Lake George Gem & Mineral Club

Club News

February, 2022

All LGGMC meetings, including the February meeting, are now "on hold" until further notice. We think we will have an "in person" meeting in March. Watch the newsletter for updates.

- **The LGGMC Officers have decided to allow *current members* a free renewal for 2022.**
- ***New members* have until March 31 to join.**
- **We would like *all members* (and especially new members) to complete a membership application so that we can keep our rolls up-to-date.**
- **See the back of this newsletter for an application form (which you can mail to the address given), or go to the LGGMC website to fill out current information.**

NOTE:
November through March meetings normally start at 10:00 AM.

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Scheduled Programs at Club Meetings:

Election of officers has been postponed. Please contact one of the current officers (listed at the end of this newsletter) if you would consider running for 2022.

March - Steve Veatch will return for a visit and to present the program.

LGGM Club Field Trips:

The weather in Colorado has been so mild that some of you have no doubt done some early-winter collecting and "geologizing" (see the short article a few pages down for details). If you have pictures that you'd like to share, please send them to me, **Bob Carnein** (ccarnein@gamil.com), and I'll include them in the next newsletter.

After a very successful year, despite Covid, **Dave Alexander** (dave@davealex.com) notes that he has plenty of ideas for field trips for next year. However, he would welcome suggestions for new trips for 2022 and members who would like to lead a trip. **Contact Dave at the email given**.

ADDITIONAL COMING EVENTS OUTSIDE THE LGGM CLUB: **(**Nearby gem, mineral, fossil and geology events that you may enjoy.)

Please check the websites to find out current status of club meetings.

- **Cañon City Geology Club**, meets on the 2nd Monday of the month at 6PM in the United Methodist Church, Cañon City
- **Columbine Gem & Mineral Society**, meets on the 2nd Thursday of each month, 6:30PM in the meeting room, Mt. Shavano Manor, 525 W. 16th (at J St.), Salida
- **Colorado Springs Mineralogical Society**, meets on the 3rd Thursday of each month at 7PM in the Mt. Carmel Veteran's Service Center, 530 Communication Circle, Colorado Springs;
- **Pueblo Rockhounds**, meets on the 3rd Thursday of each month at 6:30PM in the Westminster Presbyterian Church, 10 University Circle, Pueblo.

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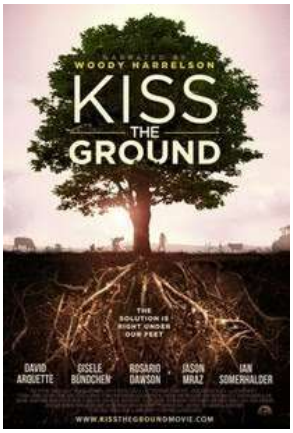
Feb. 25-27, Denver Gem and Mineral Guild Show, (returning to its old location), Jefferson County Fairgrounds, Exhibit Building. The club had earlier announced that it would be necessary for this show to move to the Wheat Ridge United Methodist Church gymnasium, but this will NOT be necessary; the show will take place at the Jeffco Fairgrounds
after all, as in past pre-covid years**.**

Mar. 25-27, Fort Collins Rockhounds Show, Larimer County Fairgrounds, Longmont, CO

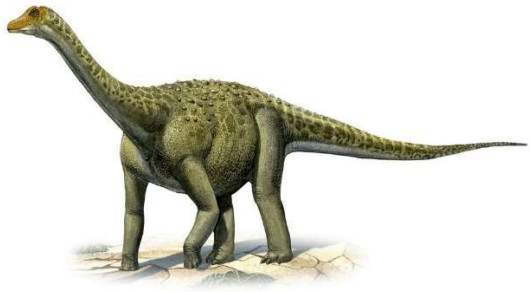
Wayne Orlowsky sent the following interesting links about geology and mineralogy:



- ***KISS THE GROUND* on Netflix A fascinating partial solution to a few of our big problems.**

Science experts and celebrity activists unpack the ways in which the earth's soil may be the key to combating climate change and preserving the planet.

- **Why India's fossil wealth has remained hidden:** https://www.bbc.com/future/article/20220113-why-indias-fossil-wealth-has-remained-hidden?utm_source=join1440&utm_medium=email



- **How 7000 years of epic floods changed the world:** https://www.youtube.com/watch?v=YWZgfPGtQEs&list=RDLVYWZgfPGtQEs&index=1

…and here are a few links I found

- **A new way to look for meteorites in Antarctica:** https://www.sciencenews.org/article/machine-learning-meteorite-antarctica?utm_source=email&utm_medium=email&utm_campaign=latest-newsletter-v2&utm_source=Latest_Headlines&utm_medium=email&utm_campaign=Latest_Headlines

- **Here's something to get you fired up about the next collecting season:** https://www.youtube.com/watch?v=hewyB70m2bA&t=872s

- **And here's a short article about recent finds made by Club members:**

Some Recent Finds by LGGMC Members
Bob Carnein

Despite COVID and other impediments to field work, several Club members have been out and about. New finds that I think are notable are described here. If you have other items to report, please send them to me at ccarnein@gmail.com. Thanks!

New member **Patrick Hale**, along with **Richard and Jerrolynn Kawamoto** and I visited a locality near the Devils Hole mine, in Fremont County. Richard and Patrick, working in a skarn zone where granite intruded rocks of the Idaho Springs metamorphic sequence, recovered some nice garnet crystals (probably andradite) and epidote (Fig. 1).

Figure 1. Altered garnet crystals (andradite?) from skarn zone in Idaho Springs metamorphic complex.

