession to the church. It took two hours to arrive, with thousands of mourners clogging the street.

Confounding Augusta's dire predictions, Baby Doe had stood by him through the wrenching years of poverty. He had frequently told her to "hang on to the Matchless", so she did. She refused all offers of help or charity, moved into the overseer shack at the Matchless, and spent her next 36 years trying to get it up and running again. She was befriended there by the Unsinkable Molly Brown, whose husband had made his fortune in Leadville, and by Caroline Bancroft, granddaughter of a pioneer. A historian, Ms. Bancroft later wrote several sympathetic booklets about her. Neighbors looked out for her and noticed no chimney smoke after a March 1935 snowstorm. When they went to check on her, she was found frozen on the cabin floor.

As for Augusta, she had left Denver for Pasadena, due to health reasons. Still frugal and industrious, she had invested well in Singer sewing machines among others, and bequeathed their son Maxcy about a million dollars, worth over \$37 million today, when she died in 1895.



Matchless mine and Baby Doe Tabor cabin. Credit: Plazak, licensed under the [Creative Commons Attribution 3.0 Unported](#)

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Rocks & Rails – A Great Success

December's Rocks & Rails Show was one of our best ever, thanks to a year's worth of planning, preparation, a lot of volunteers on the show committee, and our colleagues from the Boulder Model Railroad Club. Many thanks to all of you who volunteered for setup/takedown, admissions, security, kid's area, Rocks R Magic Shows, and creating grab bags.

As a result of everybody's efforts, attendance during the three days of the show was about 3,600. The kid's games and grab bag sales added \$1,025 to our scholarship fund, which supports our annual college scholarship to a Colorado student seeking a geology-related degree. This was the most we have ever received from the kid's area.

Both our dealers and club members at the Artisan Table enjoyed brisk sales during the show. Once again, the selection of rocks, minerals, fossils, and jewelry was exceptional this year, and everyone could find nice additions to his or her collection.

This year we had 8 display cases by club members, including five Jr. Geologists. The public voted on their favorites, and the most vote getters were awarded first and second place ribbons. Thanks to everyone who put together a display case for the show. The displays are a highlight every year and show the public some of the spectacular specimens that adult and junior members have collected.

Award-winning Display Cases

Adults

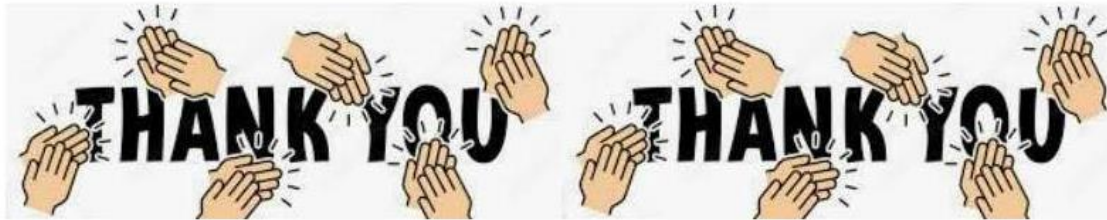
First Place: Adam Brucker
Second Place: Nancy Kimber

Juniors

First Place: Emilyn Bubb
Second Place: Jasmine Serandos

A special thank you to all who helped with the show; see the next page for all our volunteers. Following are photos from the show.

**The only place where Success comes before
Work...is in the Dictionary.**



volunteers for making our show a success.

Carol Oakes	Mary Maxwell	Robert & Neva Phillips	
Jessica & Jasmine Estes	John & May Bewley	Nancy Kimber	
Jacque Mahan	Aden Bicknell	Kelly Kim	Brian Walko
Clayt & Marsha Evans	Anna Elek, Ladislav, William & Maxwell		
Gerry Naugle	Amy Millard & Jaxsen	Kimberly Dill	
Julie Radu	Eli Minson & Maxwell	Kate D'italia & Levi	
Susan, Adam & Charlotte Small	Ron Yamiolkoski	Lucy Thies	
Andrew MacGregor	Dennis Gertenbach	Hazel Gordon	
Karen Simmons	Sharon Dooley	Don Rinner	Jasper Seldin
Jeffrey Peacock	Brad Willkomm	Susan Howard	
Arnie Scheer & Jody Adleman	David Stemler	Elliot Smith	
Jim Lyon	William Rehm	Anita Collin	Terry O'Donnell
Tally O'Donnell	Maryanne Himmelsbach	Herman Oehl	
Kevin Notheis	Tara & Daniel Bonvillian	Tony & Emi Bubb	
Debbie Stewart	Charlotte Bourg		

