



# Lake George Gem & Mineral Club

July 2024

## ---Content---

- [About Us](#)
- [Club Officers](#)
- [To Join Our Club](#)
- [Look Forward to July Meeting](#)
- [Upcoming Events](#)
- [Upcoming Field Trips](#)
- [Meet Our Neighbors](#)
- [Mineral of the Month Quiz](#)
- [Interesting Reads](#)
- [Echoes of the Past: E. A. Yelton's Photographic Odyssey in Cripple Creek - article by Steven Wade Veatch](#)

## ---Contact Us---

### Postal Address:

Lake George Gem & Mineral Club  
PO Box 171  
Lake George, CO 80827

### Website:

[LGGMC website](#)  
[LGGMC on facebook](#)

### Meeting Location:

Lake George Charter School GYM  
[Map to Meeting Location](#)

## About Us

The Lake George Gem and Mineral Club is a group of people interested in rocks and minerals, fossils, geology and history of the Pikes Peak/South Park area, Indian artifacts, and the great outdoors. The Club's informational programs and field trips provide opportunities to learn about Earth Science, rocks and minerals, fossils, lapidary work, jewelry making, and to share information and experiences with other members. Guests are welcome to attend, to see what we are about!

The Club is geared primarily to amateur collectors and artisans, with programs of interest both to beginners and serious amateurs. The Club normally meets on the second Saturday of each month at the Lake George Charter School gym, located on the south side of US Highway 24 approaching the town of Lake George from Florissant. In the winter, we meet at 10:00AM. **From April through September, we meet at 9:00AM, to allow more time for our field trips.**

## Club Officers

2024 introduces a lot of new faces to our club management team. Following are the LGGMC Officers for 2024. Please reach out if you need any help.

President	Dave Bruess	<a href="mailto:david@bruess.me">david@bruess.me</a>
Vice President	Bart Zobel	<a href="mailto:bezobel@gmail.com">bezobel@gmail.com</a>
Secretary	Steve Kahler	<a href="mailto:pippophet@gmail.com">pippophet@gmail.com</a>
Treasurer	Cathy McLaughlin	<a href="mailto:cathy_mclaughlin@hotmail.com">cathy_mclaughlin@hotmail.com</a>
Newsletter Editor	Betty Bowles	<a href="mailto:bbowles2@gmail.com">bbowles2@gmail.com</a>
Field Trip Coordinator	Dave Alexander	<a href="mailto:dave@davealex.com">dave@davealex.com</a>
Show Coordinator	Carol Kinate	<a href="mailto:kinatec@aol.com">kinatec@aol.com</a>
Pebble Pups Coordinator	Betty Merchant	<a href="mailto:betty.merchant@yahoo.com">betty.merchant@yahoo.com</a>

### Club Officer Biography

This month, we would like to introduce you to our Field Trip Coordinator, Dave Alexander:

I have always been fond of digging holes, for some reason, but when I discovered there could be treasure on the other end I quickly got hooked! Back in the 2000's a neighbor showed me a beautiful smoky quartz from Devilshead he was gifted. Wait...Devilshead is just up the hill from me; buried treasures so close? I took some friends to where someone said we should park and we just wandered and dug big holes, finding nothing. Those friends have not gone with me again and luckily they do still

remain friends! On my second (solo) trip I saw some crystals come out, and not long after I was into my first (one of the best yet) quartz and feldspar crystal pockets.

To feed my addiction, I sought information and experience however I could get it. I read books, subscribed to magazines, scoured the internet, bought videos, all which were helpful but I needed experienced advice. Joining a club seemed like a great idea and I have learned tons of information about localities and techniques from experts this way! In the meantime, I started to summarize my experiences and learnings online through a blog I created, [davealex.com](http://davealex.com) and posting crystal videos on YouTube (@obliqrecordings). I received amazing positive feedback but the hands-on part was what folks still sought after so I offered to coordinate and lead field trips for the club 6 years ago.

It was then I learned that a club member's son was building a membership application for the club, the start of Tectonic Treks. Being a software architect/developer myself I jumped in and we visualized how an application could help manage field trips in a club our size. We would build features and then test them out with actual field trips, learn what worked well and what didn't, and then optimized and thought outside the box to create adjustments. This was exciting to me as I knew from prior volunteer work that volunteers are drawn to work that is directly related to the mission of the club and not to the clerical work; and the automations we were building took care of the boring, clerical work. I believe the software and updated processes will make it fun (and easy!! which is important) for future club member volunteers to coordinate, lead and publish field trips and I am proud of my involvement in this project!

I love to learn new techniques on prospecting and digging crystals, and I love to share what I've learned with others. The club is a great place to facilitate both needs! I do enjoy a good quartz pocket and also love to find fossils and other minerals and rocks. I'm starting to experiment with saws and lapidary equipment. Rockhounding is an amazing hobby as it is full of wonderful adventures, meeting interesting people and exploring the amazing state we live in!

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## To Join Our Club – ( Membership is officially closed for 2024 )

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Our organization is incorporated under Colorado law as a nonprofit educational organization, and is a member of the Colorado, Rocky Mountain, and American Federations of Mineralogical Societies. We gather monthly as a club to share information including guest speaker presentations, workshops, and rock specimen show and tell discussions. We coordinate and supervise amazing field trips for club members that cover a broad spectrum of geological, archeological, rock, and mineral interests. We also sponsor the annual Gem and Mineral Show at Lake George, where collectors and others may purchase or sell rocks, minerals, fossils, gems, or jewelry.

### Annual Membership

Current year membership application and/or renewal and application occurs only during **January 1-March 31**.

Membership is closed for the current year after this time and last years membership list will be purged April 1. Please note that all memberships must be current in order to participate on any field trip or to use any club claim.

### How to Apply

One may apply for membership in person at our monthly meetings, or visit our club website at <https://lqgmclub.org> to obtain a membership application, or go directly to [https://lqgmclub.org/LGGMc\\_Member24v.pdf](https://lqgmclub.org/LGGMc_Member24v.pdf) to download the application in PDF format. The application will need to be filled out and submitted to the club along with the appropriate membership dues. The mailing address to submit the application is provided in the [Error! Reference source not found.](#) section of this newsletter. Remember to get your application in before April 1, 2024!

### Annual Membership Fee

Annual membership dues are collected (Jan. 1 through Mar. 31). They are as follows:

LGGMc Annual Membership Dues 2024		
\$15.00	Individual	Age 18 and over
\$25.00	Family	Parents + kids under age 18

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## Look Forward to July Meeting ( July 13, 2024 @ 9 AM)

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### First, June Meeting Summary

At our June meeting, we took a look at some fine specimens collected by club members.

### Next, July Meeting: An Introduction to the Florissant Fossil Beds

At our July 13 Club meeting, Dr. Bob Carnein will introduce the Florissant fossil beds, followed by a field trip to collect fossils at the Florissant Fossil Quarry. Here is a brief introduction to the locality.

The Florissant fossil beds are part of a 200-foot-thick sequence of layered sedimentary rocks deposited during the Eocene Epoch (34 million years ago). The rocks are exposed in an elongate basin that extends from Evergreen Station to a point just west of Lake George, in Teller County, Colorado. The sediments are most famous for 2 “lake beds”, which include alternating layers of volcanic ash and “paper shales”, paper-thin layers made up of altered volcanic ash and diatoms (single-celled algae) arranged in couplets that are interpreted as annual layers (each couplet formed in one year). The paper shales make up only a small part (maybe 5 percent) of the lake beds, but most of the famous Florissant fossils occur in them. About 95 percent of the lake deposits consist of volcanic ash that was produced by explosive eruptions of the Guffy composite volcano, about 15 miles to the southwest.

Besides the two lake-bed units, the Florissant Formation includes stream-channel and floodplain deposits, lahars (volcanic mudflows), and layers of volcanic ash and breccia that cap the sequence and probably eventually buried the lake. Most of the 1700+ species of fossil plants, insects, spiders, snails, bivalves (clams), and vertebrates for which Florissant is world-renowned occur in the 2 lake sequences. Scientists attribute the superb preservation of these fossils to deposition in a stratified lake, in which a boundary layer separated the oxygenated surface water from an anoxic, poisonous lake bottom, in which

fragile organic material accumulated, along with fine sediments undisturbed by living organisms and by chemical decay that would normally break down the organic material on a lake floor.

Another crucial factor in the preservation of the fossils was the presence of 3 lahars in the Florissant Formation. The first, exposed in the Evergreen Station area, dammed a south-flowing stream to form the first (lower) Florissant Lake. The second buried the trees now preserved as the famous stumps of the Florissant Fossil Beds National Monument. This lahar also re-dammed the stream, forming the second Florissant Lake. The third (forming what is known as the “caprock conglomerate”) flowed into the second lake, burying everything beneath in what became a tough cap that has protected the fragile fossiliferous paper shales from erosion for over 34 million years.

We will visit the lower of the 2 lake beds at the Florissant Fossil Quarry, owned by the Clare family, who are long-time Florissant residents. You will be shown which rocks are most likely to contain fossils and which are not. Tools will be provided for splitting the shales. Last year, participants found several excellent fossil insects, and complete fossil leaves are relatively common.

This is an easy field trip that can be enjoyed by all, whether 10 or 80 years old. Although it is not strenuous, bring plenty of water (it’s July!). The paper shale containing the fossils is very fragile, so bring a roll of toilet paper and a roll of paper towels for wrapping and a cardboard flat to transport your finds to your car and home.

Please note that the Florissant Fossil Quarry is a fee site. The cost is \$15 per person, and a separate area will be set aside for Club members to collect in the quarry. This fee is lower than that charged for the “general” public, and although the fee covers one hour of collecting, the proprietors normally allow Club members to stay a little longer than one hour.