On the way to the site, yours truly noticed a bubblegum-pink mineral in a piece of skarn (Fig. 2), and it turned out to be the variety of zoisite informally called thulite, which is sometimes used as a minor gemstone. This is the third recent find of thulite that I know of in central Colorado. Previous finds were made at the Sedalia mine (Chaffee County) and at **Steve Gorman's** Gold City claims, in Park County.

Figure 2. Close-up of "thulite" from a prospect near the Devils Hole mine.

Patrick and Richard, working at an undisclosed locality in Fremont County, made several significant finds, some previously described but others not. The "old" finds included some really nice massive, almost gemmy cordierite and some gahnite, which is a zinc spinel (zinc aluminum oxide) that occurs as crude, dark green (almost black) octahedral crystals and irregular masses. The gahnite crystals contain tiny magnetite inclusions, which makes the gahnite weakly magnetic. The cordierite is a nice light to dark blue color that is typical of the species. Cordierite is pleochroic, meaning the color varies with direction.

At another location, Patrick found two unknowns that he and Richard brought to me for ID. The first, shown in Fig. 3, consists of a grooved, pale cream colored aggregate with tiny pale pink grains embedded in it. The aggregate includes tiny muscovite flakes, and parts of it fluoresce cherry red in shortwave UV (Fig. 4). It somewhat resembles the lithium aluminum

Figure 3. Scapolite in white light.

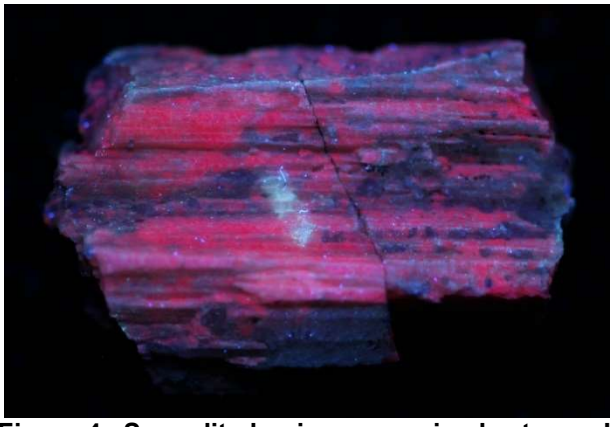


Figure 4. Scapolite luminescence in shortwave UV.

silicate spodumene, but it doesn't exhibit the typical cleavage of that mineral. I did some preliminary optical work, which proved it isn't spodumene; the indices of refraction are closer to those of beryllonite, some specimens of which it resembles (mindat.org, accessed January, 2022). However, beryllonite has not (so far) been described for Colorado, so I sent a small sample to New Mexico Tech for an XRD scan. It turned out to be scapolite, a complex group of sodium and calcium aluminum silicates with chlorine or carbonate. Scapolite often exhibits red luminescence. The pink mineral is as yet unidentified.

The second unknown collected by Patrick is a pale greenish-gray mineral with well defined cleavage, a somewhat pearly luster, and a hardness of about 6 (Fig. 5). The mineral occurs as

Figure 5. Microcline in gneiss, white light.

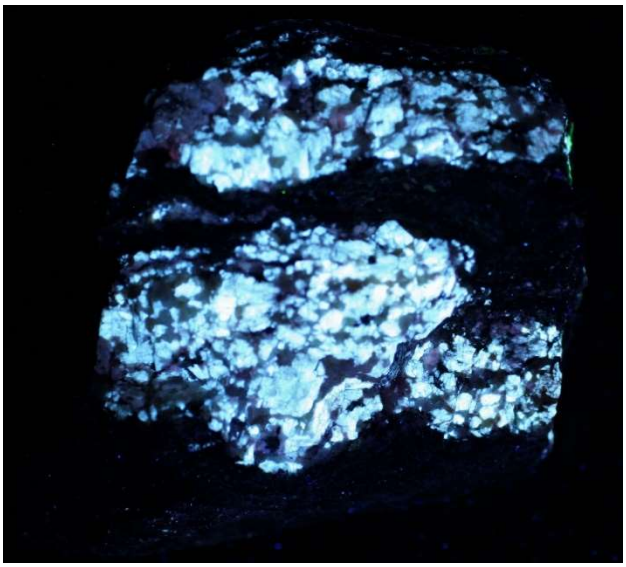


Figure 6. Microcline luminescence, SWUV.

coarse (1 cm) grains in an augen gneiss (a metamorphic rock with eye-shaped aggregates of light colored minerals). This is probably part of the Idaho Springs metamorphic sequence. Patrick thought that the unknown might be apatite and noted that it fluoresces a bright blue-white color in shortwave UV (Fig. 6). Apatite often fluoresces, but the usual color is a kind of

orange-yellow. The mineral looked to me like microcline feldspar, but microcline in central Colorado typically fluoresces dull red. So, I did some optical work, and, sure enough, it's microcline. The fluorescence is definitely unusual, both for its color and its brightness. Another interesting fluorescent find was made by **Laura Canini** (but this is an old one, going back at least to 2019) in the wilds of eastern Custer County. Laura found an interesting prospect with massive, brecciated baryte in chunks up to about 100 pounds (Fig. 7). Baryte is pretty common, but the interesting thing about this occurrence is its odd fluorescence—a very attractive pinkish orange color in both long- and shortwave UV (Fig. 8). I have collected at the locality, but it is on private land and I've said all I can about the locality, at least for now. However, this is a very notable previously unreported occurrence of fluorescent baryte.

Figure 7. Baryte breccia, white light.