Photos from 2022 Rocks & Rails Show

Dealers



Kids' Area



More Photos from 2022 Rocks & Rails Show



Rocks R Magic Shows



And Even More Photos from 2022 Rocks & Rails Show

Display Cases



Photos provided by Brian Walko, Anita Colin, and Dennis Gertenbach

Great Specimens at the Towel Show

What wonderful specimens were displayed at this year's Towel Show, our annual show-and-tell, on November 14. Members brought minerals, fossils, and rocks they collected, plus lapidary projects they completed, over the past year. We voted on our favorites, and the winners were:

Senior Division

Best Club Field Trip – Andrew MacGregor
Best Personal Field Trip – Tally O'Donnell
Best Lapidary or Jewelry – Gary Meyer
Best Mineral – Will Rehm
Best Fossil – Elissa Adams
Best Ugly Rock – Doran Adams
Best Towel – Nancy Kimber

Junior Division

Best Club Field Trip – Emelyn Bubb
Best Personal Field Trip – Emelyn Bubb
Best Lapidary or Jewelry – Maxwell Elek
Best Mineral – Maxwell Elek
Best Fossil – William Elek
Best Ugly Rock – Emelyn Bubb
Best Towel – Emelyn Bubb

Plan to join us next November with your finds and lapidary work from 2024.

Photos from the Towel Show





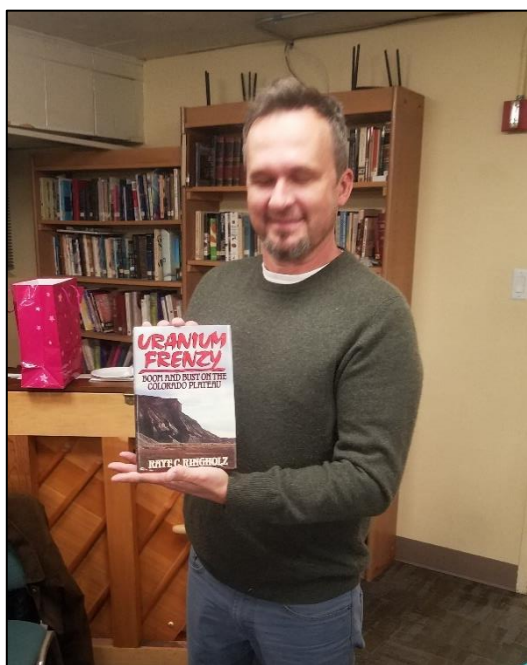
Photos provided by Brian Walko

Holiday Party and Gift Exchange

With the Rocks & Rails show over, it was time to relax at the club's annual holiday party on December 19. The gift exchange was great fun, and with all of the trading, you never knew what gift you would end up taking home. Plus, the holiday goodies were a treat.

Here are photos of the night's festivities.





Photos provided by Brian Walko and Dennis Gertenbach

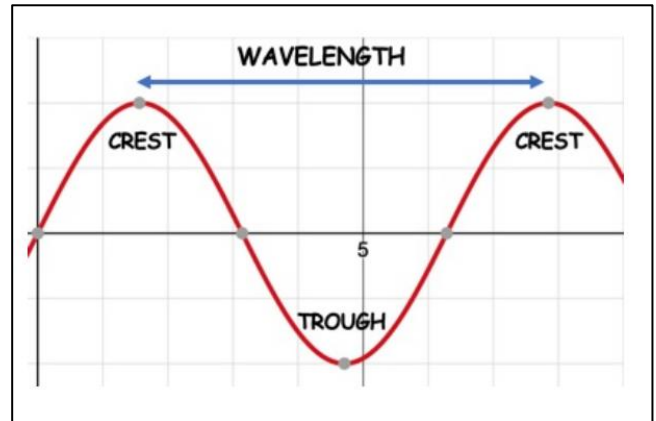
Safety: A Case of Black and White Light

Ellery Borow, AFMS Safety Chair

The universe is filled with energy. Its energy is all around us, all the time. It's also an energy mankind has utilized for doing amazing things. Our concern here is about the safe use of some of that black and white energy in the rock and mineral hobby.

But first, some background information:

Picture, if you will, ocean waves roiling on a beach. There is lots of energy there. The distance from one wave crest to the following wave crest is called a wavelength. Ocean wave crests can vary from a few inches to many yards in distance. The energy in those waves varies with the longer and shorter wavelengths. In the universe we have waves of a different nature, that of electromagnetic energy. The waves of energy there are named cosmic rays, gamma rays, x-rays, ultraviolet / visible / infrared rays, hertzian (radar and television) waves, and the very long waves of what we call our radio waves. The electromagnetic wavelengths just mentioned range from far, far, far smaller than the thickness of a sheet of paper to about half a mile long.



