

Lake George Gem & Mineral Club

Club News

January, 2022



All LGGMC meetings, including the January meeting, are now “on hold” until further notice. Watch the newsletter for updates.

The LGGMC Officers have decided to allow current members a free membership 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 (we hope) for a visit and to present the program.



Please Read: Yes, you can write an article about minerals, fossils, or an interesting field excursion. Don't hesitate to send an article to me for publication. I'll help you get it ready to read, and, who knows, you might win an award from the Rocky Mountain Federation of Mineralogical Societies! Members have been beating down my door to volunteer as Newsletter Editor. If you have decent computer and writing skills, it isn't too late to volunteer.

Contact me at ccarnein@gmail.com; I can help you to settle into the job.

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”. 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

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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:

- **The James Webb Space Telescope is on its way to a spot 1,000,000 miles from Earth:**
<https://www.youtube.com/watch?v=aICaAEXDJQQ&authuser=0>
- Quartz commonly contains inclusions of other minerals, but other minerals do, as well. Inclusions can provide important clues about a mineral's origin:

<https://www.geologyin.com/2017/01/types-of-mineral-inclusions-with-photos.html?fbclid=IwAR0LvDkgIOE1y7EUfhyYNTEEVbLGAK4LgmKuvhYKvP38hATnBGW2IUb1qKY>

...and here are a few links I found



- A superbly well preserved dinosaur embryo tucked inside an egg:

<https://www.dailykos.com/stories/2021/12/22/2070623/-Exquisitely-preserved-dinosaur-embryo-fossil-found-tucked-within-its-egg-like-a-bird?detail=emaildkre>

- It might not be a bad time to sell your Florida real estate:

https://www.sciencenews.org/article/antarctica-thwaites-glacier-ice-shelf-collapse-climate-5-years?utm_source=email&utm_medium=email&utm_campaign=latest-newsletter-v2&utm_source=&utm_medium=&utm_campaign=

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

Sorry, but, once again, we didn't receive any bench tips this month. Watch next month for the latest.



Notes from the Editor

Bob Carnein

Newsletter Editor
ccarnein@gmail.com

Our old friend Steve Veatch continues to supply interesting articles about central Colorado geology. The latest deals with the history of the building-stone industry in Castle Rock. This is a very long article, so I've divided it into two parts, of which this is the first installment.

The Castle Rock Quarries: A Building Stone Bonanza

By Steven Wade Veatch

Introduction

About 36.7 million years ago, the ground shook when a violent volcanic eruption started from a caldera near Colorado's present-day Mount Mt. Princeton (Meyer, 2003). From this location hot ash spewed from fiery fissures and, in a glowing cloud, swept across the landscape for 84 miles reaching Castle Rock in an hour (Matthews, 2009). This material cooled, compacted, and formed the Wall Mountain Tuff, a welded ash of rhyolitic composition (Izett and others, 1969; Epis and Chapin, 1974). Rhyolite is mineralogically related to granite, as it is composed mostly of quartz, sanidine, and biotite (Thorson, 2005). Wall Mountain Tuff, known locally as "Castle Rock Rhyolite," is about 60 feet thick and is found on mesa tops near Castle Rock (Thorson, 2004).

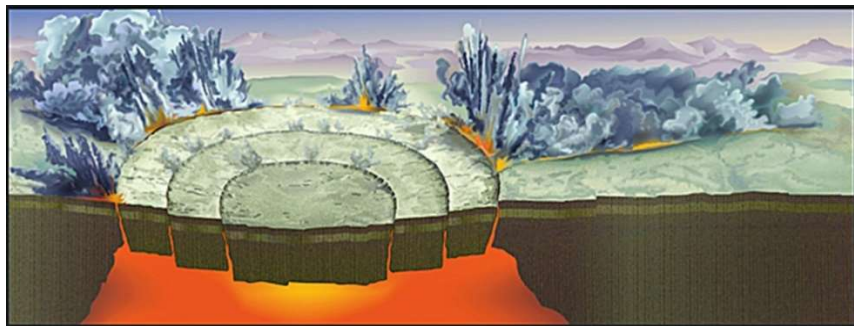


Figure 1. An artist's rendering of the cataclysmic eruption of the Wall Mountain ash flow near present-day Mt. Princeton 36.7 million years ago. This superheated cloud of hot ash and gas deposited a large volume of material. From Matthews, 2009, used with permission.

