The Lake George Gem and Mineral Club -

Club News

February, 2017

Dues are due; membership application is at the back of the newsletter! Membership closes on March 31.

February 11 Meeting Starts at 10:00 AM

Program for the month: Saturday February 11:

Our business meeting will be followed by a presentation by **Donovan Sutters** about cleaning and preparing mineral specimens. This is a follow-up to Donovan's October presentation but giving many more hints for cleaning the more difficult specimens. He will have further hints for the more sophisticated collectors who need to get the best look for their specimens. Our collecting season is over, and many members have questions about how to clean and prepare the specimens that they found last year. Donovan also moderates a Facebook site which addresses mineral cleaning methods. The group is the place to discuss experiences and ask questions about all aspect of mineral-specimen preparation: cleaning, trimming, etc.

We still have some Lake George Gem & Mineral Show tee shirts that are available in sizes L and XL for $15. These have the small club logo on the left front chest and the large logo on the back. They are very high quality Hanes shirts. We are also ordering new LGGMC ball caps that should arrive in time for the meeting.

Also, during the meeting, **we will continue a silent auction** for some cool specimens and other items donated by Club members. If you have "extra" items that you'd like to donate, please bring them and we'll add them to the auction.

<u>The following officers were elected for 2017 at the December 10 Meeting:</u>
President: **John Sprouse**
Vice President: **John Rakowski**
Treasurer: **Bobby Korzekwa**
Secretary: **Norma Rhodes**
Editor: **Bob Carnein**

Bob Baker and **Linda Watson** are planning a great selection of field trips for 2017 (see below).

Coming Events

✔ ✔ Several mineral, fossil, and geology clubs meet relatively nearby and encourage visitors. These include:

>**Cañon City Geology Club**, meets on the 2nd Monday of the month at 6PM in the United Methodist Church, Cañon City;

>**Colorado Springs Mineralogical Society**, meets on the 3rd Thursday of each month at 7PM in the Colorado Springs Senior Center, 1514 N. Hancock Ave., Colorado Springs;

>**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;

>**Pueblo Rockhounds**, meets on the 3rd Thursday of each month at 6:30PM in the Westminster Presbyterian Church, 10 University Circle, Pueblo.

✔ ✔ **Pete Modreski** sent notices of the following upcoming events:

Thurs., Feb. 2, 7:00 p.m., **The end of the Laramide Orogeny as we know it: The switch from porphyry copper to Au/Ag veins,** by William A. Rehrig, exploration geologist. Friends of the Colorado School of Mines Geology Museum's "First Thursday" lecture series on the CSM campus in the Ben H. Parker Student Center, Ballroom E, Maple Street, Golden. Socializing begins at 6:30 PM and the lecture will start at 7:00. Admission is free and all are welcome.

Feb. 24-26: **DGMG Annual Gem, Mineral, and Jewelry Show**, Jefferson County Fairgrounds, 15200 W. 6th Ave., Golden. Free Admission.

Sat.-Sun., March 4-5, Journey to the Jurassic – Exploring the Morrison Formation, WIPS (Western Interior Paleontological Society) 10th Founders Symposium. Green Center, Colorado School of Mines campus, Golden.

Fri.-Sat.-Sun., Mar. 31-Apr. 2, Fort Collins Gem & Mineral Show, sponsored by the Fort Collins Rockhounds Club, at the McKee 4-H Building, Larimer County Fairgrounds/The Ranch, I-25 exit 259. 4-8 p.m. Fri., 9-6 Sat., 10-5 Sun.

Fri.-Sat.-Sun., Apr. 14-17, Colorado Mineral and Fossil Spring Show, Crowne Plaza Hotel - Airport, 15500 E. 40th Ave. Denver, CO. See http://www.rockygems.com/colorado-mineral--fossil-spring-show-2017.html .

Sat., May 13, Friends of Mineralogy, Colorado Chapter, Silent Auction. Clements Community Center, 1580 Yarrow St., Lakewood CO, 12:00-4:00 (setup begins at 10:30 a.m., auction begins at 12:00, verbal auction 1:00, all tables will close by 3:00 p.m., checkout follows).

Fri.-Sat.-Sun., June 2-4, Pikes Peak Gem & Mineral Show, sponsored by the Colorado Springs Mineralogical Society. At Mortgage Solutions Financial Expo Center, 3650 N. Nevada Ave., Colorado Springs.