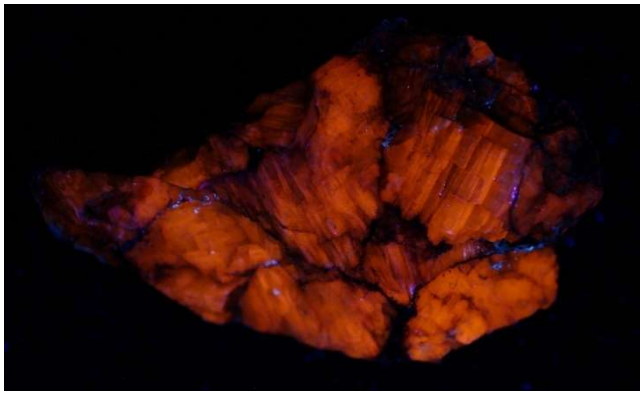
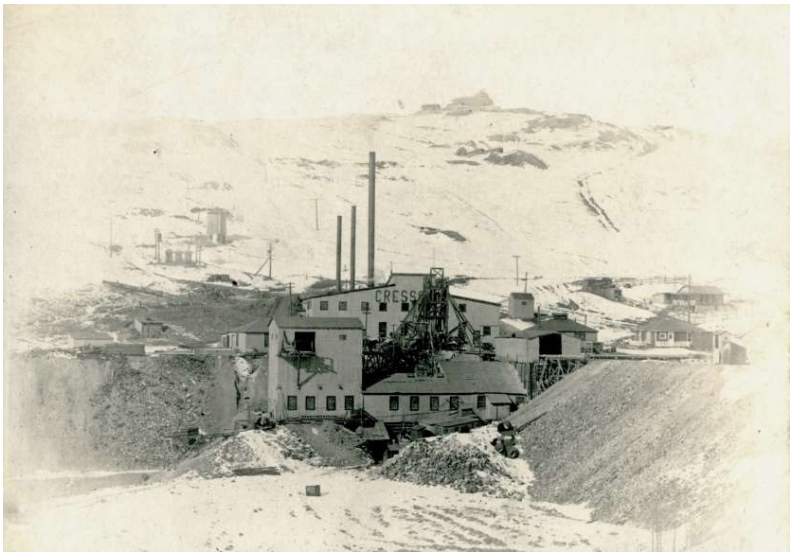


Figure 8. Baryte breccia luminescence in LWUV.

Please don't hesitate to report your new finds to one of the Club officers or to the newsletter editor. I'd be glad to document your discoveries and can help you to write them up.

- **Steve Veatch** asked me to include this announcement of an upcoming talk:

Visits With History



Presented by Cripple Creek District Museum at the **Cripple Creek Heritage Center**, HWY 67**,** Cripple Creek CO**,** March 13, 2022, 2 pm.

Early view of the Cresson mine, Cripple Creek, Colorado. Photograph date circa 1914, courtesy of the Cripple Creek District Museum.

Join Steven Veatch for a "Visits with History" presentation on **Cripple Creek's Cresson Mine: The Untold Stories**. Come and enjoy this incredible story as Steven Veatch reveals the secrets of this remarkable mine through old letters, newspaper clippings, crumbling documents, and rare photos. Follow the career of Richard Roelofs, who worked at the Cresson. Roelofs wrote, "I was a prospector, a leaser, a miner, an assayer and chemist, an underground shift boss, foreman, superintendent, and then general manager of one to the greatest of Colorado's mines." Hear about the mine's legendary underground cavern of gold. It was so rich that the miners shoveled gold crystals into bags for weeks. Steven Veatch, local historian and Earth scientist,