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## Upcoming Events

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### Johnstown Meteorite

(July 6, 2024)

Roosevelt High School, 3349 Roosevelt Pkwy, Roosevelt High School, Johnstown, CO

This year, 2024, marks the centennial year of the Johnstown Meteorite landing just outside town, and quite literally shaking things up as it made its magnificent entrance. There is a parade on June 1, in Johnstown where you will be able to see the meteorite in the parade. The meteorite is normally kept on display in the Denver Museum of Nature and Science. The "I Landed in Johnstown Centennial Celebration" is on July 6 where celebration include a memorial dedication, art show, rock and gem show, drone show, and a presentation from scientists and an astronaut.

### Florissant Heritage Day Festival

(July 27, 2024)

Florissant, CO

The town of Florissant, in Teller County, has a rich and varied history – from the native Ute people who called the area home, to the early mountain men who traversed the area seeking furs for trade, to the pioneers who left their mark by building homes and establishing a town. Every year, the town of Florissant celebrates this legacy with the annual Heritage Day celebration.

### 24<sup>th</sup> Annual Lake George Gem & Mineral Show

(Aug 16 - 18, 2024)

37380 US Hwy 24 (Field next to Post Office) **Lake George**, CO

30+ Vendors - Local Specimens, Rocks, Minerals, Fossils, Gems, Beads, Jewelry, Lapidary and More! FREE ADMISSION & PARKING

### Southern Colorado Rock & Mineral Show

(Aug 30-Sep 1, 2024) [Note rescheduled dates!!](#)

COS Convention Center, 3960 Palmer Park Rd COS, CO

Demonstrations, vendors, presentations, rock auction, live music, beer garden, kids' activities, supply sales, geology clubs, door prizes, food, gold mining tips, & much more!

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## Upcoming Field Trips

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Field Trips in July	
7/6/2024	Smoky Hawk Mine
7/13/2024	Florissant Fossil Quarry - pay dig
7/13/2024	Gold City Claim Fluorescent Minerals (day)
7/13/2024	Gold City Claim Fluorescent Minerals (night)
7/20/2024	Rocky Mountain High Claim
<b>Field Trips available at the July 6<sup>th</sup> Meeting (so far)</b>	
8/24/2024	Mount Antero Gem Fields
08/24/2024	Wigwam District club claims

You can check out all the details for each of these trips on our event website [FieldTrips.LGGMClub.org](http://FieldTrips.LGGMClub.org). Each event has an "availability date" shown in the trip details (see the button at the top-right), this is when that trip will be available for website registration, typically the following Wednesday after the club meeting where early sign-up is available. Note that website registration starts at 12:00 am Mountain time on the date listed.

### Feedback and field trip sign-up tips

A few reminders based on feedback from members and field trips thus far:

When signing up for an event, ensure you add this commitment to your personal calendar. TIP: There is a "Add To Calendar" button available on each trip to make this easy for you.

Review the route to the meeting place within the event in the days PRIOR to the trip. This will give you an idea of travel time and please add enough contingency time in case of unexpected road construction or traffic. Field Trip leaders will leave on-time. TIP: There is a Google Maps at the bottom of every field trip event page that you can use in your planning, and for navigation on the day-of the event! Try it!

As always, if you no longer can join us on the trip, please unregister yourself ASAP as most trips have eager waitlists!

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## Meet Our Neighbors

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Here is a list of nearby gem, mineral, fossil, and geology club meetings that you may enjoy. Go to each club's website for more information.

### Cañon City Geology Club

Meets on the 2<sup>nd</sup> Monday of the month at 6PM at United Methodist Church, Cañon City.

### Pueblo Rockhounds

Meets on the 3<sup>rd</sup> Thursday of each month at 6:30PM at Westminster Presb. Church, 10 University Circle, Pueblo

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### Columbine Gem & Mineral Society

Meets on the 2<sup>nd</sup> Thursday of each month, 6:30PM at meeting room, Mt. Shavano Manor, 525 W. 16<sup>th</sup>, Salida

### Colorado Springs Mineralogical Society

Meets on the 3<sup>rd</sup> Thursday of each month at 7PM Colorado Springs Christian School, 4855 Mallow Rd, Colorado Springs.

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## Mineral of the Month Quiz - Bob Carnein

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Fig. 1



Fig. 2



Fig.3



Fig. 4

### Monthly Mineral for July, 2024

#### (Carnein photos and collection)

Central Colorado produces some of the world's finest specimens of this month's mineral, so you should recognize it immediately. The example in Fig. 1, consisting of crystals attached to smoky quartz, is representative. Physical properties include H of 5 to 5 ½, SG of about 4.3, and a yellowish-brown streak. The luster is not helpful, varying from earthy to metallic and occasionally adamantine. Orthorhombic crystals are rare; botryoidal or colloform aggregates (like Fig. 2 and Fig. 3 photos) and pseudomorphous replacements of other minerals are more common. You may have collected this month's mineral in the pegmatites of Park and Teller counties, but there are innumerable occurrences in Colorado and world-wide. Can you name this very common mineral?

### Last Month's Mineral: Covellite, CuS

Last month's mineral is a minor ore of copper, found below the water table in the zone of secondary (supergene) enrichment (where copper leached from above is redeposited under anoxic conditions). Crystals are rare and occur as hexagonal plates. More commonly, covellite occurs as iridescent coatings on other copper minerals, such as chalcopyrite and bornite. Some of the finest specimens come from Colorado (e.g. Summitville; specimen in Fig. 4) and Montana (e.g. Butte). Physical properties help with identification and include perfect micaceous cleavage; flexibility; H of 1.5-2; SG of about 4.7; and blue color with iridescence. Although collectors love it for its beautiful color, the very low hardness prevents its use in jewelry.

## Interesting Reads

In this section, we provide some fun rock, mineral, and geology news and information to enjoy from several of our favorite magazines.

### From Rock Seeker

Did you know that rock tumbling isn't just a thing we do here on Earth in our garages or sheds? It's actually happening right now in outer space as well. Micrometeorites and cosmic dust are constantly colliding with asteroids, which gradually wears down and smooths their surfaces over millions of years. This natural "tumbling" process can create surprisingly polished surfaces on these rocks that are hurling through space. As a matter of fact, many of the meteorites that have fallen to Earth have gone through this cosmic polishing, making them the ultimate polished stone!

Here's what's in today's newsletter:

- ***In The Spotlight*** - Tumbling 101
- ***Tip of The Day*** - What to do with all that grit?
- ***Video of The Day*** - Cutting lightning stones
- ***Quiz of The Day*** - Tumbling and a review question
- ***Picture of The Day*** - It looks cold, but I'm still going in!

#### IN THE SPOTLIGHT

[\*\*Rock Tumbling 101: A Beginner's Guide to Polishing Stones to Perfection\*\*](#)



Rock tumbling has been around forever. Ok, maybe not forever, but for a very, very long time...essentially since the beginning of civilization. Of course it's evolved over that time, as have many

aspects of lapidary, but it's still about taking ordinary stones and finding the beauty that's hidden just beneath the surface.

For me, rock tumbling is more than just a hobby; it's my happy place. There's something incredibly soothing about the steady hum of the tumblers. And of course the thrill of seeing rough stones transformed into polished, and the pure joy of holding that final, polished piece in my hand, is an experience that never gets old. It's a little bit of magic in every tumble.

[\*\*Read The Guide\*\*](#)

#### TIP OF THE DAY

##### **What To Do With Used Rock Tumbler Slurry?**

Never pour rock tumbler slurry down the sink drain. The fine grit and rock particles can settle and harden, into a concrete like substance and create serious clogs in your plumbing. Instead, pour it out in your gravel driveway or even in your yard. Don't have a yard or gravel driveway? [\*\*Check out these other tips on how to dispose of tumbler slurry.\*\*](#)

#### VIDEO OF THE DAY

If you love septarian nodules (lightning stones) and you also enjoy watching rocks being cut open, then this video is a must. Join Tayler, from Agate Dad, for an exciting day of cutting open rocks to see what's hidden inside. In this episode, he's tackling lightning stones and shares his simple technique in case you want to start cutting open your own.

[\*\*Cutting Open Lightning Stones \(Septarian Nodules\) To See What's Inside!\*\*](#)



[Agate Dad/YouTube](#)

### What Are Septarian Nodules?

Septarian nodules are fascinating, naturally occurring geological formations that are highly prized by collectors for their unique appearance and composition. These nodules, or "septaria" (from the Latin word "septum" meaning partition), are typically round or oval-shaped stones that have a cracked interior filled with minerals like calcite and aragonite, which form beautiful, angular cavities or "septae."

Septarian nodules originated as mud balls that dried and cracked as they shrank. Over millennia, these cracks were filled by percolating mineral-rich liquids that precipitated to form the crystalline structures seen in the cavities. The most common minerals filling these cavities are yellow calcite, which forms the bright, eye-catching centers, and brown aragonite, which usually forms the outer layer. Other minerals like quartz or pyrite may also be present, adding to the nodule's aesthetic and scientific interest.

The external shell of septarian nodules is typically composed of a grey limestone or bentonite clay, which provides a stark contrast to the vividly patterned and colored interior. The combination of these elements makes each nodule uniquely picturesque.

[Learn More About Septarian Nodules](#)

### QUIZ OF THE DAY

1. Which of the following is not a recommended type of rock for tumbling?

- A) Jasper
- B) Agate
- C) Soapstone
- D) Chalcedony

[Check Your Answer](#)

2. In yesterday's newsletter we talked about "asterism" and star sapphires. What are the inclusion that creates the asterism effect in star sapphires?