Today, Castle Rock Butte rises abruptly from the plains, east of Interstate 25, between Denver

and Colorado Springs. Castle Rock Butte is one of several promontories in the area that are more

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resistant to erosion because they are capped by a hard sedimentary rock known as the Castle Rock Conglomerate (Chronic and Williams, 2014; Koch and others, 2018). This conglomerate formed about 34.7 million years ago from the sand and pebbles washed in from the mountains to the west and southwest (Thorson, 2004). Below this conglomerate is the older Castle Rock Rhyolite.



Figure 2. The town of Castle Rock and Castle Rock Butte (looking north). Douglas County, Colorado. Photo date 1913. Plate 4 in U.S. Geological Survey. Folio 198. 1915. U.S. Geological Survey. Photographer: George Burr Richardson.



The Castle Rock Rhyolite, ranging in color from pink to gray, has a fine-grained texture and a high silica content, and breaks with a sharp conchoidal (curved or scalloped shaped) fracture. Because of its light weight and durability, it became an important decorative building stone used for facades, windowsills, trim, foundations, and garden walls in Denver-area commercial buildings, churches, train depots, and residences built in the late 1800s (Castle Rock Journal, 1900). The rhyolite also saw some use in other areas of the state. The stone has a rough surface texture that produces a play of light and shadows, an attractive effect that interested architects of that time (Murphy, 1992). Three main quarries produced rhyolite building stone: the Madge quarry started in 1872, followed by the O'Brien quarry organized in 1881 and started operations in 1882, and then the Santa Fe quarry in 1889.

Figure 3. Castle Rock Rhyolite was once a glowing, hot volcanic ash flow that spread across the landscape. This extrusive volcanic rock weathers to a light brown, lavender, pink, reddish brown, or maroon color. Photo date 2020 by Ben Elick.



Figure 4. A block of Castle Rock Rhyolite showing flow banding and spherulites that formed when it was molten. Photo date 2020 by Ben Elick.

Madge Quarry

In 1872 a Douglas County rancher, Silas Madge, dug prospect holes atop a mesa on his ranch just two miles south of Castle Rock (Harvey and Harvey, 1946). Instead of gold, he found rhyolite and learned that it had value as a building stone (Ormes, 1992). In Denver and in Colorado Springs, the market for building stones was excellent and growing. Madge signed a contract to provide stone for the Antlers Hotel in Colorado Springs and for several buildings on the Colorado College campus. Silas Madge built a road to the top of his mesa, 500 feet above the plains (Harvey and Harvey, 1946). Next, he and his ranch hands cleared the loose dirt and rock and opened a quarry. By 1882, Madge had a crew of 70 men, largely from Sweden, working in the quarry. (Some of their descendants still live in the area today.) Quarrymen performed all the work by hand using chisels, hammers, and other simple tools.