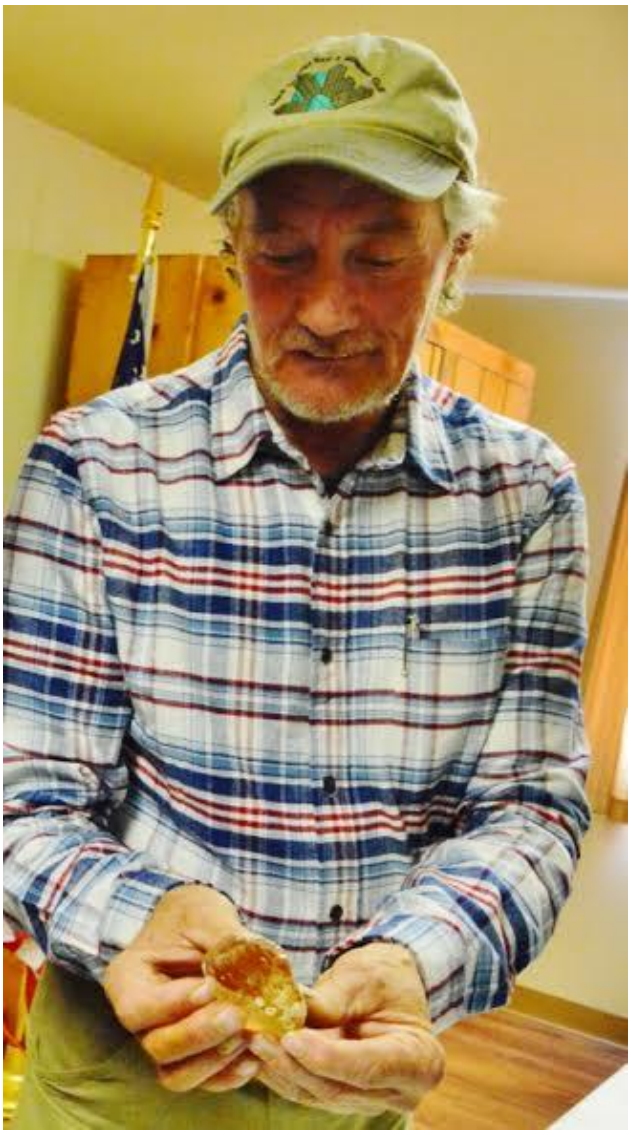
Fri.–Mon., July 21-24, Gold and Silver Deposits in Colorado, a symposium cosponsored by the Friends of the Colorado School of Mines Geology Museum and DREGS (Denver Region Exploration Geologists Society). "The event will feature two days of talks (July 22 - 23) and two days of field trips (July 21 and 24) to historic Colorado gold and silver mining areas."

✔ ✔ **Bob Baker** sent this note about this summer's field trips:
The 2017 Field Trip Coordinators are beginning to plan our field trips for the year. We plan on having both Wednesday trips and Saturday trips in an effort to get as many people as possible out into the field and alleviate the overcrowding pressure we have sometimes seen.
I welcome any suggestion for a trip and volunteers for Trip Leader.

Our goal is to continue the level of excellence that our club had for many years under the direction of Todd Mattson and others.
Bob Baker
bobsboards46@gmail.com
719-464-7102

✓ ✓ **Frank Rosenberg** sent some pictures of the Jan. 14 meeting, at which **Rich Fretterd** and **Jean Cowman** presented an update on the Agnus Dei claim:

We had a good crowd, despite light snow…



✔ ✔ For you lapidaries out there, here's a link to a new blog, operated by someone in California:

Lapidary Lovers – a blog just for us!

Lapidary lovers now have a blog just for us! *www.LapidaryWhisperer.com* has just come online, and I hope you will check it out. It's an online community for lapidary lovers where I'll post a new blog entry every other Wednesday.

I'd love to hear what you think about the blog. Please write me directly at*Donna@LapidaryWhisperer.com* , or, if the comment box isn't showing at the bottom of the blog entry, click on "No Comment" at the bottom and the comments block will appear.

Let's enjoy this wonderful art and craft together!