- A. Hematite
- B. Rutile
- C. Calcite
- D. Pyrite

[Check Your Answer](#)

### PICTURE OF THE DAY

Lake Superior on a calm day. 🥰 Looks cold, but that won't stop me!



Sovereign Photography/IG

Good morning!

Did you know that fluorite was one of the first materials in which the fluorescence was recognized and studied? As a matter of fact, the term 'fluorescence' actually comes from the name 'fluorite'!

#### VIDEO OF THE DAY

##### [Rockhounding For Fluorite Crystals Near Illinois' Cave In Rock](#)



Tag along with [Rockhounding Midmo](#) as she explores a rock quarry in Southern Illinois' Cave in Rock area. This part of the country has produced some of the world's most beautiful fluorite specimens, and it's easy to see how that's possible after seeing some of these specimens.

#### QUIZ OF THE DAY

**Question:** Hydrofluoric acid is produced from fluorite. Do you know what it's primary use is?

1. Jewelry making
2. Glass etching
3. Fertilizer production
4. Cement manufacturing
5. Refrigerants

[Check Your Answer](#)

#### IN THE SPOTLIGHT

##### [Exploring Fluorite: Nature's Multicolored Masterpiece](#)



Fluorite is a fascinating mineral, famous for its diverse range of colors, remarkable crystal forms and its ability to fluoresce under ultraviolet light. It's one of the most varied and colorful minerals in the world, displaying hues of purple, green, blue, yellow, and even colorless specimens. This array of colors can be attributed to the impurities and structural imperfections within the crystal lattice.

One of the most intriguing properties of fluorite is its fluorescence under ultraviolet (UV) light. This phenomenon, which gave the mineral its name, occurs when fluorite absorbs UV light and re-emits it as visible light, often in vivid blue or violet hues. This property makes fluorite not only a subject of interest for collectors but also a useful tool in various industrial applications.

**Classification:** Halide mineral

**Chemical Composition:**  $\text{CaF}_2$  (calcium fluoride)

**Color:** Extremely varied—colorless, blue, green, purple, yellow, among others, often very vibrant

**Streak:** White

**Hardness:** 4 on the Mohs scale

**Cleavage:** Perfect in four directions forming octahedrons

**Fracture:** Subconchoidal

**Luster:** Vitreous

**Transparency:** Transparent to translucent

**Crystal System:** Isometric

**Formation and Geology:** Fluorite typically crystallizes in hydrothermal veins, often associated with metallic minerals. It can also occur in granitic pegmatites and in sedimentary rocks as a cementing agent. Its formation often results in well-formed cubic crystals, sometimes occurring in dendritic or massive forms. Fluorite's vibrant colors are generally due to various



impurities and can also display fluorescence under ultraviolet light, which is a property that gets its name from this mineral.

**Physical Properties:** Fluorite is renowned for its striking array of colors and its ability to fluoresce under ultraviolet light—a phenomenon of glowing in vibrant colors. It is also known for its high level of clarity in some specimens, making it a favorite among collectors.

**Identification Tips:**

- **Color and Form:** Look for the characteristic cubic crystals along with a vibrant array of colors.
- **Cleavage:** Fluorite's four directions of perfect cleavage often lead to octahedral fragments.
- **Hardness:** Relatively soft, it can be scratched by a knife or other materials with a hardness greater than 4.
- **Fluorescence:** Under UV light, many specimens of fluorite exhibit strong fluorescence.

**Locations:** Notable deposits are found in China, Mexico, Mongolia, South Africa, Spain, and the United Kingdom. In the United States, Illinois is famous for its deposits of fluorite, historically known as the "fluorspar capital of the world."

**Uses and Significance:** Fluorite is used industrially to produce hydrofluoric acid, which is a precursor to numerous other fluorine compounds. It is also used in the manufacture of glass, ceramics, and enamels. Beyond its industrial uses, fluorite is prized in the gemstone market for its clarity and vibrant colors, and it is popular among collectors due to its well-formed crystals.

[Learn more about fluorite](#)

**TIP OF THE DAY**

**Safety Reminder-Some Stones Are More Toxic Than Others**

While you should always have a mask on when working with stones, it's important to remember that some are more toxic than others. Some of the most beautiful stones out there can be a major health hazard if you don't handle them properly.

Malachite is a good example. The copper compounds that give it such a lovely green are also readily absorbed into the body. If you're not careful and ingest too much of it, you can likely end up with serious gastrointestinal symptoms.

Another good example is [Bumblebee Jasper](#). This stone is primarily [calcite](#), but it can also contain realgar. Realgar is an arsenic compound, and while it's fine to touch, you shouldn't ingest it. Thus it makes sense to wear gloves when working with it.

The best way to stay safe is to know what your stone is made of, wear extra PPE when appropriate, and being sure to clean up any mud left behind by toxic stones immediately after finishing your project.

[You can read more about potentially toxic stones here.](#)

**GEOLOGY FACTS**

**The Giant's Causeway, Northern Ireland**



The Giant's Causeway, located on the rugged northeastern coast of Northern Ireland, is an iconic geological phenomenon steeped in myth and natural beauty.

Legend has it that the causeway was the handiwork of the Irish giant Finn McCool, who built it to reach Scotland and challenge his rival.

Geologically, however, the The Giant's Causeway is the result of rapidly cooling lava that contracted and cracked into the mostly hexagonal columns it's famous for. This cooling process, coupled with the erosive action of the Atlantic Ocean, has sculpted the columns that range in different heights and provide a stair-like path from the foot of the cliff and disappear under the waves of the ocean.

## PICTURE OF THE DAY

Below is an incredible 2kg "Alien Eye" fluorite specimen from the famous "Alien Eye" Pocket in the Erongo Mtns, Namibia. Looking at this, it's easy to see how this type of fluorite got its name!



image: [thecarlsoncollection](#)

Saturday June 15, 2024

## IN THE SPOTLIGHT

### [The Beauty of Opals and Their Many Different Types](#)



Opals are famous for their unique beauty and variety, with each type known for its specific characteristics and color. In this article, we're jumping into the diverse varieties of opals and what makes each type unique.

## GEOLOGY FACTS

### Kansas Pop Rocks



Alex Allen [@earthlysecrets](#)

Kansas Pop Rocks, more formally known as Boji Stones, are intriguing, naturally occurring concretions found in the state of Kansas, USA. These spherical stones are typically composed of pyrite or marcasite (iron sulfide) encased in a shell of hard shale. The stones are found in the regions around the Blue Hills in southwestern Kansas and are often characterized by a rough exterior and a metallic-like core.

What sets these stones apart is their ability to produce sparks when struck against metal or each other, a feature that led to their nickname "Pop Rocks." This sparking is due to their iron sulfide content, which is flammable when struck sharply.

### Geological Formation



[@thecrystalinn](#)

Kansas Pop Rocks are a type of concretion, which is common in sedimentary rock formations. Concretions are hard, compact masses formed by the precipitation of mineral cement within the spaces between sediment grains. This process can begin around any small nucleus within the sediment, such as an organic particle, a shell fragment, or even a fossil.

In the case of Kansas Pop Rocks, the core is often composed of pyrite or marcasite (both forms of iron sulfide). These minerals precipitate from iron-rich water under certain geochemical conditions, typically in environments where organic-rich clays and shales are present. Over time, as the sedimentary layers are buried and compacted, these minerals continue to precipitate and grow, eventually forming a hard, spherical mass.



[@soulscapecrystalcave](#)

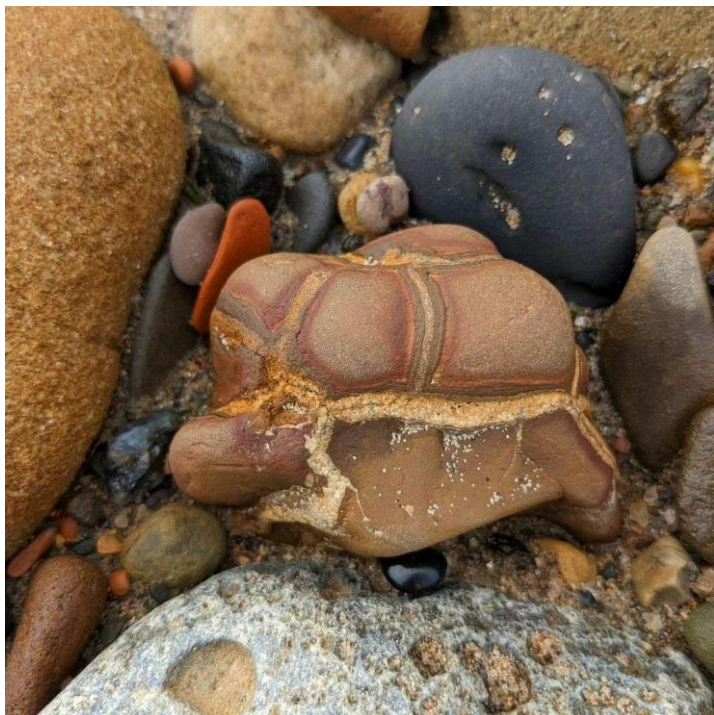
The surrounding shell of these stones is usually made of harder, more resistant material such as shale or harder sedimentary rock, which protects the inner core and gives the stone its overall durability. The iron sulfides in the core are what give them their ability to spark when struck.

This process of concretion is strongly influenced by the local conditions of the sedimentary environment, including the chemistry of the water, the type of sediments, and the organic content. These factors help determine the size, shape, and composition of the concretions, making each stone unique. The formation of these stones is an excellent example of the complex interactions within sedimentary environments and highlights the diversity of natural processes that can occur in these settings.