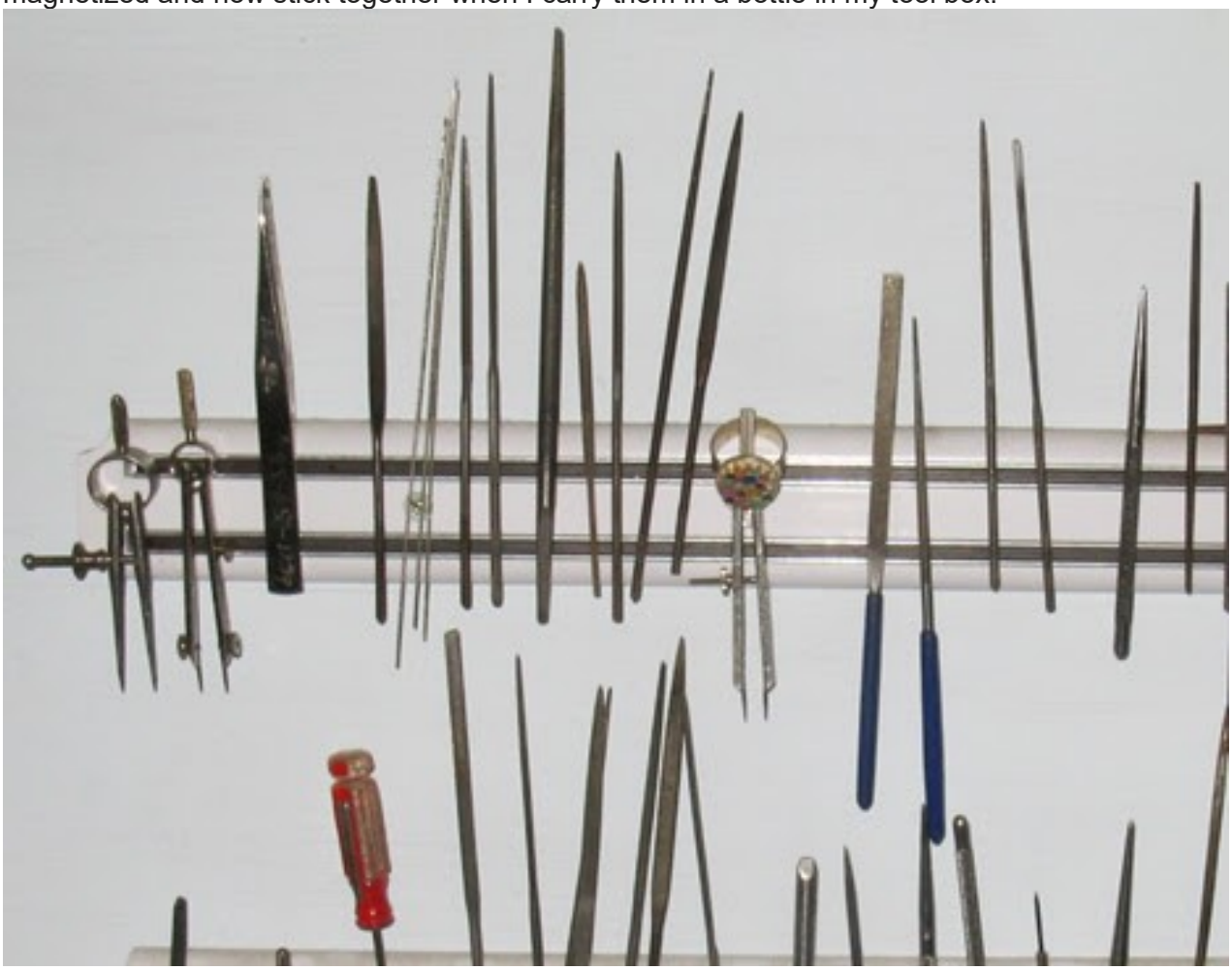
will present this segment of Teller County history, a story so big, so bold, that only the World's Greatest Gold Camp can hold it. The Cripple Creek District Museum invites you to learn more about the Cresson. This program is presented as a public service of the Cripple Creek District Museum in partnership with the City of Cripple Creek. Refreshments will be served. Reservations recommended, call 719-689-9540.

Here is the latest installment of **"Bench Tips" by Brad Smith:** (www.BradSmithJewelry.com)

MAGNETIC TOOL BAR

An easy way to keep all your files organized at the bench is to use a magnetic tool strip. They're not expensive and help keep a lot of small tools from cluttering the bench top. I got a couple of them from Harbor Freight for about $5 each. See http://www.harborfreight.com and search on- "magnetic-holder"

My only regret was putting some of my small drills on the magnets. The drills got a little magnetized and now stick together when I carry them in a bottle in my tool box.



SILVER DISCOLORATION

Working with jewelry involves an ever increasing number of skills. Chemistry is one of them that comes into play when dealing with a discoloration on the metal caused by a chemical reaction between it and the environment.

In the case of Sterling silver, there are three discolorations we typically encounter: a tarnish, a firescale, and a firestain. Each is different in its cause, in its cure, and in its prevention. All three have to do with components of the Sterling alloy (92.5% silver and 7.5% copper) and how they react with oxygen and the heat of soldering or with pollutants in the air over the long term. Firescale and firestain also occur in 14k or 18k gold because of the copper content.

Tarnish is a grayish coating that builds up slowly on the surface as a result of a reaction of the silver with sulfur-based compounds in the air. Typically these are pollutants from the burning of petroleum fuels, but they can come from other sources as well. I once tarnished all the silver in my display case by putting a pretty specimen of iron pyrite in with the jewelry. Turns out pyrite has sulfur in it!

Sulfur from air pollution or any other source combines with the silver to form a grayish silver sulfide film on the surface. Preventing tarnish involves keeping sulfur away from the metal. Plastic bags will help, and anti-tarnish strips are available from jewelry supply companies to pack near your items. Tarnish is easily removed by hand polishing with a jeweler's cloth or with one of the products sold for cleaning the good silverware for holiday dinner.

Another way is to remove it chemically. Put a piece of aluminum in the bottom of a dish large enough to contain your piece. Heat enough water to cover the silver. Mix in 2 tablespoons of sodium carbonate per cup of water and pour into the dish. Be sure the silver touches the aluminum. Sodium carbonate is the main ingredient in washing soda. Read the labels in grocery and hardware stores.

The second type of tarnish is called firescale. It is the dark gray to charcoal colored film that forms on Sterling or other copper alloys like brass or bronze when we heat it with a torch. The copper in the alloy reacts with oxygen in the air to form a dark cupric oxide coating on the surface. Luckily, the oxide is easily removed by dissolving it in a mild acid - generally called a pickle. It's important that we not let firescale form on a solder joint because it will block the flow solder over the joint.

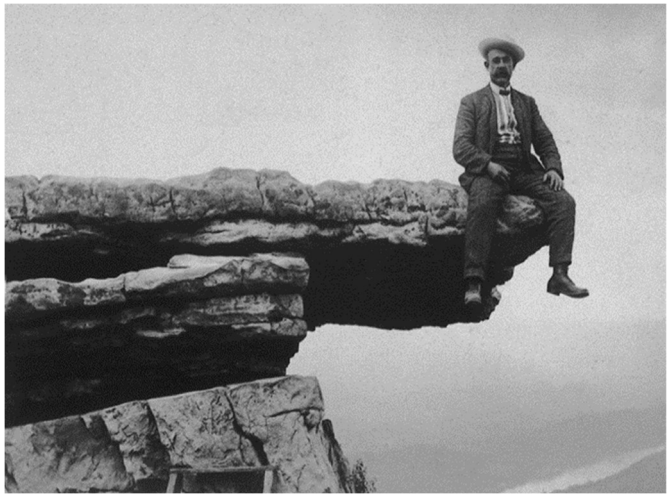
There are two ways to prevent firescale. Most common is to use a flux, a borax-based solution applied to the metal before soldering. When melted, borax forms a thin glassy layer that keeps oxygen away from the metal. A second way is to do your soldering on a charcoal block. Together with the flame, charcoal greatly reduces the amount of oxygen in the area being soldered. In either case, oxygen is prevented from reaching the metal, so no cupric oxide firescale is formed.

