LGGMC Newsletter

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---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
38874 Hwy 24
Lake George, CO 80827

Map to Lake George Community Center

Map to Lake George Charter School

Lake George Gem & Mineral Club

March 2025

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. A link to a map of the meeting location is provided on the sidebar under "Contact Us. Between Oct – Mar, our meetings start at 10 AM. From Apr-Sep, our meetings start earlier, 9 AM, to allow for more time for any subsequent field trips.

Club Officers

2025 introduces a new face to our club management team. Please welcome our new Field Trip Coordinator, Corey Miller. Following are the LGGMC Officers for 2025. Please reach out if you need any help.

President	Dave Bruess	***david@bruess.me***
Vice President	Bart Zobel	***bezobel@gmail.com***
Secretary	Steve Kahler	***pipprophet@gmail.com***
Treasurer	Karen Vogl	***bigmabe@hotmail.com***
Newsletter Editor	Betty Bowles	***bbowles2@gmail.com***
Field Trip Coordinator	Corey Miller	***corythevaulter@gmail.com***
Show Coordinator	Carol Kinate	***kinatec@aol.com***

To Join Our Club – (2025 Annual Membership Applications are being extended through April)

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 Extension!!

Due to ongoing issues with our online registration process, our current year membership application and/or renewal has been extended to **April 30, 2025**. Membership for 2025 is closed after this time. We do apologize for any confusion with the process. Please contact us if you have questions about your status. Last year's membership list will be purged on May 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

The quickest and easiest way for one to join our club is online. Visit ***OUR CLUB WEBSITE*** and follow the "Register" option. If you are already registered and want to pay your membership dues online for 2025, follow the "Login" option. If you have any difficulties with verifying your payment, please contact us.

One may also apply for membership in person at our monthly meetings or by mailing in the application and fee. The application can be dowloaded in PDF format from ***HERE***. 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 newsletter sidebar, **---Contact Us---** under **Postal Address**. Remember to get your application in before the extended date of May 1, 2025!

Annual Membership Fee

Annual membership dues are collected as follows:

LGGMC Annual Membership Dues 2025		
$15.00	Individual	Age 18 and over
$25.00	Family	Parents + kids under age 18

Look Forward to Our Next Meeting (10 AM Feb 8, 2025 @ Lake George Charter School)

First, Summary of February Meeting

Beyond the normal business meeting, Bart Zobel led a discussion on field trip options for 2025. He presented a survey and requested that club members complete to get their input for field trips that they would like to see for the year.

Members are encouraged to take the field trip survey found on the following link: **2025 Field Trip Survey:**

https://www.surveymonkey.com/r/3PB PBCF

You're welcome to take the survey again if you filled the one out at the February meeting. Additional questions have been added and we are looking for more exciting suggestions for collection trips. Please consider coordinating and or leading a trip as well. The more we as members participate, the more fun we will have!

What's Up for March 2025 Meeting

For our March meeting, David Bruess will be giving a presentation on the basics of mineral photography.

Upcoming Events

Saturday March 22, 10:00 - 11:00, **Rocky Mountain Dinosaur Resource Center, Woodland Park, CO**
The Dinosaur Resource Center was established in 2004 as part of Triebold Paleontology INC. They offer a variety of museum related services including fossil mounting, molding, and casting; 3D scanning and printing; traveling exhibits; and more. Join us for a guided tour that is open to all LGGMC members.

Events at Denver Museum of Nature and Science 2025 Earth Sciences Colloquium schedule:

Talks are in-person-only, from 2–3 pm, usually in the 3rd Floor Community Room. The Community Room is on the 3rd floor at the entrance to the diorama hall. Museum admission not required to attend. Enter through Staff/Volunteer entrance, 50' east of main visitor entrance, and let Security know you're attending the talk, they will direct you to the location. All are welcome to attend. For the full year's schedule see: https://sites.google.com/view/dmns-earth-science-colloquium/home .

Events at Colorado School of Mines Geology Museum, Golden:

Sat.-Sun., Mar. 1-2, Rock, Mineral and Fossil Sale; 9 a.m.-4 p.m. 3/1, 1-4 p.m. 3/2, + preview sale 1-4 p.m. Feb. 28 for volunteers and Friends of the Museum only.

Also Sat. Mar. 1, 1-4 p.m., Free Mineral ID Day too!

Fri. Mar. 7, 6-9 p.m., Free First Friday Night at the Mines Museum; all are welcome! The free First Evening also includes an optional event, a special **Gemstone ID session with Museum Executive Director and Gemologist Renata Lafler**, registration $10, call 303-273-3815.

[The following next Free First Friday at the Museum will be Friday, April 4.]