[Learn more about concretions and the geology behind these geological formations.](#)

## PICTURE OF THE DAY

A funny looking knobly septarian nodule from Saltburn beach, UK collected by my friend [PebbleFingers](#).



Good morning!

For a lot of us, finding and collecting rocks is just the beginning. The big question is, "Now, what to do with all these rocks?"

Sticking them in a rock tumbler for a year straight probably isn't the first thing that comes to mind. But if you're like me, you'd love to see it done so you can see what happens!

If you're curious how an experiment like that would end, you'll enjoy today's first story.

## VIDEO OF THE DAY

Imaging running your rock tumbler non-stop for an entire year. That's exactly what Rob from Michigan Rocks decided to do in this year long rock tumbling experiment. The results? Well, lets just say they weren't quite what I was expecting!

[Tumbling Rocks Non-Stop For an Entire Year!](#)



## WHAT'S THIS ROCK?

This is a striking red mineral, primarily composed of mercury sulfide (HgS), and is the most common ore of mercury. It is renowned for its vibrant, deep red color, which has historically made it a popular pigment for artists and in various cultural applications. Be careful though! It's a hazardous material due to its mercury.

[Think you know what it is? Find out here!](#)



## Identification Tips

- **Color and Streak:** Look for the distinctive bright red to brownish-red color and a matching red streak.
- **Hardness:** This mineral is soft and can be easily scratched by a fingernail or a copper coin.
- **Cleavage and Fracture:** Exhibits perfect cleavage in one direction and typically has an uneven to subconchoidal fracture.
- **Luster:** The luster can vary from adamantine (diamond-like) in crystalline forms to dull in massive forms.

## IN THE SPOTLIGHT

### [7 Places You Can Find Used Lapidary Equipment](#)

I think we can all agree that the price of everything is up. Gas, groceries, utilities. Name it, it's expensive. Lapidary tools and equipment are no exception. I can't help but take a second look at some of the prices on new tools these days! If you haven't looked...they're not cheap!

The good news is, you don't have to buy new. There's plenty of used equipment out there. You just have to know where to look.

### [7 Places You Can Find Used Lapidary Equipment](#)

Tools are an investment. Even if found used, if you take care of them they'll pay for themselves many times over and work reliably for years into the future.

The fact is however, not everyone can plop down \$700 for a trim saw, or \$150 for a rock tumbler, myself included.

But that doesn't mean we still can't get our hands on some really decent, high quality equipment at a fraction of the cost of brand new ones.

If you're brand new or just getting started and wondering what kind of tools you even need, you can read our guide: [Basic Lapidary Tools For Beginners](#)

## GEOLOGY FACTS

Did you know that some sand dunes can "sing"? This phenomenon, known as "singing sand" or "booming dunes," occurs when the sand grains slide over each other and produce a resonant sound, often described as a low hum, boom, or even a roar. The sound can be loud enough to be heard kilometers away!

[Listen to what the singing sand dunes sound like!](#)

## PICTURE OF THE DAY

I can't ever get enough of the Mexican agates. This one is a Mexican Laguna Agate. And as if the banding isn't enough, it's got a yummy quartz crystal center. Beautiful!



agates\_for\_everyone/IG

## WHAT'S THIS ROCK?

This is a stunning variety of natural volcanic glass that's sometimes referred to as a mineraloid, and this specific variety exhibits brilliant, iridescent colors when viewed under the right light and angle. It's found mostly in Oregon around the Glass Buttes region. And oh yeah, out of all the different varieties of this "stone", this is the most valuable.

[Do you know what it is? Find out here!](#)



David Lineberger/IG

## IN THE SPOTLIGHT

[Fordite: The Accidental Gemstone from the Automotive Industry](#)



Fordite, also known as Detroit Agate or Motor Agate, isn't your typical gemstone. Born from the heyday of American car

manufacturing, Fordite is a unique byproduct of the auto industry's colorful past. But what exactly is Fordite, and how did it come to be?

During the mid-20th century, Detroit's car factories churned out vehicles with gleaming, hand-sprayed enamel paint. As layer upon layer of vibrant paint was applied to cars, the excess paint overspray would accumulate in the booths and baking ovens. Over time, these layers would harden and become what we now treasure as Fordite. Each slice of Fordite reveals a stunning cross-section of colors, akin to the mesmerizing patterns of natural agate.

What makes Fordite so captivating is not just its striking appearance but its historical significance. These multi-colored layers are snapshots of an era when American craftsmanship and automotive innovation were at their peak. Owning a piece of Fordite is like holding a piece of that history in your hand.

This recycled gemstone has found its way into the hearts of jewelry makers and collectors alike. From bold rings to intricate pendants, Fordite's kaleidoscopic beauty offers endless creative possibilities. And with no new Fordite being produced today, each piece becomes a rare and cherished relic of the past.

[Curious to see more Fordite?](#)

## FUN FACT OF THE DAY

### The Hidden Colors of Agates

Some agates have a hidden secret. When they form in volcanic rocks, they can sometimes contain microscopic water-filled cavities. These tiny pockets sometimes hold vibrant, rainbow-like colors that aren't visible until the stone is sliced open and polished. This phenomenon is known as "iris agate," and it creates a stunning optical effect where light passing through the stone is refracted into a spectrum of colors, much like a prism.

[See examples of Iris Agate](#)

## GEOLOGY FACTS

### The Story in Every Layer

Metamorphic rocks often have fascinating layers or bands, known as foliation. These layers tell the story of their formation, recording the conditions and movements deep within the Earth.

For example, [gneiss displays striking banding patterns](#) due to the alignment of minerals under extreme pressure. Each layer is a chapter in the rock's history, just waiting to be read.

[Learn more about metamorphic rocks!](#)

## TIP OF THE DAY

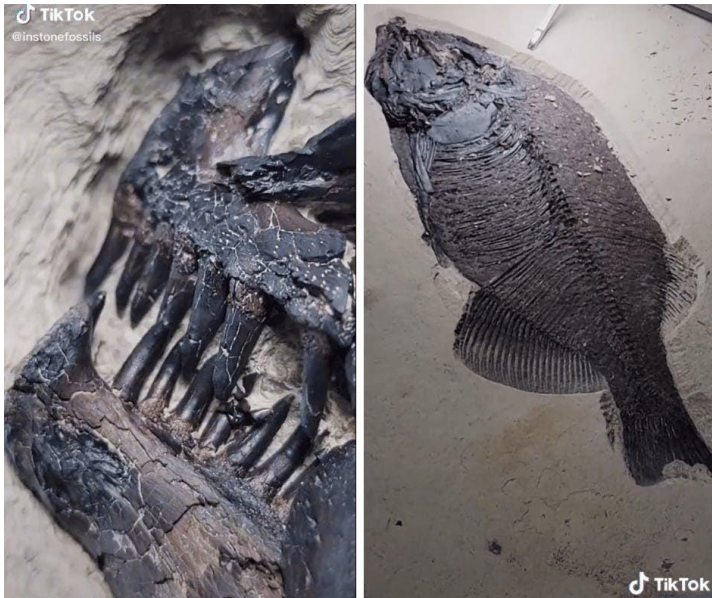
### Perfecting Flat Surfaces

Polishing flat surfaces is one of the most challenging tasks in lapidary. What appears flat to the eye often isn't due to subtle multiple facets created during free-hand polishing. To achieve a true flat, focus on consistent and even pressure across the surface to ensure all facets are polished uniformly.

Wednesday June 19, 2024

## VIDEO OF THE DAY

### [Insane Detail of an Ancient Fish Fossil: A Stunning Window into Prehistoric Life](#)



In the sweltering summer of 2021, an incredible fossil of a fish was found in Wyoming, in the famous Green River Formation. The fossil belonged to the species *Phareodus encaustus*, and swam in the ancient waters approximately 52 million years ago. But what's even more amazing is how this fish was able to "come to life" after going through a meticulous preparation process. Watch the video to see how they remove the surrounding host rock and expose this ancient fish.

[Watch The Video](#)

[Collecting Fish Fossils With The Crystal Collector: Green River Formation Dig!](#)



Ever wonder what it's like to visit Wyoming and dig for fossils in the famous Green River Formation? Me too! This place has been at the top of my bucket list for a very long time.

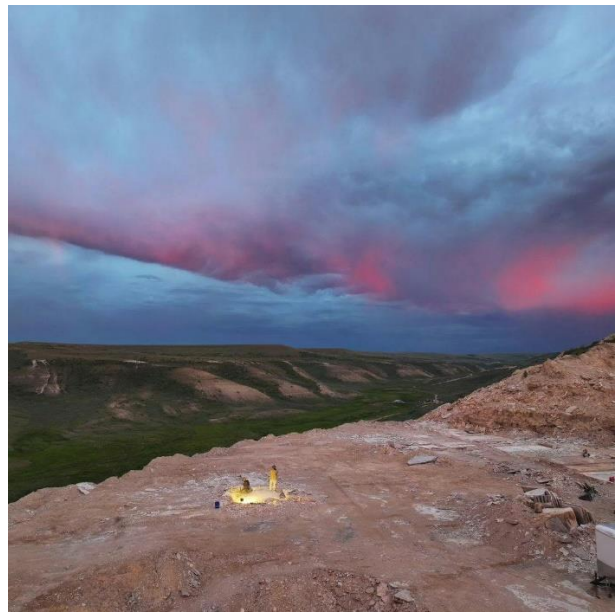
In this video, The Crystal Collector lets us tag along on what I consider the ultimate dream destination for any fossil enthusiast: the Green River area in Wyoming.

It's not just any spot; it's hailed as the best place in the world for fossil fish!