A second oxide can also be formed when soldering copper or a high copper content alloy like bronze or brass. It's called cuprous oxide and is reddish in color. That's why a black looking piece you put in the pickle sometimes comes out red. Problem is that while the black cupric oxide is dissolved by a pickle, the red cuprous oxide is not. The discoloration can be sanded or polished off, but an easier way is to use a "super pickle". This is a mixture of fresh pickle with a healthy shot of hydrogen peroxide from the local store.

I've saved the worst form of discoloration, firestain, for last. Think of firescale (above) as like getting dirt on your shirt that you have to wash off. Firestain is like getting ink on it. The discoloration is not just on the surface, it seeps down and stains the material. Firestain happens when we heat a piece of silver too hot, too long, and/or too many times.

Firestain occurs when the oxides start to build up below the surface of the metal. You generally don't notice it until after polishing. It appears as a darker area of the surface and is easy to spot when viewed under light bounced off a piece of white paper. Because firestain is below the surface, there's no easy bench tip solution. Depletion guilding may work for some pieces. Otherwise, removing it calls for sandpaper and aggressive polishing. A much better approach for a piece that will require a large number of solderings is to protect the metal from developing firestain by applying liberal amounts of a firecoat. Regular soldering flux will provide some protection but is not as effective as preparations made specifically for the task. Jewelry supply companies offer several commercial solutions, but my favorite is the Prips mixture. I use it every time I intend to do more than two solderings on a piece.

Smart Solutions for Your Jewelry Making Problems
Amazon.com/author/bradfordsmith



Notes from the Editor

Bob Carnein

Newsletter Editor
ccarnein@gmail.com

Last month, we were privileged to publish the first part of Steve Veatch's article about the Castle Rock stone quarries. If you missed it, you can find it at the LGGMC website. Here's the rest of that article.

The Castle Rock Quarries: A Building Stone Bonanza

By Steven Wade Veatch

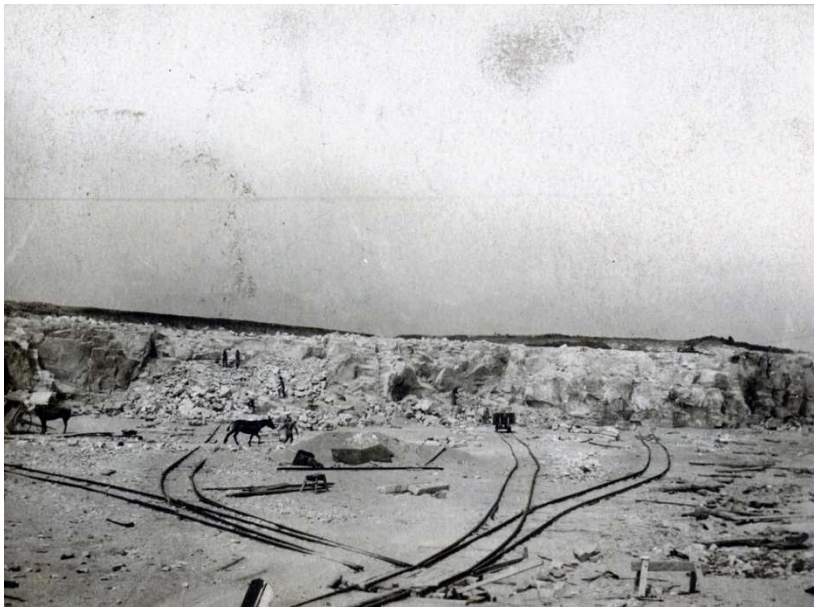


Figure 1. View of the Santa Fe quarry. A Santa Fe Railway spur improved transportation of the building stone to important markets in Colorado. Unknown photographer. Photo date circa late 1890s. Courtesy Douglas County Libraries Archives & Local History, no. 1997.011.003.

Decline of Quarries

By mid-1882 Castle Rock's stone quarries reached the height of their production. The quarries employed around 100 men and shipped between 30 to 40 carloads of building stone each day. Demand for the stone began to decline in 1884, and by 1886, business markedly slowed at the quarries, and they later closed.

By 1900, the Santa Fe quarry had captured most of the local building stone business. The increasing use of bricks and concrete by 1906 brought the closure of the Santa Fe Quarry, the last of the three main quarries (Murphy, 1992).

In 2007, thanks to a Great Outdoors Colorado grant, the Town of Castle Rock, together with Douglas County, bought 44 acres of the Madge quarry. This purchase, combined with other open space property, created the 174-acre Rhyolite Regional Park. The Madge trail reaches the mesa top

where the remains of the quarry are located. Today, the Santa Fe quarry is part of the Meadows subdivision west of I-25 and Castle Rock.

Limited quarrying of the rhyolite, which is still used today in buildings, landscaping, and road base, continues today. Rhyolite stonework decorates the bridges that span Sellars Gulch at Wilcox Street and Perry Street in Castle Rock. Schmidt Aggregate operates the Mencenberg quarry southeast of Castle Rock.