Your Lapidary Whisperer, Donna Albrecht

✓ ✓ Speaking of lapidary arts, the International Gem Society's e-Newsletter recently had a great article about cutting cabochons. It's at: https://www.gemsociety.org/article/lapidary-fundamentals-cabochon-cutting/

✓ ✓ **Wayne Orlowski** sent several interesting links, including the following:
** If you have ever wondered about how each of the elements originated, this new Periodic Table shows the astounding origins of every atom in your body
From Science*, a Flipboard magazine by* Dave Mosher

Read it on Flipboard

✓ ✓ Upcoming programs include the following:

March: Joe Dorris on Teller and Park county pegmatites;
April: Conrad North on fluorescent minerals.

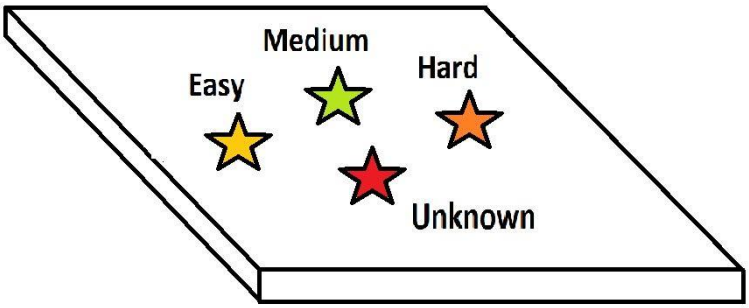
✓ ✓ And here is the latest installment of "Bench Tips" by Brad Smith (www.BradSmithJewelry.com):

ADJUSTABLE CHUCK FOR DREMELS

Many of us have a Dremel motor tool to use at home or when out to a class or workshop. The one thing that makes this tool much more productive is the addition of one inexpensive option, an adjustable chuck.

The basic motor tool as sold typically comes with a collet chuck. This means you have to use a wrench to change every tool bit, you have to switch collets to use different shaft sizes (3/32 or 1/8 inch bits), and you can't use ordinary drills at all - only the special ones that have a 3/32 shaft.

A simple and inexpensive ($12) adjustable chuck solves all of this. It's available in most large local hardware stores or model-making outlets. Tightening the chuck is done easily by hand to any size shaft. No key is required.



IDENTIFYING UNMARKED SOLDERS

There are plenty of ways to mark your sheet or wire solders, but suppose you forget and have a couple that you can't identify. The answer is to compare the melting temperature of the unknown with that of a known solder. What I do is take a thick scrap of copper or nickel and arrange several solders on it. Ideally, I have a sample of easy, medium and hard known solders surrounding the unknown solder. Then I heat the plate from the bottom and watch the order in which the solders melt.
==========

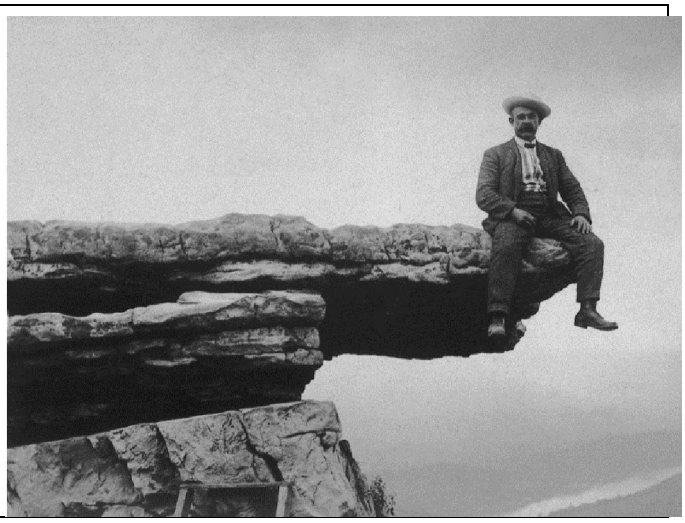
See all Brad's jewelry books at Amazon.com/author/Bradford Smith

Notes from the Editor

Bob Carnein, Editor

ccarnein@gmail.com

719-687-2739



I was pleased this month to receive the following article by Club member Bev Keith. Bev and her husband Don are co-Presidents of the Pueblo Rockhounds. Enjoy!