[Watch The Video](#)

## GEOLOGY FACTS

### The Green River Formation



[@instonefossils](#)

The Green River Formation is one of the most significant fossil

sites in North America, offering an unparalleled glimpse into life during the Eocene Epoch, about 50 million years ago. Located across parts of Wyoming, Colorado, and Utah, this geologically rich area preserves a remarkable array of fossils in its layered sedimentary rocks.

### Geological Overview

The Green River Formation was deposited in a series of ancient lakes that existed in the region during the Eocene. These lakes, known as Lake Gosiute, Lake Uinta, and Fossil Lake, varied in size and depth, creating diverse environments for the deposition of sediments and preservation of fossils. The formation is composed primarily of shale, marlstone, and limestone, with shale being the primary host for the most detailed and abundant fossils.

### Fossil Preservation



[@instonefossils](#)

The formation is renowned for its exceptional fossil preservation, a result of the anoxic (low oxygen) conditions in the bottom layers of these ancient lakes. These conditions inhibited the decomposition of organic material and allowed for the detailed preservation of a wide range of organisms. The fine-grained shale in particular serves as a superb medium for capturing the intricate details of ancient life.

### Fossils



The Green River Formation is famous for its diverse and well-preserved fossils, including:

- **Fish:** Fossil fish, such as *Knightsia*, *Diplomystus*, and *Priscacara*, are among the most iconic finds. These fish fossils are often preserved in such detail that scales, fins, and even stomach contents can be observed.
- **Plants:** Fossilized leaves, flowers, and seeds provide invaluable insights into the Eocene flora. These plant fossils are usually found as detailed imprints in the shale layers.
- **Insects and Other Invertebrates:** Fossils of insects, spiders, and crustaceans are relatively common, showcasing the diversity of life that thrived in these ancient lakes.
- **Reptiles and Birds:** Though rarer, fossils of turtles, crocodiles, and even early birds have been discovered, adding to the richness of the formation's fossil record.





[@instonefossils](#)

### Visiting the Green River Formation

Today, the Green River Formation continues to be a hotspot for paleontologists, geologists, and fossil enthusiasts. Several sites within the formation are accessible to the public, allowing visitors to witness the incredible fossils and learn about the region's ancient history. You can even book fully guided tours through companies like [In Stone Fossils](#).

### Fun Fact

The Fossil Butte National Monument in Wyoming offers a closer look at this extraordinary formation. Visitors can explore exhibits showcasing some of the finest fossils from the Green River Formation and even participate in fossil digs.

### PICTURE OF THE DAY

A fossil from the Green River Formation in Wyoming captures an incredible moment frozen in time – [a well-preserved fossil of a fish](#) in the midst of consuming another fish.



### WHAT'S THIS ROCK?

This rock is primarily composed of calcium carbonate ( $\text{CaCO}_3$ ) in the form of the mineral calcite. There are many different types of this rock which often form in clear, warm, shallow marine waters through two main processes: the accumulation of carbonate mud and the deposition of shells, coral, algae, and debris.

This particular variety is a dense, banded form that precipitates from mineral-rich hot springs and caves.

[Do you know what it is? You can find out here!](#)



*image: Stan Celestian*

Good morning! I hope you're having a good week.

In today's newsletter, we're taking a slight detour from the natural world, and looking at something many folks still love to collect, [or even make themselves](#)...and that's sea glass.

I also wanted to let you know I added a new section to today's email I thought would be kind of fun called, "Can You Find It".

Enjoy!

## IN THE SPOTLIGHT

### [All About Sea Glass: From Ocean Trash to Collectible Treasure](#)



Sea glass, often dubbed "mermaid's tears" or beach glass, is a captivating natural phenomenon that transforms ordinary glass into beautiful, polished treasures. These small, frosted shards are beloved by beachcombers and collectors for their vibrant colors, smooth textures, and unique stories.

Sea glass originates from discarded glass bottles, windows, or other glass objects that have found their way into the ocean. Over decades, sometimes centuries, the relentless action of waves, sand, and saltwater weathers the glass, eroding its sharp edges and giving it a characteristic frosted appearance. But there's much more to sea glass. [Learn more about it here.](#)

#### Fun Facts

- Colors like cobalt blue and deep red often come from old medicine bottles and ship lanterns, making them rare finds.
- Some sea glass collectors have pieces that are hundreds of years old, predating the Industrial Revolution.
- A dedicated sea glass museum in Fort Bragg, California, showcases thousands of pieces collected from nearby Glass Beach, a former garbage dump turned natural treasure trove.

## TIP OF THE DAY

### [10 Tips For Beachcombers and Sea Glass Hunters: A Guide To Looking For Sea Glass](#)



Whether you're a novice or a seasoned beachcomber, finding sea glass is an exciting and rewarding pastime. Looking for sea glass is not at all difficult. As a matter of fact, you really just need to get out and start looking. But there are some tips and tricks you can use to make your time at the beach or lake more successful. From understanding tide patterns to spotting the subtle sparkle of glass from the thousands of other pebbles, [these tips cover it all.](#)

## VIDEO OF THE DAY

### [How To Make Your Own Sea Glass With a Rock Tumbler](#)



Not all of us have the option to go out and look for sea glass. The good news is that it's extremely simple to make at home. If you have a rock tumbler and access to glass, then you're in luck, because that's all you need. In this video you'll learn what glass to use, how to break it and how to tumble it.

[Watch The Video!](#)

## PICTURE OF THE DAY



[@nickyp\\_pics/IG](#)

Glass Beach in Fort Bragg, California, is a great example of nature's transformative power. Once a dumping ground for local trash in the early 20th century, the relentless waves of the Pacific Ocean have polished the discarded glass into millions of smooth, colorful pieces that now blanket the shoreline. As a result, the beach gleams with hues of green, blue, and amber, attracting visitors from around the world. While much of the glass has been picked through and removed by visitors, there are still small sections of beach like the one seen in the photo below that can be found.

### CAN YOU FIND IT?

Hidden somewhere in this image is something special, just waiting to be discovered.

Hidden somewhere in this pile of rocks there's a toy duck. Can you find it?

[Click for a larger, more detailed image. along with clues.](#)

[Need a clue or hint? Click here.](#)

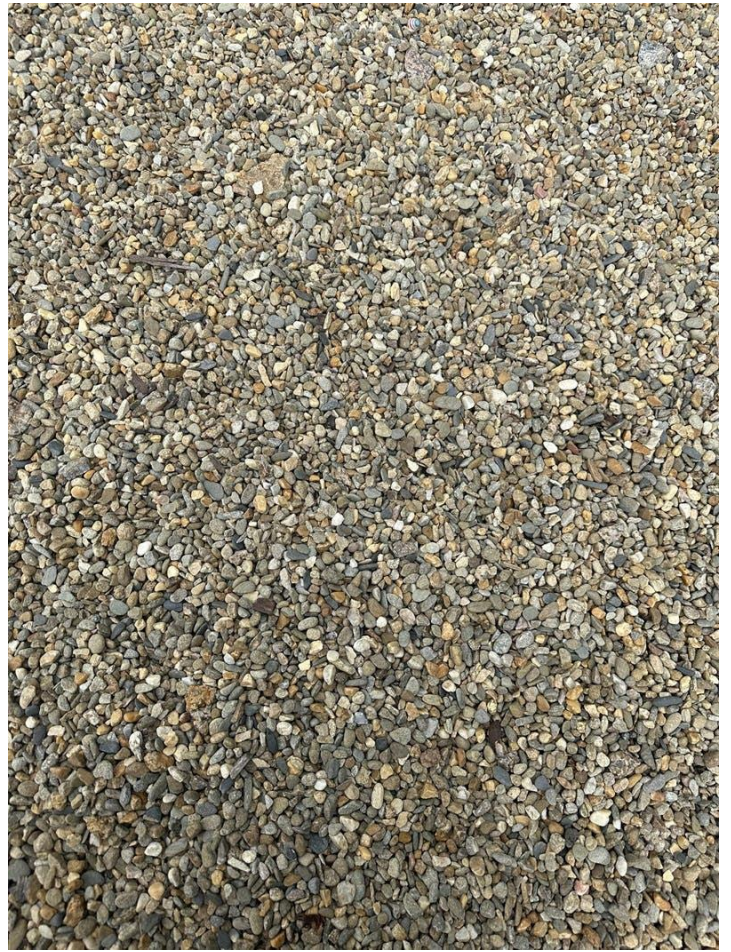


image: SkyNabb (Reddit)

Good morning and happy Friday!

[Labradorite](#) is highly sought after by collectors, and for a good reason. This feldspar-variant displays an [amazing](#) iridescent effect depending on the lighting, with flashes ranging from a deep cobalt blue to gold.

I absolutely love this stone, and am excited to talk about it in today's newsletter.

Enjoy.

### QUIZ OF THE DAY

**Labradorite is typically found in what type of rocks?**

- A) Sedimentary
- B) Metamorphic
- C) Igneous
- D) Organic



@rosequeencrystal

[Check Your Answer](#)

#### VIDEO OF THE DAY

[The Secret Colors of Labradorite: A Stone's Magical Transformation](#)



Not everything is as it seems. This is especially true when it comes to the world of rocks and minerals.

Labradorite is famous for its remarkable play of colors, often showcasing blue, green, and gold hues. The phenomenon responsible for this captivating display is called labradorescence, an optical effect that occurs when light enters the stone, strikes

the layers of minerals, and then reflects back out.

This extraordinary feature of labradorite has fascinated people for centuries, leading to stories and legends surrounding the stone. Some indigenous cultures believe that labradorite contains the Northern Lights trapped within, while others consider it a stone of magic and transformation.

And if you've never witnessed the labradorescence of labradorite, then you won't want to miss this video.