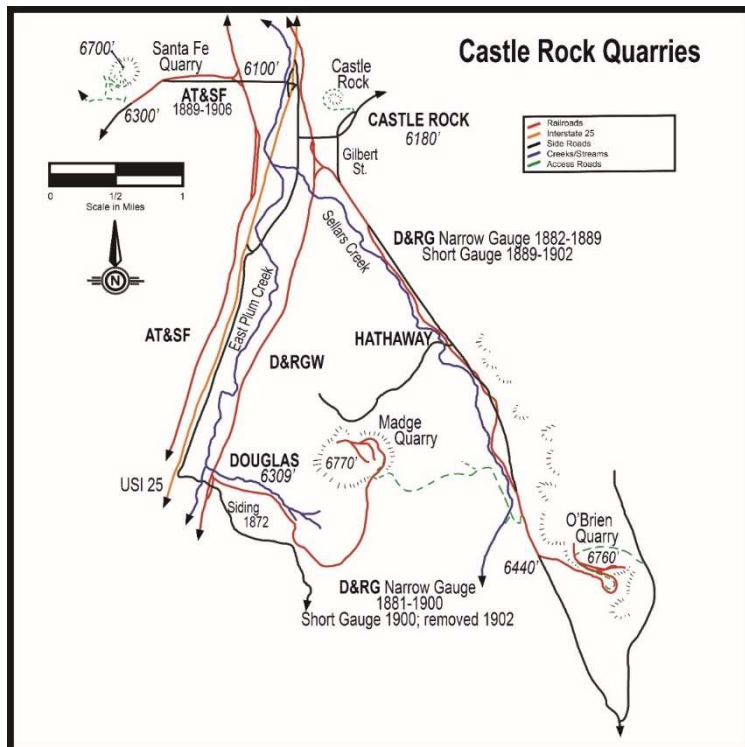


Figure 5. Map of the Castle Rock area showing the Madge, O'Brien, and Santa Fe quarries. Modified from Ormes, 1992.

The Denver and Rio Grande narrow-gauge railroad came to Castle Rock in 1871. By 1872, there was a railroad spur at Douglas siding, near the Madge quarry (Harvey and Harvey, 1946). This allowed Madge to ship rock brought down from the quarry by horse-drawn wagons (Murphy, 1992). Business boomed and by 1874 thousands of tons of "lava rock" had been shipped.

In 1880, the town of Douglas, home to several hundred residents, was established and grew because of Silas Madge's quarry. Madge built a boarding house there a year later. By 1881, the Denver & Rio Grande extended tracks from Douglas to the Madge quarry (Ormes, 1992)



Figure 6. View of the Madge quarry, later known as the Douglas quarry. Wagons are loaded with blocks of rhyolite. Unknown photographer. Photo date circa 1890s. Courtesy Douglas County Libraries Archives & Local History, no. 1997.011.0678.0002.

On February 1, 1882, a private school opened in Douglas with the primary purpose to teach the Swedish workers English. Apparently, the quarrymen were more interested in studying the charming teacher, Miss Wreck, than studying English (Harvey and Harvey, 1946). It was hard pick-and-shovel work at the Madge quarry in those days. Work. Hard work. The quarry was hot as a blister—the stone walls absorbed and reflected the blazing heat of the summer sun. Men hauled water in each day to keep the quarrymen hydrated. It took a day and a half for workers using a double jack to drill a hole 20 feet deep. A powder man would fill the hole with black powder and then light the fuse to detonate the charge. After the explosion, the men, using crowbars, would break out rock along the cracks and seams in the blast-fractured rhyolite. Stonemasons squared the rhyolite rocks and then loaded them by derrick onto the train for shipment. The quarry shipped stone in pieces that weighed about 100 pounds.

The quarrymen earned \$2.50 a day. After spending \$4.50 per week on board, they had little left to show for all their work in the quarry (Harvey and Harvey, 1946). They spent most of their pay in Castle Rock businesses. Local saloons were a favorite place to go. Under a canopy of cigar smoke the quarrymen played cards and pool and relaxed. Sometimes fights broke out after they drank too much.