Buildings Made of Castle Rock Rhyolite

Castle Rock Rhyolite built many 19th and early 20th century buildings in Colorado, and a few survive today. Many historic buildings in the town of Castle Rock were built with the local rhyolite. These include the Cantril School, built in 1896; the St. Francis of Assisi Catholic Church, built in 1888 (now Scileppi's at the Old Stone Church Restaurant); and the Douglas County Courthouse built in 1890 (destroyed by an arsonist in 1978).

Figure 2. Castle Rock Café. Built with local rhyolite blocks. Photo date 2021 by S. W. Veatch.

Figure 3. Cantril School built in 1896 with Castle Rock Rhyolite. Photo date 2021 by Ben Elick.

Figure 4. St. Francis of Assisi Catholic Church built in 1888 with rhyolite (now Scileppi's at the Old Stone Church Restaurant). Photo date 2021 by S. W. Veatch.

Castle Rock Rhyolite was used in a large number of buildings in Denver. Denver's first city hall, once located at 14th and Larimer Streets, was built in 1886 with the rhyolite. The city demolished the building in 1936.

Figure 5. The old Denver City Hall was built with Castle Rock Rhyolite. This image shows the three-story building with a clock tower. From the postcard collection of S. W. Veatch.

The lower two floors of the Kittredge building (at 16th and Glenarm Place) are Pikes Peak Granite, while the top five floors are Castle Rock Rhyolite. Boston architect Henry Hobson Richardson designed this building, and it is a good example of the Richardsonian Romanesque style of architecture popular in the late 1800s. It features rounded arches and ornate carvings on the cornices and turrets (Murphy, 1995).

Figure 6. The Kittredge Building, located at 511 16th Street, Denver, Colorado. It was one of the first buildings in downtown Denver to have an elevator. Photo date July 2009 by Jeffrey Beall, Permission to use through Creative Commons license.

The Trinity United Methodist Church (at 18th and Broadway), with its remarkable stone steeple, was built in 1887 with Castle Rock Rhyolite (Murphy, 1995). The church is considered one of the greatest building projects of Denver architect Robert Roeschlaub (Murphy 1992). He was the architect for several downtown Denver commercial buildings from the late 1870s to the first few years of the 20th century.

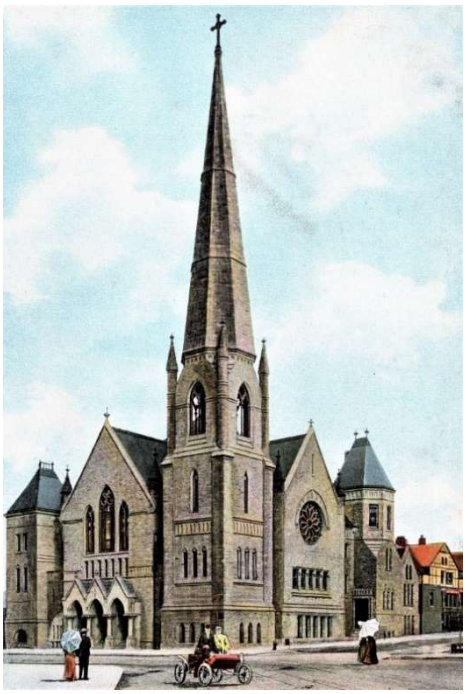


Figure 7. Trinity Methodist Church at 18th Street and Broadway in Denver is built from Castle Rock Rhyolite. From the postcard collection of S. W. Veatch.

Horace Tabor built the Tabor Grand Opera House at 16th and Curtis Streets in Denver and adorned it with Castle Rock Rhyolite. It opened in 1881 and was demolished in 1964.

Figure 8. View of the Tabor Grand Opera House at 16th and Curtis Streets in Denver. Castle Rock Rhyolite was used in its construction. From the postcard collection of S. W. Veatch.

Many fashionable mansions in Denver's Capitol Hill neighborhood, including the Molly Brown residence, were built with rhyolite. Wilbur S. Raymond, an investment banker, built an ornate mansion known as the Raymond House (Castle Marne) in 1890. William Lang was the architect and built the mansion mainly from Castle Rock Rhyolite. It has a five-sided corner bay, elaborate cornices, and a steeply pitched roof.

Figure 9. The Molly Brown House, 1340 Pennsylvania Street, Denver, was built in 1899. The mansion is attributed to architect William Lang. It is a mixture of red sandstone and dove-colored Castle Rock rhyolite. Margarete "Molly" Brown survived the sinking of the RMS Titanic. Photo date 1995 by S. W. Veatch.

Figure 10. The Raymond House (Castle Marne) at 1572 Race Street, Denver is built largely of Castle Rock Rhyolite. Photo date July 2009 by Jeffrey Beall, permission to use through Creative Commons license.

The Adolph J. Zang House, also referred to as the Gargoyle House, was built in 1889 in a Gothic-Romanesque architectural style by architect William Lang. Lang is known for his use of turrets, columns, gargoyles, rhyolite, and other polychromatic stones. Adolph Zang owned a brewery and had mining interests in Cripple Creek.

Figure 11. The Zang House is located at 1532 Emerson Street, Denver. Photo date July 2009 by Jeffrey Beall, permission to use through Creative Commons license.

The Russell and Elinor Gates Mansion was built in 1892. Gates was a successful merchant. The house is an excellent example of the Richardsonian Romanesque style with distinctive stone arches in the lower story.