[Watch The Video](#)

#### IN THE SPOTLIGHT

[Rainbow Moonstone vs Labradorite: A Closer Look at Their Similarities and Differences](#)



While Rainbow Moonstone and Labradorite are very closely related minerals (essentially the same) they're unique from one another in a few different ways. Here's a few things they have in common:

- Both Rainbow Moonstone and Labradorite belong to the feldspar group, specifically the plagioclase series, which is a subgroup of feldspars known for their remarkable play of color.
- They both exhibit an optical effect called labradorescence or adularescence. In Labradorite, this effect is usually more intense and can show a spectrum of colors. In Rainbow Moonstone, the effect typically manifests as a blue sheen or a rainbow-like array of colors, often against a white or translucent background.
- Rainbow Moonstone is technically a variety of Labradorite. It has a similar chemical composition but with a more ordered structure, leading to its unique visual properties.

These are some of the things that these two stones have in common. [Learn about their differences here.](#)

## PICTURE OF THE DAY

It's not always easy to capture the optical affects of stones in a still photo, but this picture of a rainbow moonstone cabochon captures it just about perfectly.



Emily Nydell [@theeclecticcollects](#)

## IN THE SPOTLIGHT

[Rocks and Minerals With Misleading \(and Sometimes Hilarious\)](#)

[Names](#) 🤔



Looking to get your chuckle on while expanding your mineral

smarts? I've got something just for you. 😊 Our latest article is an interesting (and hilarious) guide about some of the rocks and minerals that are out there with the weirdest, goofiest names.

We're talking about some far out there examples that might make you blush (yes, they're all real names too).

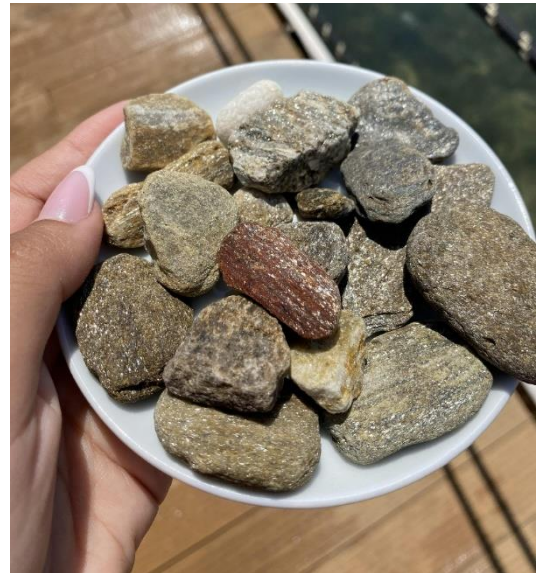
But it's not all laughs. You'll also uncover the curious stories behind how these silly stones got their names. Like iron pyrite, the one we're probably most familiar with and how banded calcite tricked its way into being "Mexican onyx."

[Learn More About These Stones](#)

## DO YOU KNOW WHY?

Do you know what these stones are and why they're so shimmery?

[Find the answer here](#)



sk4mt/Reddit

## TODAY'S QUIZ

Which of these mineral(s) leaves a green streak color?

- A. Hematite
- B. Malachite
- C. Magnetite
- D. Graphite

[Check Your Answer](#)

## PICTURE OF THE DAY

Morgan Hill Poppy Jasper is a unique variety of jasper found in Morgan Hill, California. It's known for its striking red, yellow, and orange orbicular patterns that resemble poppy flowers.



Martin Kramer [@philosophersstone306](#)

## JUST FOR FUN!

I received a lot of positive feedback about our new "Can You Find It" game. So, I'll be adding more of those soon! In the meantime, I thought I'd add more "Fun" things to the newsletter.

So, today, I have a fun (*and challenging*) word search puzzle I think you'll enjoy.

[Click here to go to the puzzle.](#)

You'll have an option to complete it online or print it out.

### Rock Seeker Word Search

By Rock Seeker

- |              |          |
|--------------|----------|
| Banded       | Minerals |
| Calcite      | Patterns |
| Hematite     | Pyrite   |
| Malachite    | Shimmery |
| Mexican Onyx | Streak   |

```
C N M C A L C I T E M C
N M S H I M M E R Y E H
S I A E N S S D T T X E
L L L L T N T R I S I M
Y Y A R A P I R M R C A
T B E R T C Y L A H A T
R A A N E P H E P M N I
K P A N A N A I E S O T
T N R I D M I O T Y N E
E N I H R E T M E E Y T
E E E I A A D I A X X A
A P A M S N R E T T A P
```



#### Ant Hill Garnets: Tiny Miner Treasures

Ant hill garnets are typically chromium pyrope garnets. These tiny gems are collected by harvester ants as they build mounds and take out the "trash."

[Read More](#)



#### Staurolite: Fairy Cross Rocks

Staurolite's popularity lies in its tendency to form twinned, prismatic crystals that sometimes intersect in the configuration of the Christian cross.

[Read More](#)



Ocho geodes (AKA Ocho geodes) are found in a remote area known as Tres Pinheiros (Three Pines) near the southern border of Brazil at an elevation of 3,000 feet.

[Read More](#)



#### How to Build a Rock Water Fountain

Ever wondered how to build a rock water fountain? Here's everything you need to know to design, build, and care for a rock water feature in your garden.

[Read More](#)

## Sticky Asphalt at Carpinteria State Beach



At Carpinteria State Beach, you may get sand in your shoes and Miocene-age asphalt on the outside. It oozes from the bluffs along the Pacific Ocean. Here's why and how to visit...

[Read More](#)



## Rock Science: Minerals in Beach Sand

There are thousands of minerals in beach sand. You can find anything from gold to amber in beach sand. Here's our guide to beach sand and its minerals.

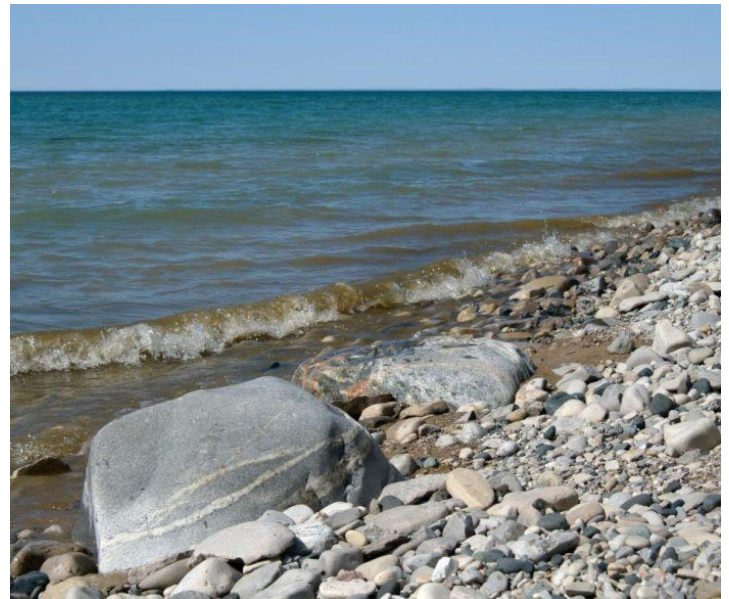
[Read More](#)



## Become a Psammophile and Collect Sand

Looking to become a psammophile? A whole community of fellow enthusiasts exists for collecting and exchanging sand from around the world!

[Read More](#)



## 8 Rocks Found on Lake Michigan Beaches

Lake Michigan beaches are the nation's longest freshwater coast with sand dunes and rocky cliffs. Here are eight rocks common to find on Michigan's beaches.

[Read More](#)



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## Echoes of the Past: E. A. Yelton's Photographic Odyssey in Cripple Creek

– by Steven Wade Veatch

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The mining town of Cripple Creek, Colorado, was busy during the early Saturday afternoon of April 25, 1896. Merchants sold goods, patrons packed saloons, and miners mucked ore in the mines. At approximately 1 p.m., a man engaged in a dispute with a woman, knocked over a gas stove. This started a fire on the second floor of the Central Dance Hall on Myers Avenue. Angry flames flared and spread rapidly from the dance hall and through the heart of Cripple Creek's business district. Fire Chief Allen fired three shots into the air to alert the town to the spreading fire.<sup>1</sup> Volunteer firefighters, with help from the Victor fire department, worked together to battle the uncontrollable fire, but ran out of water in less than forty-five minutes.<sup>2</sup> To block the fire's path, firefighters intentionally blew up buildings with explosives.

Edgar A. Yelton, a local photographer, heard the commotion outside his studio at 556 Cripple Creek Heights<sup>3</sup>. He looked out the window and saw thick black smoke billowing into the sky. He knew what that meant. Grabbing his camera, Yelton ran from his studio, set up his camera on a tripod, and began taking photographs of the firestorm. The smell of smoke filled the streets and reached Yelton, likely making him cough. He constantly wiped his eyes so he could see to work his camera, but the tears kept coming, and he kept taking photographs. (Fig. 1)

Hysteria gripped the town. While people were running all around filling wagons and buggies with their possessions, Yelton captured scenes of the spreading inferno with his camera.

Within minutes, he saw fierce flames consume a row of buildings. Business buildings burned with intensity as deep red, orange, and amber flames engulfed them from all sides. There was fire everywhere: roofs

burned, doors were on fire, and windows cracked and shattered as hungry flames ravenously engulfed everything in sight, sparing little.



**Figure 1.** Chaos on Bennett Avenue during the “great” fire on April 25, 1896. A large part of the city was destroyed. Courtesy of the Cripple Creek District Museum. CDDM A 8463.

About three hours passed before firefighters extinguished the blaze.<sup>4</sup> Thirty acres of the city had burned.<sup>5</sup> There were countless numbers of injured and displaced people, and the monetary loss was staggering. Rebuilding began the following day.