Stromatolites in Fremont County

Prepared by Beverly Keith

It was a very cold morning on December 1st, 2016, when Don and I attended a field trip with members of the Fremont Stones ‘n Bones Club and the Royal Gorge Regional Museum. The purpose of the trip was to view two large stromatolites and an outcrop of the Lykins Formation located on private property east of Canon City. One of the stromatolites is to be donated by the property owner for display at a Geology Time Trail, which is being constructed at the Pueblo Community College Fremont Campus in Canon City. The above named groups are sponsoring this project. Accompanying us was Karen Whiteley of the Department of Earth

Sciences, Denver Museum of Nature & Science. She co-authored a paper entitled: “The Permian-Triassic Transition in Colorado” for the Geological Society of America, Field Guide 44. Part of Ms. Whiteley’s project involves mapping outcrops of the Lykins Formation in Colorado.

This location in Fremont County was new to Ms. Whiteley, and she was very interested in seeing the outcrop. She explained that the Lykins Formation has not been extensively studied, and new outcrops could reveal additional data. We were told that sediments of the Lykins occur at the transition between the Permian and Triassic Periods when one of the greatest extinctions of all time occurred: the Permian-Triassic mass extinction (252 mya).

Karen Whiteley at Lykins Fm. exposures near Cañon City. (Photo by Don and Bev Keith)

All participants were anxious to see the specimens and to learn more about the Lykins Formation. We arrived at the location and met the owner, who explained that he had moved the smaller boulder-size stromatolite up to his house using his backhoe. The group then walked a short distance up a natural drainage area towards the other specimen. The left side of the wash began to rise to about 5 to 6 feet in height and extended in front of us for a distance of approximately 30 to 40 feet; this was the Lykins Formation. As we approached the site, we saw several huge mounds projecting out of the top layer of the Lykins. To our amazement, we realized they were huge stromatolites! Don and I have seen small stromatolites during our years of rock hounding, but it was quite a surprise to see so many large boulder sized stromatolites at one location!

On the ground was a very large stromatolite, approximately 5 to 6 feet long, 2 to 3 feet wide, and 3 to 4 feet high, that the owner had removed from the outcrop with his backhoe. This was the specimen that is being donated to the project. We marveled not only at its size but also its condition, considering the use of a backhoe. All of the stromatolites, especially the one designated for donation, were quite impressive, with many signature layered and swirling patterns.

Immediately, we recognized one very big problem. This specimen is so huge that it will take quite an assembly of machinery (and money) to move this monster to the campus of the local Community College. Hopefully, the problem can be worked out. We so much wanted to collect specimens, but unfortunately we were not allowed to do so. Instead, we took pictures of the Lykins Formation and the stromatolites.

Stromatolite to be saved at the Geology Time Trail (Photos by Don and Bev Keith and Cindy Smith).

At the site, Ms. Whiteley gave us a short presentation concerning the Lykins Formation and the formation of stromatolites. She told us stromatolites are commonly found in the Lykins Formation. Raindrop imprints, mud cracks, and ladder ripples (found in the Lykins limestone) tell researchers that the sediments were laid down in intermittent quiet conditions in hyper-saline waters. The most common *in-situ* fossils are stromatolites, and they occur in all six intervals (members) of the Lykins Formation: Blaine, Greenacre Lentil, Falcon, Forelle, Poudre, and Park Creek. Ms. Whitely explained that she would need to study the sediments at this location to know which member was represented. (Note: recent communications with Ms. Whiteley reveal that she believes the site exposed the Forelle Member, but she will reassess the area in the spring.)

Later that morning, the group met at the Community College in Canon City, where Ms. Whiteley gave a detailed technical presentation regarding the paper she co-authored. All of the following data concerning stromatolites are from several references, all noted at the end of this paper.