Wed. Mar. 19, "Wednesday Night at the Museum with Kirk and Ray; with Kirk Johnson and Ray Troll, authors of "Cruisin' the Fossil Freeway"; tickets required (see the Museum website for more info; click on events, then click on the graphic for the Kirk & Ray event. Registration required; tickets are $10 for the evening reception and book signing, and $100 to include a special limited-capacity one-hour presentation by Kirk and Ray preceding the reception. Museum website: https://www.mines.edu/museumofearthscience/ . Other information also on facebook at https://www.facebook.com/MinesMuseum .

Thurs., Mar. 20, Colorado Scientific Society March meeting, **"Lava dams, Footprints, and Faults: some vignettes from the USGS luminescence dating lab in Denver, Colorado"** by Harrison Gray, U. S. Geological Survey, Luminescence Dating Lab. 7:00 p.m., at Golden Calvary Episcopal Church. For full info see: https://coloscisoc.org/ . All are welcome.

Sat.-Sun., Mar. 22-23, Western Interior Paleontological Society (WIPS) biennial Symposium, "**Retrospectives: celebrating 4 decades of paleo advances".** For info on this and the monthly WIPS meetings, see https://www.westernpaleo.org/ .

Thurs., Mar. 27, Friends of Mineralogy, Colorado Chapter, monthly meeting, featuring Dr. Aaron Celestian, Mineral Sciences Curator, Natural History Museum of Los Angeles; "Prospering backyards: a collaboration of art, science, and community". 5:30 p.m., Berthoud Hall Room 243, CSM campus, Golden. See https://friendsofmineralogycolorado.org/events/ for more info. All are welcome.

June 12-16, FMCC is also sponsoring a symposium, **Specimen Mines of the United States,** to be held on the Mines campus. For information see: https://friendsofmineralogycolorado.org/symposium/ .

Fri.-Sat.-Sun., Mar. 28-30, Fort Collins Rockhound Club 62nd Annual Gem and Mineral Show, (Fri. 4-8 p.m.; Sat., 9-6; Sun. 10-4) at The Ranch/Larimer County Fairgrounds in the Thomas M. McKee 4-H, Youth and Community Building, 5280 Arena Circle, Loveland, Colorado. Free parking; admission charge. Show theme is "Feldspar and Jasper".

Meet Our Neighbors

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 2nd Monday of the month at 6PM at United Methodist Church, Cañon City.

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

Columbine Gem & Mineral Society

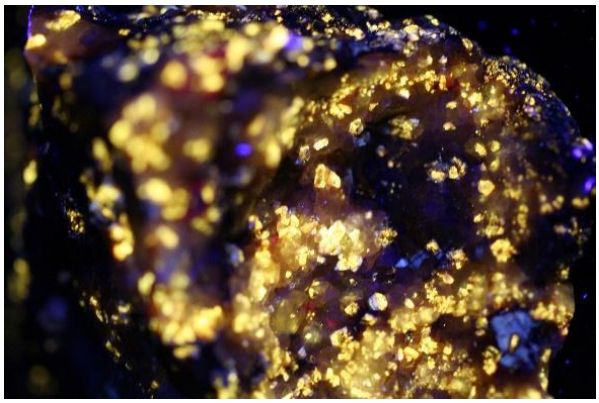
Meets on the 2nd Thursday of each month, 6:30PM at meeting room, Mt. Shavano Manor, 525 W. 16th, Salida

Colorado Springs Mineralogical Society
Meets on the 3rd Thursday of each month at 7PM Colorado Springs Christian School, 4855 Mallow Rd, Colorado Springs.

Mineral of the Month Quiz - Bob Carnein

Monthly Mineral for March, 2025 (Carnein photos and collection)

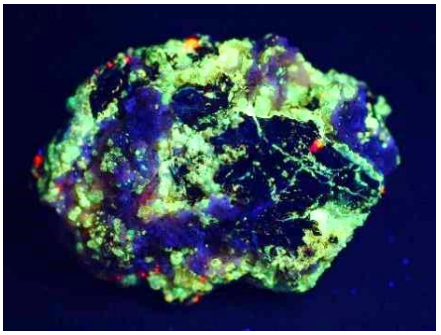




Heres a mineral that is of special significance to geologists for radiometric dating. Its physical properties (H=7 ½; SG=4.6-4.7; toughness), chemical properties (presence of thorium as an impurity; chemical stability), and widespread occurrence (all major rock types and placers) all make it useful for dating. Some of the oldest rocks in the world were dated through separation and analysis of this mineral. Its physical properties also sometimes make it a valuable gemstone. Simple, tetragonal crystals are common. One of the best localities in the US is about 20 miles from my house (middle and right-hand photos). The right-hand photo shows its typical response to SW UV, but it may also fluoresce in LW UV. I wouldn't be at all surprised if you have collected this mineral. What do you think it is?