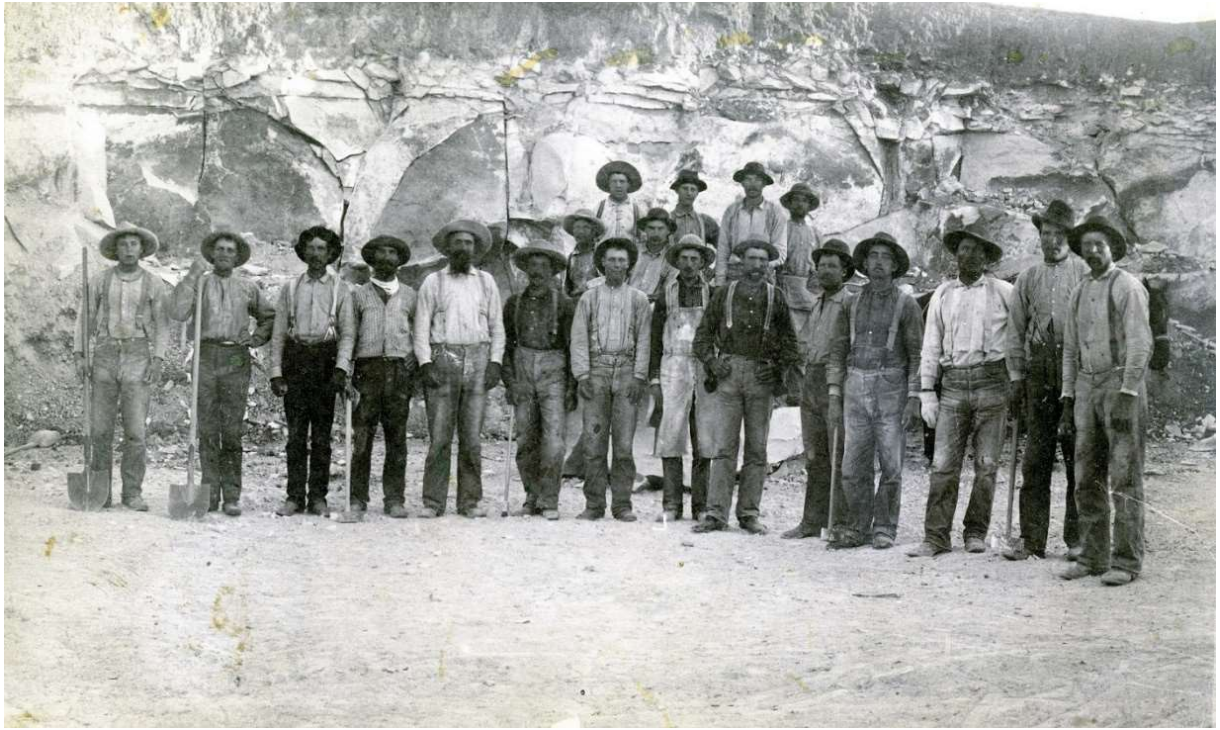


Figure 7. Quarry men pose at the Madge quarry, later known as the Douglas quarry. Some workers hold shovels, others hold sledgehammers. Unknown photographer. Photo date circa 1890s. Courtesy Douglas County Libraries Archives & Local History, no. 1997.011.0678.0001.



Figure 7. Abandoned Madge quarry mid-1990s. This view shows the thickness of the Castle Rock Rhyolite deposit, in some places up to 60 feet. Today this site is part of the Rhyolite Regional Park. Photo date 1995 by S.W. Veatch.

The quarrymen's work was difficult and dangerous, and claimed the lives of a few of them. While cutting stone for the Antlers Hotel, a fatal accident took place when a train engine, backing up, hit a flatcar that was buried in snow. The flatcar cut off a conductor's leg at the knee. Despite the efforts of the engineer to save him, the conductor died. A second fatality occurred in 1883, while a train was coming up from Douglas to Madge's quarry. A rail moved from its tie and caused the track to spread apart. As a result, the train and engine fell over, crushing George H. Parks, the engineer to death (Harvey and Harvey, 1946). A young quarryman, A. A. Anderson, had his toe severed in an accident at the Madge quarry and was laid up for a few weeks (Harvey and Harvey, 1946).



Figure 8. Closeup view of the Madge quarry. Photo date 1995 by S. W. Veatch.



Figure 9. Fracture pattern in the Castle Rock Rhyolite from a blast during quarrying at the Madge quarry. Photo date 1995 by S. W. Veatch.

O'Brien Quarry

The largest rhyolite deposit in Douglas County occurred on the ranch of Pleasant O'Brien, who had purchased the land from General William J. Palmer, the founder of Colorado Springs to the south. O'Brien leased his land to the Colorado Stone Company, which was organized in 1881 (Harvey and Harvey, 1946). By March 1882, the Denver and Rio Grande Railroad spur reached the base of the outcrop (Harvey and Harvey, 1946). August "Gus" Nelson managed the quarry. Later, General Palmer extended the track to the upper part of the quarry (Harvey and Harvey, 1946).