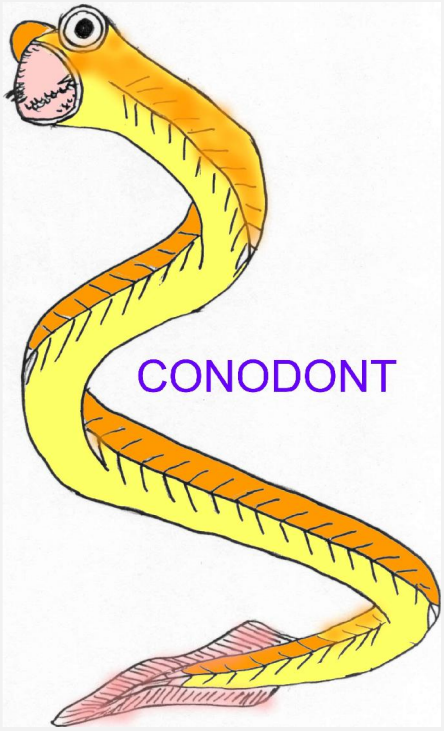
Stromatolites are thinly layered limestone structures. They form when a sediment surface is coated with a layer of cells of blue-green algae that organize into thread-like filaments, becoming a sticky algae mat. The mat traps, binds, and cements fine sand and silt particles into coherent layers. As waves/currents bring in more sediment particles, the filaments trap them, covering the algal mat. Within hours, the algal filaments grow up through the new layer of sediment and incorporate it into the mat while repopulating the new top surface. Repetitions of this process produced fine laminations. As the algae grow around the trapped sediments, a layered structure or mound known as a stromatolite is formed.

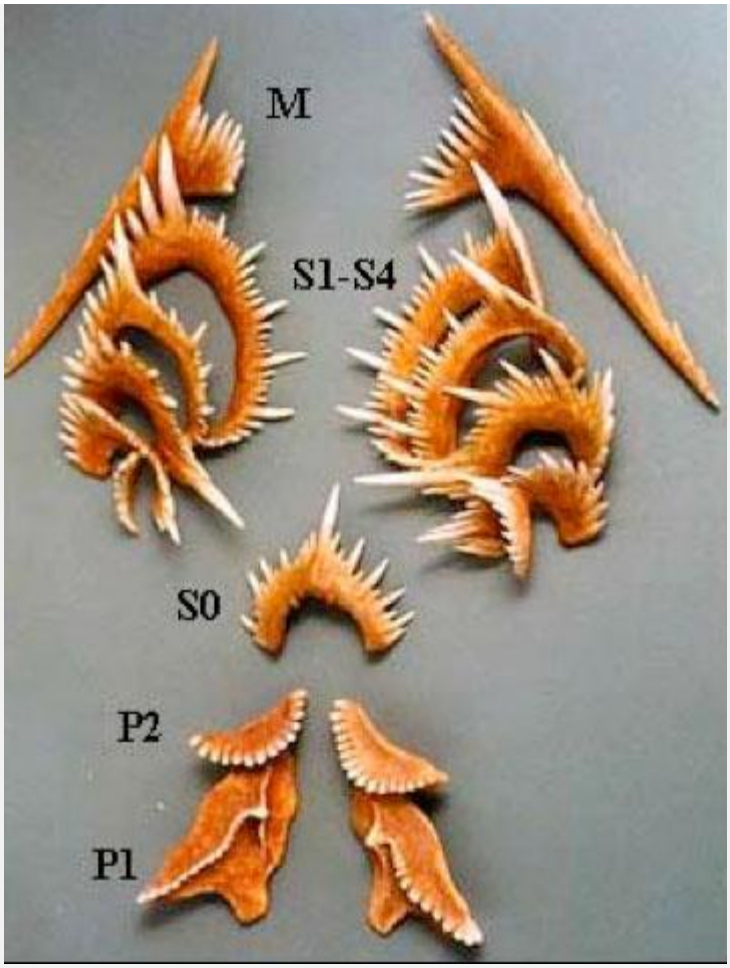
Overview of Lykins outcrop. (Photo by Don and Bev Keith)

Swirling patterns in stromatolites represent algae growth in fluctuating tidal pools, where they were subject to wave action and alternating emergence and submergence. Blue-green algae (cyanobacteria) prefer hyper-saline waters that are relatively warm, calm, and shallow: the same type of waters where some sediments of the Lykins Formation were deposited beginning about 299 mya. Stromatolites exist in a range of sizes, from millimeter size growths to many meters across. They grow atop mudstones, limestone (carbonate) beds, and other stromatolites. They also occur in a variety of forms: flat, wavy, columnar, or in mounds.