Figure 12. The Gates Mansion, at 1365-1375 Josephine Street in Denver, Colorado. Photo date July 2009 by Jeffrey Beall, permission to use through Creative Commons license.

In Colorado Springs, the First Congregational Church was constructed in 1874 with Castle Rock Rhyolite. Several buildings on the Colorado College campus were also built with stone from a Castle Rock quarry (Jacobsen, 2014). The Union Printer's Home is almost entirely built with Castle Rock Rhyolite. General Palmer also used this material when he built the first Antlers Hotel.

Figure 13. First Congregational Church, in Colorado Springs, was built with Castle Rock Rhyolite. Postcard circa 1918. From the S. W. Veatch postcard collection.

Figure 14. Montgomery Hall, Colorado College. Tudor Revival style 1891 with Castle Rock Rhyolite. Photo date circa 1906. From the S. W. Veatch postcard collection.

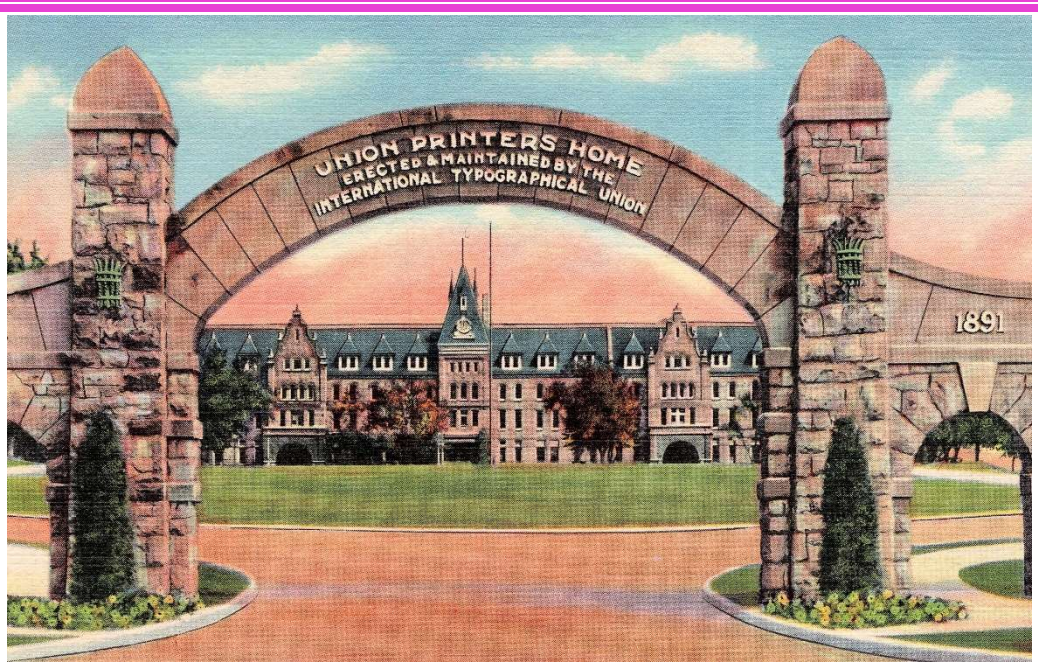


Figure 15. Union Printers Home, at 101 S Union Blvd., Colorado Springs, Colorado. Built in 1892 with Castle Rock Rhyolite. Union Printers Home, Colorado Springs. From the S. W. Veatch postcard collection.

Figure 16. The Colorado School for the Deaf and the Blind was established in Colorado Springs in 1874. Castle Rock Rhyolite was used in the construction of some of the buildings. The school continues to serve deaf and blind students in Colorado. From the S. W. Veatch postcard collection

Conclusion

Although Silas Madge did not find any gold on his ranch, he found rhyolite. The demand for the rhyolite as a building stone was high, and three main quarries produced stone between 1872 and 1906. Castle Rock became a boomtown thanks to the quarries.

As one of the commonly used building stones used in the late 1800s, rhyolite was an important construction material of many Colorado buildings, and was shipped to Omaha, Cheyenne, and Kansas City (Murphy, 1992). A number of Colorado's historic buildings, built with stone from Castle Rock quarries, still stand today.