In the corners of the O'Brien quarry men used small, broad-wheeled cars pulled by mules to move the stone. An incline tramway brought rock down from the top of the mesa to railway cars waiting below. A full tram car, going down the mesa, pulled an empty tram car up to the top of the quarry.

Accidents and injuries also occurred at the O'Brien quarry. In March 1882, a quarryman named Bumgardner was injured when overhanging rock crashed down on him (Harvey and Harvey, 1946). On May 10, falling rock, loosened from a blast, hit two workmen: Thomas Carroll and Calvin Brooks

(Harvey and Harvey, 1946). Carroll's back and leg were broken. Brooks suffered a broken leg, wrist, and internal injuries. Both were rushed to Denver for treatment. Brooks died from his injuries. Carroll survived but was paralyzed for life.

In 1887, J. M. Curry of Denver leased both the Madge and O'Brien quarries. Curry then traveled about the state to get contracts for building stone. He was successful, and more than 350 train cars were needed to ship the orders for rhyolite from the Madge and O'Brien quarries that year (Jacobsen, 2014). By 1888, Castle Rock was a boom town. The railroads were transporting significant quantities of rhyolite to Denver, Colorado Springs, Pueblo, Cheyenne, Omaha, and Kansas City.



Figure 10. Quarrymen take a break at the Santa Fe quarry. Unknown photographer, photo date circa 1890s. Courtesy Douglas County Libraries Archives & Local History, no. 1992.001.0678.0100.

Santa Fe Quarry Jonathan Thomas of Kansas City opened the Santa Fe quarry to the west of Castle Rock in 1889. The Atchison, Topeka, and Santa Fe railroad built a one-mile spur to the new Santa Fe quarry, the same year the quarry opened.

Eventually Thomas asked Gus Nelson, who had successfully run the O'Brien quarry, to operate the Santa Fe quarry. While Gus was busy supervising the quarry, his wife Anna ran the boarding house (Hoffman, 2005). Her days were filled with cooking and washing for the quarrymen (Hoffman, 2005). It was here that Gus and Anna raised five boys. Three of their boys were born at the Santa Fe quarry.

Prior to his death in September 1945, Gus Nelson had this to say about his lived experiences at the Santa Fe quarry:

In 1896 Jonathan Thomas came to be at the upper O'Brien camp and asked me to take charge of the Santa Fe quarry, west of Castle Rock. When we moved up to the quarry, where we were to remain for ten years, we found a boarding house, a small office building, a bunkhouse for the men, and an artesian well. Mrs. Nelson took charge of the boarding house. I started to work that summer with a crew of men, but it was almost impossible to get out much rock, due to the 25 to 50 feet layer of dirt and fine rock covering the stone.

I was discouraged and was considering giving up my contract when Jonathan Thomas visited the quarry. He persuaded me to stay, offering to pay me \$4.50 wages, as well as anything I might make on contracted stone during the period of time required to strip the outcrop. That was big wages in those days

and the wife and I decided to put the whole \$4.50 aside each day in a separate fund toward the cattle ranch we hoped someday to own. It took 8 months to complete the stripping.

We made our living from the boarding house. Most of the time I ran a crew of 12 to 15 men, but sometimes we worked as high as thirty. Mr. Slagel was manager for Mr. Thomas. He had a small office building at the quarry and traveled about the state, soliciting orders for building stone.

After the stripping was done, we followed the cracks or seams in the lava stone, breaking out the rock with a crowbar. When this was impossible, a hole was drilled by hand to a depth of 15 to 20 feet. This would take the men on average of a day and a half. I acted as powder-man most of the time. The hole was filled with black powder and the fuse ignited. The rock blown out in this fashion was then squared off by the stone masons, loaded into the tram cars for its trip down from the quarry to the railroad spur, where it was reloaded on the flat cars.

In the quarry we used a derrick to load the largest pieces of stone. Whenever possible we ran a tram track over the floor of the quarry to the section in which we were taking out rock. Sometimes we had to use small broad wheeled carts pulled by mules to reach the more remote corners. The mules were used on top the quarry in the stripping process and in operating the derrick. Most of the stone was shipped in pieces weighing about 100 pounds and loaded by the derrick. We shipped lots of rough stone too, and some rubble.