Stromatolites are not actually fossils of the algae, but are a kind of trace fossil that preserves their form. The same rock may also contain fossils of other marine organisms. Conodont fossils have been found with stromatolites, suggesting that perhaps juvenile conodont animals sheltered around stromatolites for protection. Conodonts first appeared in the Late Cambrian Epoch and were very abundant until the Late Triassic Epoch. These early eel-like animals did not have vertebrae; only their very small teeth fossilized. They were composed of calcium phosphate, similar in composition to the bones and teeth of vertebrates. Conodont teeth are typically less than 0.5 millimeters in length and are known as microfossils. Conodonts occur in various kinds of marine rocks. Researchers collect the teeth by dissolving marine rock in a weak acid. The acid does not affect the teeth and the teeth collect in the residue. Because of their small size, the teeth are studied under a microscope.

Conodonts are the best zone fossils to use for dating Paleozoic marine rocks. These fossils have helped researchers determine the earliest age estimate for the Lykins Formation (299 mya), as well as the date for the Permian/Triassic mass extinction (252mya).





Supposed conodont animal. (bio.sunyorange.edu) **Conodont fossils (magnified). (www.geol.umd.edu)**

In summary, stromatolites are widely distributed in the fossil record. They include some of the oldest recorded forms of life, dating back to the Archean Eon, over three billion years ago. Stromatolites played a very important role in the history of the Earth, contributing oxygen to Earth's atmosphere. This allowed more advanced life forms to evolve, including humans. Stromatolites continue to form today, especially in the intertidal zone of Sharks Bay, Australia.

References & Further Reading:

Hagadorn J. W., *et al.,* 2016, The Permian-Triassic Transition in Colorado: Denver, CO, The Geological Society of America, Field Guide 44.

Hagadorn, J. W., and K.R. Whiteley, 2013, Colorado's Lykins Formation: An Overlooked Succession of Crinkled Limestone, Miniature Molluscs, and Permian-Triassic Mass Extinction: Denver, CO, The Geological Society of America.

Van Diver, B. B., 1990, Roadside Geology of Pennsylvania: Princeton, NJ, Mountain Press Publishing Co.

Wignall, P. B., 2015, The Worst of Times: How Life on Earth Survived Eighty Million Years of Extinctions: Princeton, NJ, Princeton University Press.

2017 Membership Application, Lake George Gem & Mineral Club
Box 171, Lake George, Colorado 80827
www.LGGMClub.org

Date: _____/_____/20____

Name(s) _____

Address _____ City_____ State_____Zip_____

Telephone ( )_____-_____ Email (please print) _____
(required to receive newsletter and field-trip info)

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

Dues for Jan 1 through Dec. 31 each year are as follows (please check membership type):

____ Individual (18 and over)……..$15.00

____ Family (includes dependents under age 18)……$25.00

Dues are due on or before March 31. Members with unpaid dues will be dropped from the roster on April 1.

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

Signed_____ Date:_____/_____/20____

I am or have previously been a member of Lake George Gem & Mineral Club. Yes____ No____

My interest areas include (check all that apply): Minerals___; Fossils___; Lapidary___; Micromounts___; Colorado geology___; Pebble Pups (ages 7-17)___; Mining History___; Crystallography___; Other _____

I am willing to give a talk/presentation to (the Club) or (Pebble Pups) on _____

_____and/or lead a field trip to (list)_____

I am willing to participate/help in the following ways (can choose more than one): Club Officer____; Newsletter Editor/Writer____; Local Show/Show committee____; Nominating Committee____; Winter Programs Committee____; Field Trips____; Art (badges)____; Membership Coordinator ____; Website Assistance____; Pebble Pups____; Other (be specific)_____

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

Updated 2016

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

The Lake George Gem and Mineral Club is a group of people interested in rocks and minerals, fossils, geography 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).

Our Officers for 2017 are:

John Sprouse, President
402 Fremont St.
Penrose, CO 80814
719-372-3172
coedodge@yahoo.com

John Rakowski, Vice President
PO Box 608
Florissant, CO 80816
719-748-3861
rakgelogist@yahoo.com

Bob Korzekwa, Treasurer
11120 Falls Ave.
Green Mountain Falls, CO80819
bobbykorzekwa@yahoo.com

Norma Rhodes, Secretary
7546 Duck Hawk Place
Fountain, CO80817
normajalexander@gmail.com

C.R. (Bob) Carnein, Newsletter Editor
507 Donzi Trail
Florissant, CO 80816
719-687-2739
ccarnein@gmail.com