Then, on Wednesday, April 29, just four days after the first fire, at about 1:45 p.m. a fire started in the kitchen of the ramshackle Portland Hotel. Gusts of wind fanned the fire into a ruthless rage, causing the hotel to burn with an unbelievable ferocity and the fire to jump to the adjacent buildings. The flames spread rapidly, and Fire Chief Allen once again fired three shots into

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<sup>1</sup> Sprague, Marshall, *Money Mountain: The Story of Cripple Creek Gold* (Lincoln: University of Nebraska Press, 1953).

<sup>2</sup> Sprague, *Money Mountain: The Story of Cripple Creek Gold*.

<sup>3</sup> See address stamp on Yelton photo in figure 1.

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<sup>4</sup> Sprague, *Money Mountain: The Story of Cripple Creek Gold*.

<sup>5</sup> Sprague, *Money Mountain: The Story of Cripple Creek Gold*.

the air to alert the volunteer firefighters and get them into action.<sup>6</sup>

Red-hot embers fell on the roofs of nearby buildings, setting them on fire. Unexpected explosions occurred because of caches of dynamite. Yelton must have heard the explosion of 700 pounds of dynamite, stored at the Harder Grocery Store. The explosion happened in an instant. One moment the grocery store, stocked full of provisions, was there; the next second the store was gone. The Palace Hotel's boilers also exploded, with flames reaching a height of 100 feet.<sup>7</sup> (Fig. 2)



**Figure 2.** The El Paso Livery's cache of dynamite explodes during the April 29, 1896, fire. E. A. Yelton photo, courtesy of the Cripple Creek District Museum.

Wagons and buggies jammed Bennett Avenue. Bartenders rolled whiskey barrels from saloon storerooms onto Bennett Avenue to save them. Horses and burros ran out of control. Men, women, and children swarmed the streets. There was chaos as looters and thieves took advantage of the fire. Some individuals intentionally started additional fires hoping to profit from insurance.

The depletion of the water supply in just one hour impeded firefighting efforts.<sup>8</sup> As the flames raged uncontrollably, residents loaded wagons and escaped to the outskirts of town.

Hours later, on the edge of town, refugees watched as firefighters put out the flames. At nightfall, looters

<sup>6</sup> Sprague, *Money Mountain: The Story of Cripple Creek Gold*.

<sup>7</sup> MacKell, Jan, *Cripple Creek District: Last of Colorado's Gold Booms* (Charleston, SC: Arcadia Publishing, 2003)

<sup>8</sup> MacKell, *Cripple Creek District: Last of Colorado's Gold Booms*.

came back to the destroyed area to steal whiskey and valuable items.

After the smoke cleared, the victims faced burned, blackened ruins. The fire leveled three hundred businesses and burned down no less than 1,000 houses, and more than 3,600 residents of Cripple Creek were homeless.<sup>9</sup> Authorities estimated that the fire killed at least six people and injured an unknown number of residents.<sup>10</sup> The two fires destroyed one-third of the central business district. It took several weeks for workers to clear the debris away; most of it was hauled to the city dump, the rest thrown down abandoned prospect holes.

Despite the dangers, Yelton photographed both devastating fires. His photographs of the fires have survived over the decades and document this sad week in Cripple Creek's history. (Fig. 3) It would seem the smell of fire is something he never got used to. It was something that haunted him as he remembered those desperate days of fire in the gold camp.



**Figure 3.** The Tutt and Penrose block "After the Great Fire of Cripple Creek, Colorado." Photo date 1896 by E. A. Yelton. Courtesy of the Cripple Creek District Museum.

<sup>9</sup> Kennedy, A. "Review of Cripple Creek Fires of 1896" in *Colorado Encyclopedia*, 2021. <https://coloradoencyclopedia.org/article/cripple-creek-fires-1896>.

<sup>10</sup> Katie Rudolph, review of *A Fire Nearly Levels Cripple Creek*, Denver Public Library, 2016. <https://history.denverlibrary.org/news/april-29-1896-fire-nearly-levels-cripple-creek>.

Raised in the West, Edgar A. Yelton (1866-1946) consistently sought adventure. He was born in Indiana, but left with his family when his father, Oliver Perry Yelton, Sr., a Union Civil War veteran, took a job as a U.S. Marshal in Wyoming. After his work in Wyoming, the senior Yelton became a marshal in Colorado.

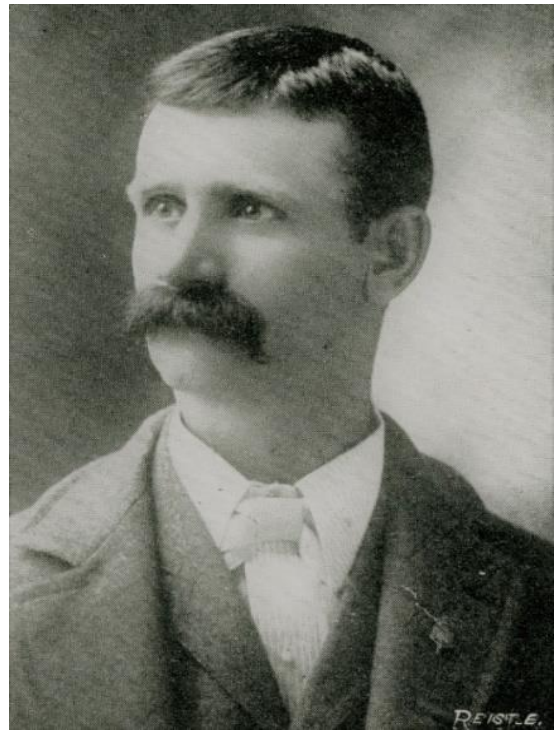
In 1890 Yelton, who was twenty-three, married Maggie Bateman, who was twenty, in Bethel, Nebraska.<sup>11</sup> Edgar and Maggie were living in South Bend, Wyoming when their son, Frank, was born in 1890.<sup>12</sup> By 1892, the family was living in Sydney, Nebraska where their daughter, Clara was born.<sup>13</sup> In 1894 their daughter, Annie, was born in Laramie, Wyoming.<sup>14</sup>

Newspaper stories about the glittering goldfields of Cripple Creek, on the west side of Pikes Peak, caught Edgar Yelton's attention. Drawn to the excitement and prospects of the raucous gold camp, Yelton and his family packed their bags, he grabbed his camera, and they broke loose from their moorings and went to Cripple Creek around 1896. He established himself as one of several photographers who chronicled this larger-than-life mining district.

The Yeltons had two children in the gold camp, Clarence in 1896 and Mabel in 1898.<sup>15</sup>

Yelton started a successful photography business at 556 Cripple Creek Heights and later moved to 357 Bennett Avenue. He tramped around the district and photographed events, mines, miners, merchants, and municipalities of the early days of the mining district. He blended well into the gold rush atmosphere of Cripple Creek and became an independent and self-made man. (Fig. 4)

Yelton traveled around the mines and photographed surface operations, underground scenes, and groups of miners posing in front of their mines. His photos have become an important visual archive that documents the



**Figure 4.** Studio photograph of Edgar Yelton. A man-about-town who witnessed firsthand many notable events in Cripple Creek history. Photographer and date unknown. Source: Program of the Trans Mississippi Commercial Congress, Cripple Creek, 1901.

early mining days in the district. (Fig. 5, 9, 10, 11). Yelton became well known for the fabulous mineral collection he amassed while photographing the mining district. It was likely the miners paid Yelton in gold—ore specimens in payment for his photographs. There is no documentation that his mineral collection survived. It is likely that it is lost to history.



**Figure 5.** Anchoria Leland and other mines on Gold Hill. Photo date circa 1896 by E. A. Yelton. Courtesy of the Cripple Creek District Museum. CCDM 2008-026.

<sup>11</sup> Yelton Family Genealogy, accessed February 22, 2024, <https://yelton.oldmtnlady.com/index.php>

<sup>12</sup> Yelton Family Genealogy.

<sup>13</sup> Yelton Family Genealogy.

<sup>14</sup> Yelton Family Genealogy.

<sup>15</sup> Yelton Family Genealogy.

Around 1897 he had a partner, E. D. Webster, helping him with his photography studio. Yelton remained in business for several years. In the Dec. 22, 1898 Cripple Creek *Morning Times*, he advertised his photograph “Sunset from Cripple Creek” as a Christmas present. The new year, 1899, brought something new for Yelton. By that time, Yelton, along with another partner, D. C. Crawford, operated a mining and real estate brokerage firm, “Crawford and Yelton,” in rooms 8 and 10 in the Nolon block on Bennett Avenue. This company also had money to lend. Running this business was more difficult, more challenging than being a photographer and selling photographs. Now and then, Yelton had some problems to deal with. For instance, a reporter for the Cripple Creek *Morning Times* wrote:

*Sheriff Stewart on June 1, 1899, returned from Omaha, bringing with him Mrs. Euphemia M. Proper. The sheriff arrested her on the charge of obtaining money under false pretenses. It seems that some time ago she sold to E. A. Yelton a piece of property here in the city, representing it as clear of encumbrances. After the sale Mr. Yelton found differently and had her arrested. She was released under \$1,000 bond to appear in Brewster’s court tomorrow.*<sup>16</sup>

There were other problems with the loan and real estate business in the gold camp. According to the newspapers, Dewitt Browne, angered by Yelton, took a shot at him. Browne’s bullet missed, and, for that crime, the court fined Browne \$50 and then ordered him released from jail.<sup>17</sup> Yelton continued to operate his photography studio with a succession of partners while engaged in the real estate and loan business.