When the stone reached its destination it was cut to blocks of the desired size and squared off on five sides by stone masons. The sixth side was left rough and plastered over on the inside of the building. The dressing of the stone at the building site was an art in itself.

I paid the men two dollars a day. We worked six days a week and they were long days—from seven to seven. The work was hard and it was difficult to get good quarry men. I would go into Denver on Saturday and come back with five or six new hands. They stayed at the boarding house and ate their heads off, over the weekend. On Monday morning we were lucky if even two of them showed up for work at the quarry. They enjoyed a well-fed Sunday and departed by boxcar for Denver or Pueblo on Monday. However, I had one quarryman who stayed on the job for nine years, and another for eight years.

At the end of the first year of operation . . . I handed a check for \$1,000 to Mr. Thomas . . . as for myself, after I paid all wages, settled for the black powder, etc. I cleared about \$500 a year. In the ten years we operated the quarry we saved \$4,000.

When we worked a full crew we took out about six carloads of stone a day. We shipped rock to Colorado Springs, Denver, Nebraska, Pueblo, and Kansas City. It was widely used by the railroads for bridges and depots. Denver was our best market.

In 1906 the stone business was almost finished, due to the wide use of concrete. So we took our \$4,000 savings and bought a cattle ranch in Jarre Canyon, just above Sedalia. I operated it for years, making a good living running cattle. My son Harry lives there now but the ranch still provides us with a good income. We have lava rock to thank for the realization of our dreams, a large cattle ranch of our own (Harvey and Harvey 1946, p. 124-125).



Figure 11. Photograph of Anna Nelson, wife of August Nelson, standing in the doorway of her boardinghouse at the Santa Fe quarry near Castle Rock, Colorado, on July 1, 1903. Unknown photographer. Courtesy Douglas County Libraries Archives & Local History, no. 1992.001.0633.0001.

Mrs. Anna Nelson recalls her life at the Santa Fe quarry boarding house:

I operated the boarding house for ten years . . . We had from 10 to 30 men to feed each day. The men had to be up on the hill at seven o'clock so breakfast must be on time. We got everything ready the night before, set the tables, ground the coffee, and cut the meat so that in the morning all we needed to do was make the oatmeal and stir up the pancakes.

We set a good table. Mr. Nelson wouldn't stand for anything else; he worked the men hard and said they needed good food and lots of it. We baked 20 large loaves of bread every other day. I had a big strong Bohemian woman to help me . . . For dinner we always started with some

kind of soup. The men were very fond of a dried fruit soup, a Swedish dish, made with ground prunes, raisins, tapioca, and sugar. Sometimes we served milk soup made with rice, water, milk, and salt. We had two or three vegetables, bean peas, tomatoes, and always potatoes. We served two kinds of meat at each meal, except breakfast. For dessert there was dried stewed fruit and cake, or else pie. When the manager came, of course we always fixed extra.

We bought everything wholesale from Denver or Castle Rock. I had a large ice-box outside the door where I could store a quarter of beef or pork. We had our own chickens and milked five cows. Mr. Nelson broke out a piece of land where we raised our own vegetables. The men paid \$4.50 a week board. After all bills were paid, we showed little or no profit on the boarding house but we had our living from it.

It wasn't exactly an easy life, but I managed . . . and I had five small boys. My oldest son, Harry, was born in Denver in 1894, George was born at the upper O'Brien camp and Gus, Carl, and Frank at the Santa Fe quarry. You can do anything if you plan your work. I cooked three meals a day for ten or more men, cared for five children under 10 years of age, took care of the garden, milked five cows, and still had time in afternoons to hitch up the horse to the buggy and drive into Castle Rock to shop . . .

We lived at the quarry for ten years, and it was a welcome relief to move my family of growing boys to the ranch at Sedalia (Harvey and Harvey 1946, p 126-127).