This spectrum of electromagnetic energy is used for studying the universe, medical imaging x-rays, lighting our homes, entertaining ourselves with television and radio, studying rocks and minerals. We use the ultraviolet light portion of the electromagnetic spectrum in our ultraviolet ("black light") mineral lamps. In the mineral hobby we further divide a portion of the spectrum into short ultraviolet (UV) waves and long ultraviolet waves – the short and long waves of our UV lamps.

Our star generates infra-red energy – heat energy. Waves shorter than those are visible light – allowing us to see the colors red, orange, yellow, green, blue, and purple/violet. The red waves are longer, the violet ones are shorter. Beyond the visible spectrum we have the shorter waves of the ultraviolet band. This is where the erythema rays, the sunburning rays, are found. Yes, our UV lamps can "sunburn" our skin, severely damage our eyes, and cause great harm if not used carefully. The area between the short and long UV rays is where the sunburning rays reside.

It used to be that UV lamps were expensive due to housings, special bulbs, tubes, and costly glass filters. The people who bought such lamps were careful to use them cautiously, safely. Now-a-days relatively low-cost light emitting diodes (LED) are proliferating. People are having a world of fun with UV lamps and may not realize all of the safety concerns with their use. That said, modern UV LED light designs vary greatly. Some designs may produce UV light in the danger zones. It is wise, therefore, to read the light's instructions and heed their requirements, so as to use the lights with an eye to being safe.

People are strongly urged not to look at the sun without proper eye protection. The sun is bright and emits UV energy. The same goes for UV lamps. While we cannot see this black light energy, the potential for damage is of great concern. The fact that we cannot see it means we may not know we are being exposed to the damaging rays.

Here are some tips to mind when using UV lamps:

- Keep the lamp from pointing at exposed skin and eyes.
- Keep the lamp's shades and guards in place.
- Be careful of reflected UV light. (Yes, light can reflect from the water and other reflective surfaces, including some minerals, and cause a sunburn UNDER the brim of our hats.)

- If the UV lamp is used in a display at a rock show, ensure the lamp's UV rays cannot be seen by patrons. (One may use a test rock to help with this evaluation.) Note, kids love to look up into the light to see what is up there.
- At a show's UV display, place some kind of wire cloth or wire mesh at the front of the display to keep people's hands away and assure people cannot move close enough to look up into the lights. Or perhaps place a clear acrylic barrier in front of the display to protect patrons. Where that may not be possible, offer UV protective glasses / face shields (which adds the complexity of sterilization of the eyewear between users).
- Also please consider posting a safety warning that the display has UV light in use. Be mindful of prolonged use of UV light – especially for volunteers in the UV display area. One will not receive a sunburn immediately upon exposure from a UV lamp; however, prolonged exposure is a problem. The closer to the light source, the greater the energy, and the greater the risk of skin and eye damage.

When in doubt about a UV lamp's risks, read and abide by its safety and use instructions. White or Black Light - Your Safety Matters.

Follow up: An LED UV lamp is a valuable teaching tool. In the mineral hobby there are a great many experiments, tests, games, learning experiences, and fun and fascinating things to do with UV lamps, and kids love the bright colors (and I do too).

Thanks to Susan, a Midwest Federation Club member, for suggesting the subject of this article.

Editor's Note: This article first appeared in the June 2023 issue of the A.F.M.S. Newsletter. Each month, the Safety Matters column in this newsletter emphasizes a safety issue for rockhounds. You can access these newsletters at <https://www.amfed.org/>.

North Table Mountain Field Trip

Dennis Gertenbach, field trip leader

We couldn't have asked for a nicer day for a field trip. October 21 was a day of sunshine and blue skies. Twenty club members joined folks from the Colorado Mineral Society for the hike to the South Quarry on North Table Mountain, outside of Golden.

Everyone found lots of zeolite minerals to take home, including analcime, thomsonite, and chabazite. Here are photos of club members enjoying the day.



On the trail to the zeolite quarry. Credit: Hana Elek



A large analcime crystal found on the trip. Credit: Dennis Gertenbach



Ellen exposing a pocket of zeolites.
Credit: Elliott Smith



Field trip leader Dennis Gertenbach pointing out the zeolite layer in the cliffs capping North Table Mountain. Credit: Hana Elek



Tony Bubb breaking open a larger boulder in search of that elusive pocket of crystals. Credit: Dennis Gertenbach



Lily with a nice pocket of zeolite crystals.
Credit: Dennis Gertenbach

Rocky Mountain Federation of Mineralogical Societies News

As are most clubs in Colorado, the Flatirons Mineral Club belongs to the Rocky Mountain Federation of Mineralogical Societies (RMFMS). Benefits to belonging to the RMFMS include participation in a number of annual contests, including the bulletin contest that many of our members have placed. The RMFMS also offers clubs liability insurance and a very reasonable rate.