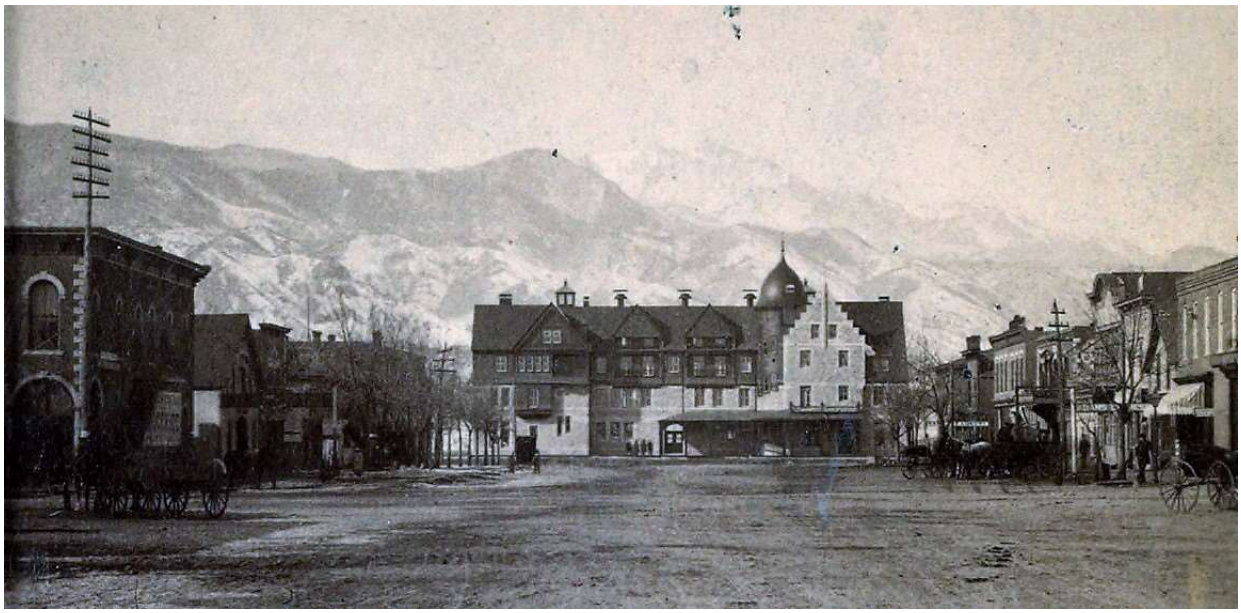


Figure 17. The original Antlers Hotel in Colorado Springs opened in 1883. The hotel was built by William Jackson Palmer with Castle Rock Rhyolite from the Madge quarry. The hotel burned down in 1898. Photo circa 1893 by Detroit Publishing Company. Photograph is public domain.

Acknowledgments

I thank Ben Elick for preparing and modifying the map used for this paper and for obtaining photos of Castle Rock Rhyolite. I thank Shelly Veatch and the Colorado Springs Oyster Club critique group for reviewing the manuscript, and Dr. Bob Carnein for his valuable comments and help in improving this paper.

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Monthly Mineral Quiz

Last Month's Mineral: Cerussite, $PbCO_3$

Last month's mineral commonly occurs in the oxidized zone (above the water table) in mixed sulfide deposits containing galena. Oxidation of pyrite produces sulfuric acid, which attacks the galena, producing cerussite and other secondary lead minerals (e.g. anglesite, wulfenite, pyromorphite, etc.). Cerussite was named for the Latin word, *cerussa*, meaning "white lead". It has a distinct cleavage, is very brittle, and has a specific gravity of about 6.55. Its luster varies from adamantine to dull. Color isn't a good identifying characteristic—about all one can say is that cerussite is usually light colored (but it may contain inclusions that darken the color significantly). Crystals are often tabular or bladed but vary considerably, and twinning is common (as in the specimen to the left, which is from the famous locality of Tsumeb, Namibia). The low hardness and brittleness mean that good specimens of this mineral must be handled with care.

Monthly Mineral for February (Carnein photos and collection).



The mineral for February is a another widespread collector favorite that you may not have found yourself. Although It may occur in ore deposits (the yellow crystals on the left above came from Cripple Creek), it's more common in cavities in sedimentary rocks, especially limestone/dolostone (the middle and right specimens above, from Ohio and Michigan, respectively). Color varies but is often blue (specimen to the right, from Madagascar). It's another brittle orthorhombic mineral with low hardness (3-3.5) and relatively high SG (near 4). The type locality is in my home state, where it occurs with calcite, strontianite, pyrite, and fluorite. What is this common mineral?

Eckel, E.B., 1997, *Minerals of Colorado, Updated and Revised by R.R. Cobban, et al.*: Golden, Colorado, Fulcrum Publishing.

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, lapidary work and 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 meets on the second Saturday of each month at the Lake George Community Center, located on the north side of US Highway 24 on the east edge of town, sharing a building with the county highway shops. **In the winter, we meet at 10:00AM. From April through October, we meet at 9:00AM, to allow more time for our field trips.**

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 also sponsor an annual Gem and Mineral Show at Lake George, where collectors and others may purchase or sell rocks, minerals, fossils, gems, or jewelry. Annual membership dues (Jan. 1 through Dec. 31) are $15.00 for an individual (18 and over), and $25.00 for a family (parents plus dependents under age 18). New memberships and renewals are only accepted Jan 1 through March 31 each year.

Our Officers for 2021 are:

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Membership Application/Renewal, 2022

Name(s)_____Date:_____

Address_____City_____State___Zip_____

Telephone( )_____-_____; e-mail:_____
(please print; e-mail address needed to receive newsletter)

Names/ages of spouse/minor members (if family membership)_____

_____

Dues for Jan. 1 through Dec. 31 are ____$15 (individual, 18 and over); ____$25 (family)

Current year membership renewal and application occurs Jan. 1-March 31, after which membership is closed for current year. Membership list will be purged April 1 for current year.

MEMBERSHIP MUST BE CURRENT TO PARTICIPATE ON ANY FIELD TRIP OR USE CLUB CLAIM.

I agree to abide by Club constitution, by-laws, and rules regarding field trips and Club-claim visits:

Signed_____ Date:_____/_____/_____

Is this a renewal? _____(yes); _____(no) (IF RENEWAL, NO DUES ARE DUE FOR 2022)

My interest areas include (check all that apply): ____minerals; ____fossils; ____lapidary

____micromounts; ____Colorado geology; ____Pebble Pups (ages 7-17); ____mining history;

____field collecting; ____crystallography; ____other (please specify):

I am willing to help with the following: ____Give a talk at a Club meeting; ____Give a presentation for

Pebble Pups; ____Run for a Club office; ___Newsletter editor/writer; ____Local Show/Show Committee;

____Field-trip Planning; ____Art (member badges); ____Membership Coordinator; ____Website

Assistance; ____Pebble Pups; ____Other (be specific)_____

Questions about Club or Activities? Visit our website or contact a Club officer.