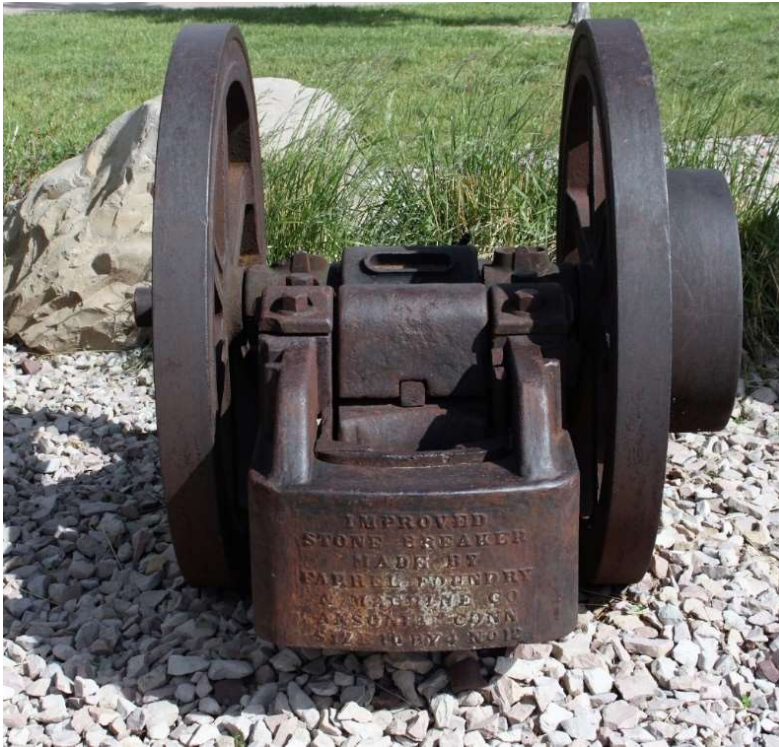


Figure 12. A mechanical stone breaker used in the quarries, to break rocks into smaller pieces for shipping. Photo date 2020 by Ben Elick.

The town of Castle Rock knew Nelson for his legendary strength, and the old timers told this story: One day teamsters unloaded a large block of rock salt, weighing over 500 pounds, in front of the general store in Castle Rock. The store proprietor, as a joke, offered the salt block to anyone who could take it away. Several local men tried, but no one could move it. Gus Nelson accepted the challenge. He put his brawny arms around it, lifted it off the ground, and heaved it onto his wagon. Nelson then climbed on his wagon and drove away with enough salt to last him a lifetime.

(to be continued)

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----- . 2005, Geologic Map of the Castle rock north quadrangle, Douglas County, Colorado: Open-File Report 05-2, Colorado Geological Survey, Division of Minerals and Geology Dept. of Natural Resources Denver, CO.

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Monthly Mineral Quiz

Last Month's Mineral: Stilbite, a complex hydrated aluminum silicate with Ca, Na, or K dominant.



Stilbite is a zeolite mineral named by Jean Claude de la Métherie for a Greek word meaning “glitter” or “shine” or “mirror”—a reference to its pearly or vitreous (glassy) luster. As is typical of the dozens of naturally occurring zeolites, stilbite has a low SG, moderately low H, and is light colored (usually yellowish, white, or colorless, although it may be colored by impurities). “Sheaf-shaped” crystal groups like the one to the left are typical and help to distinguish it from other common zeolites. It is actually a sub-group of the zeolite group, consisting of two “end members” (barrerite, which is Na-rich, and stellerite, which is Ca-rich). Members of the sub-group are most common in volcanic rocks, especially in tuffs and in amygdules in basalt and andesite. You may have collected several of them, including “stilbite”, at North Table Mountain, near Golden, CO.

Monthly Mineral for January (Carnein photos and collection).



The mineral for January is a collector favorite, but one that you may not have found yourself. It occurs in the oxidized parts of lead-zinc-copper-silver deposits (so-called “mixed sulfide” deposits). Its properties include a very high SG (about 6.6), adamantine (“diamond-like”) or vitreous luster, low hardness (about 3 to 3 ½), and orthorhombic crystals. The crystals commonly form V-shaped or snowflake-like twins (as in the specimens shown). It’s common in Colorado but relatively rare as collector-quality specimens. What is this abundant 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.