The Rocky Mountain Federation is composed of a membership of approximately 9,000 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.

Clubs that belong to the RMFMS automatically belong to the American Federation of Mineralogical Societies, along with clubs in six other regional societies.

American Federation of Mineralogical Societies News

Each year, the American Federation of Mineralogical Societies (AFMS) holds a national show and convention hosted by one of the seven regional societies. In 2024, the show will be hosted by the Californian Federation of Mineralogical Societies and the Ventura Gem and Mineral Society. So, mark your calendar for May 24-26, 2024 to come to the Ventura County Fairgrounds for a great show with displays from around the country, dealers from California and beyond, and field trips before and after the show.



Would you like a subscription to Rock & Gem magazine? You can get a discounted rate, plus support the AFMS, by using the form on page 24.

Other Rockhounding Events and Activities in the Area

Here are other events and activities in the area that may be of interest. Thanks to Pete Modreski for providing information about many of these events.

- **January 22 (Monday)** at the **Denver Museum of Nature and Science** is a talk by **Lydia Tackett** of the University of Missouri about **Testing evolutionary theories of predator-prey interactions in deep time**. Talks are free and in-person-only, from 2-3 pm in the VIP Room. The VIP Room is on the 1st floor, next to the T-rex Cafe. Museum admission not required to attend. Enter through Staff/Volunteer entrance, 50' east of main visitor entrance, and let Security know you're attending the talk.
- **January 30 (Tuesday)** at the **Denver Museum of Nature and Science** is a talk by **Chris Griffin** of Yale University about **Climate change, development, and the origin of major vertebrate groups**. Talks are free and in-person-only, from 2-3 pm in the VIP Room. The VIP Room is on the 1st floor, next to the T-rex Cafe. Museum admission not required to attend. Enter through Staff/Volunteer entrance, 50' east of main visitor entrance, and let Security know you're attending the talk.

- **February 8-11 (Thursday-Sunday)** is the **Tucson Gem and Mineral Show** at the Tucson Convention Center. These are the dates of the original, "main" show, sponsored by the Tucson Gem and Mineral Society. Many other shows also take place in Tucson at multiple locations during the previous several weeks. For more information about the show, see <https://www.tgms.org/show>.
- **February 23-25 (Friday-Sunday)** is the **Denver Gem and Mineral Guild, Gem and Mineral Show** at the Jefferson County Fairgrounds, Exhibit Hall, 15200 W. 6th Avenue, Golden. Times are 10-5 on Friday and Saturday and 10-4 on Sunday. No admission charge. Dealers, club demonstrations, special exhibits, fluorescent display, door prizes, and more. See <https://denvergem.org/february-show/> for details.

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Denver Show Club Table

open

A friendly reminder to pay your 2024 annual dues

Dues are still only \$18 per individual and their immediate family. You can pay in two ways:

PAY Gerry Naugle, Treasurer and Membership Chair, at any FMC monthly meeting. Gerry is at or near the sign-in table when you enter the room for the monthly meetings.

SEND a check made to "Flatirons Mineral Club" or "FMC" to P.O. Box 3331, Boulder, CO, 80307. Please do not send cash in the mail.



Your 2024 dues must be received by January 20th, 2024 in order to stay current with the member benefits, which include electronic club newsletters containing the information about club activities, club field trips, annual show opportunities, silent auction opportunities, the annual club summer picnic, and access to the club website. Your receipt is your new annual 2024 FMC membership card.



Flatirons Facets
P.O. Box 3331
Boulder, CO 80307-3331

First Class Mail

Upcoming Events

Date	Event	Location
Tuesday, January 9, 7:00 pm	Club meeting with speaker Brian Walko talking about Jamestown Uranium, see page 2	Mountain View United Methodist Church, 355 Ponca Place in Boulder, Barker Hall
Tuesday, January 16, 6:30 pm	Jr. Geologists meeting about minerals with a special program for GeoExplorers, page 6	Mountain View United Methodist Church, 355 Ponca Place in Boulder, Room 215
Tuesday, February 13, 7:00 pm	Club meeting featuring Mining Rhodochrosite at the Sweet Home Mine, page 3	Mountain View United Methodist Church, 355 Ponca Place in Boulder, Barker Hall
Tuesday, February 20, 6:30 pm	Jr. Geologists meeting, page 6	Mountain View United Methodist Church, 355 Ponca Place in Boulder, Room 215