Another fire broke out in the gold camp on August 21, 1899—this time in Victor (Fig. 6). The fire originated in a dance hall and rapidly engulfed the wooden structures. Part of the business section, two railroad structures, and the Gold Coin shaft house were destroyed. Firefighters managed to put out the flames,

but not before the blaze had ravaged twelve city blocks and caused damage to twenty-five more.<sup>18</sup>



**Figure 6** The fury of the Victor fire on August 21, 1899, photographed by E. A. Yelton. Photo courtesy of the Cripple Creek District Museum.

According to the 1900 census, Yelton lived on West Eaton Avenue (Cripple Creek) with his wife, Maggie, and four children. This was a comfortable residential area. Records show that Yelton was still in Cripple Creek in 1902. A few photos that Yelton took with a partner, Michael Albert Wisda (1875-1941), survive. Wisda was a miner and photographer who lived at 535 East Carr in 1905. He was born in Defiance City, Ohio. He graduated from Defiance College in 1896 in commerce and normal (teacher) training. Wisda worked as an assistant for his father, who was the county treasurer. He enlisted in the Spanish American War in 1898. He later went to Colorado where he worked as a miner, an accountant, and a photographer. He married Georgia Gosney in 1904, and their son, John Albert, was born in 1905 in Cripple Creek. Wisda and his family left Cripple Creek when their son was two years old, around 1907. Wisda then went to sea.<sup>19</sup>

In In 1903, a strike by mine workers resulted in the

<sup>18</sup> Levine, B., *Cities of Gold: History of the Victor Cripple Creek Mining District* (Denver: Stonehenge Books, 1981).

<sup>19</sup> Shields, 2004. Shields, Beth, *The Gosney Family in America: 300 Years of History, Bloodlines, and Collateral Families* (Self-published: Seminole, Florida, 2004).

<sup>16</sup> *The Morning Times*, June 2, 1899, 1.

<sup>17</sup> *The Walsenburg World*, July 31, 1902. 5.

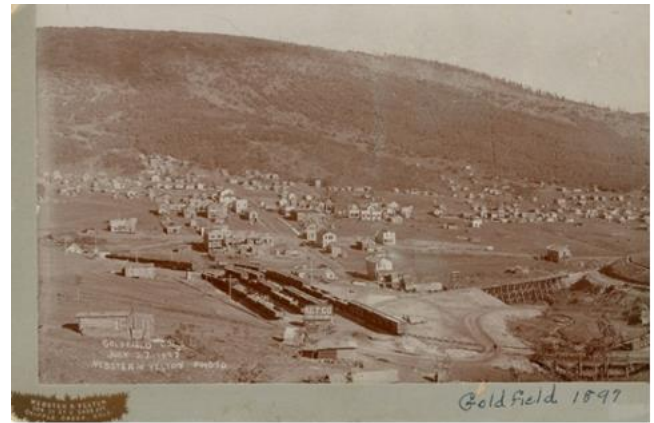
suspension of mining operations in the district. Multiple mines attempted to resume operations by hiring nonunion workers. Violence erupted and quickly spread through the gold camp. The governor of Colorado declared martial law, and one thousand national guard troops swiftly overtook the district. Their presence loomed over the district: the sound of their boots echoed through the streets, as they stood tall and vigilant, their weapons gleaming in the sunlight, creating an atmosphere of tension and authority. For six months, the district remained under their watchful gaze, with a constant feeling of unease lingering in the air. The labor wars ended in 1904 when the union was broken and left the camp. Mines began operating again with nonunion workers. Yelton and Wisda photographed some of the labor difficulties in the district (Figures 7 and 8).



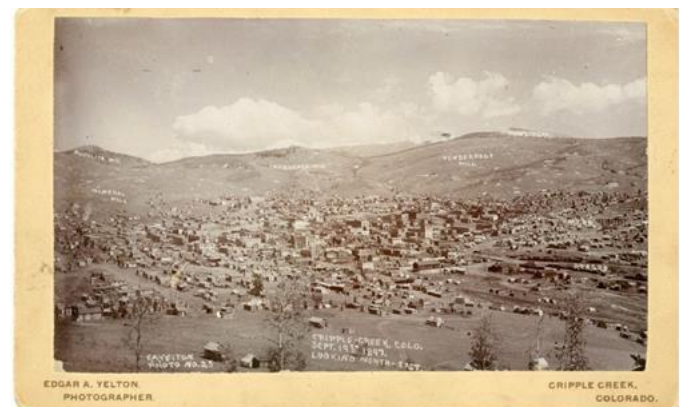
**Figure 7.** Camp Goldfield, near Victor, Colorado. The governor of Colorado sent national guard soldiers to control the violence during the Cripple Creek labor wars. Photo date 1903 by Yelton & Wisda. From the S. W. Veatch collection.



**Figure 8.** Camp Goldfield. Members of the Colorado National Guard pose for a photo (1893) by Yelton and Wisda. Photo courtesy of the Cripple Creek District



**Figure 9.** View of Goldfield, Colorado. Photo date 1897 by Webster and Yelton. Courtesy of the Cripple Creek District Museum.



**Figure 10.** View of Cripple Creek. Photo date 1897 by E. A. Yelton. Photo courtesy of the Cripple Creek District Museum.

After a while, Yelton became restless in the gold camp and looked for new prospects. Around 1904, he shut down his business, pocketed his savings, and relocated to Grand Junction, Colorado. He operated a secondhand store there and also worked in insurance and real estate. In 1905 he built a house on North 12<sup>th</sup> Street where he raised ducks and blue Andalusian chickens. A reporter wrote this about his ducks:

*Tuesday night the coyotes came into E. A. Yelton's yard on North 12th street and killed six of his eight valuable Pekin ducks. This is pretty bold when they come into the city, stand off a dog and help themselves to the fatted duck.<sup>20</sup>*

<sup>20</sup> *Daily Sentinel*, Oct. 18, 1906. 5.



**Figure 11.** Electric trolley car at Midway. The Midway saloon is framed by the first two electric poles. Photo by Edgar A. Yelton. Photo date unknown. Cripple Creek District Museum CCDM 92-54.

Another article appeared several months later on December 10, describing how Yelton caught a loose horse:

*There was an exciting runaway last Saturday evening on Main Street. A horse attached to a buggy and belonging to A. N. Anderson became frightened and started to run. He dashed across the street onto the sidewalk and for a time the big glass windows of the Fair store were in danger. The horse then went east on Main Street and was caught in front of the courthouse by E. A. Yelton.<sup>21</sup>*

Yelton was active in several fraternal societies, including the International Order of Odd Fellows. In 1906, the Yeltons welcomed the birth of their new daughter, Dorothy.<sup>22</sup> He also entertained a group in town with stereopticon slides with views in and around Cripple Creek.

By 1909, Yelton had relocated to Santa Cruz, California where he worked as a retail merchant. He and his wife had their last child, Oliver, in 1909 in Santa Cruz.<sup>23</sup> They had three boys and four girls.

Yelton had many talents and interests. In 1910, the U.S. Patent Office granted him a patent on a threadless nut lock. By 1920, he had moved once more and established himself as a real estate agent in Chester, Pennsylvania.

<sup>21</sup> Daily Sentinel, Dec. 10, 1906. 5.

<sup>22</sup> Yelton Family Genealogy accessed February 22, 2024, <https://yelton.oldmtnlady.com/index.php>.

<sup>23</sup> Yelton Family Genealogy.

It is plausible that, as a photographer, Yelton moved around frequently because of several factors. His photography skills or equipment might have become obsolete due to technological advancements and changing tastes, leading him to relocate and find work in other, more stable occupations. Furthermore, his constant moving around could be attributed to personal motives like family commitments, health concerns, or a longing for new experiences. After a five-month illness, Yelton died at his home, 207 East 8<sup>th</sup> Street, Chester, Pennsylvania on Sunday morning, October 6, 1946, due to prostate cancer. He was eighty.

Yelton's historic photos are visual artifacts that capture more than just moments in time: they are priceless time capsules. Through his collection of photographs, he takes us on a visual adventure connecting us to the dynamic history of Cripple Creek.

### References and Further Reading

- Kennedy, A. (2021, February 16) Review of Cripple Creek Fires of 1896. Colorado Encyclopedia. Accessed September 21, 2023. from <https://coloradoencyclopedia.org/article/cripple-creek-fires-1896>.
- Levine, B. 1981. *Cities of Gold: History of the Victor Cripple Creek Mining District*. Denver: Stonehenge Books.
- MacKell, Jan. 2003. *Cripple Creek District: Last of Colorado's Gold Booms*. Charleston, Sc: Arcadia Pub.
- Program of the Trans Mississippi Commercial Congress, Cripple Creek, July 17-19, 1901*. 1901. Official Souvenir Publishing Company.
- Rudolph, Katie. 2016. Review of *A Fire Nearly Levels Cripple Creek*. Denver Public Library. Accessed January 2, 2024 from: <https://history.denverlibrary.org/news/april-29-1896-fire-nearly-levels-cripple-creek>.
- Shields, Beth. 2004. *The Gosney Family in America: 300 Years of History, Bloodlines, and Collateral Families*. Seminole, FL.

Sprague, Marshall. 1953. *Money Mountain: The Story of Cripple Creek Co.* Lincoln: University of Nebraska Press.

*The Daily Sentinel*, Grand Junction, vol 12 October 18, 1906, pg. 5

*The Daily Sentinel*, Grand Junction, vol 13 December 10, 1906, pg. 6

*The Morning Times*, June 2, 1899, vol 7 no 156 pg. 1.

*The Walsenburg World*, vol 14, no. 31, July 31, 1902, pg. 5.

Yelton Family Genealogy. Accessed February 22, 2024. <https://yelton.oldmtnlady.com/index.php>.