Last Month's Mineral: Willemite, Zn_2SiO_4

This photo shows the typical response of willemite to shortwave UV. In this case, the green fluorescence is relatively weak. Rather than being the "usual" material from Franklin/Ogdensburg, NJ, this piece came from the Sedalia mine, in Chaffee Co. Willemite from this locality is rarely seen—I have collected on the dumps a half-dozen times but have never seen a sample. Besides its fluorescence, willemite can often be identified by its hardness, SG, and crystal habit (trigonal prisms). It's pretty common in deposits containing zinc (sphalerite) but is sometimes misidentified because of its unfamiliar (to most collectors) yellow fluorescence in longwave UV. This is typical where the mineral is of secondary origin. Although willemite was an important ore of zinc at Franklin/Ogdensburg, it's normally not common enough to be an ore mineral.



Interesting Reads

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

Geodes 101: Plus Where They're Found

Geodes are popular since there is always a surprise inside. The most famous come from Keokuk, Iowa. Learn how to find them and what may be waiting inside.

Read More

Rock Tumbling for Beginners

Rock tumbling erodes the surface of rocks so they become smooth. It involves a series of steps using abrasives, polishes and a tumbling machine. Here's how...

Read More

Gypsum Crystals: Utah's Dirty Diamonds

Gypsum crystals from the Great Salt Lake are nicknamed "dirty diamonds." They are found as floater crystals in clay beds where they form in a diamond shape.

Read More

Rock Collecting Beyond the Rock Shop

Rock collecting often starts when in a gift shop. To take it from the mall to the field, you've got to have the right gear. Here's what you need.

Read More

Hawaiian Gemstones: Kilauea's Olivine Crystals

Olivine, also known as a Hawaiian diamond, tops Hawaiian gemstone lists. Learn more about this volcanic mineral including how it forms and gets its green color.

Read More

Lake County Diamonds: Volcanic Gems

Lake County diamonds display color effects similar to genuine diamonds. These are objects borne of violent eruptions that people hold up to the sun in wonder.

Read More

Onyx: A Field Guide Overview

Onyx usually refers to a black-and-white banded variety of agate but it has also been applied to monochromatic agates with dark and light parallel bands**.**

Read More

Claiming & Naming Mines: A Frontier Spirit

Mines staked in the late 1800s under the "1872 Mining Law" have names that provide a telling glimpse into life in the frontier mining regions. Here's a look...

Read More

Is Ice a Mineral ?

Ice is transparent to translucent, has a vitreous luster, variable hardness and a low specific gravity. It occurs in massive and crystalline form. Here's more about why ice is a mineral...

Read More

Obsidian 101: Formation and Types

Obsidian is a volcanic glass formed when molten felsic lava cools suddenly. Is it a mineral? The answer lies in how it's formed. Explore obsidian and its types.

Read More

From ROCK SEEKER, TEST YOUR KNOWLEDGE
How Much Do You Know About...Moonstone?

1. What optical effect is characteristic of moonstone?
A) Chatoyancy
B) Opalescence
C) Asterism
D) Labradorescence

ANSWER

2. Rainbow Moonstone is essentially a high-clarity form of which mineral?
A) Orthoclase
B) Labradorite
C) Albite
D) Microcline

ANSWER

3. Which material is commonly used as a substitute for regular moonstone?
A) Opalite
B) Cubic zirconia
C) Glass
D) Plastic

ANSWER

4. Why can moonstone be tricky to tumble despite its hardness?
A) It has a brittle structure with internal properties that require careful handling
B) It is too soft to withstand tumbling
C) It dissolves in water
D) It reacts with most tumbling compounds

ANSWER

5. What is the first step in cleaning raw moonstone?
A) Polishing with cerium oxide
B) Soaking in a chemical solution
C) Scrubbing with soapy water
D) Applying a sealant

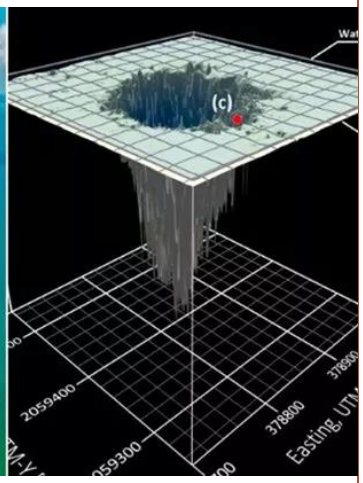
Blue Holes in the Bahamas

Reported by Betty Bowles

One of the neatest geological curiosities found in the Bahamas is a structure called a blue hole. They may be found inland on any one of the hundreds of coral structural based islands or in their surrounding seas. I first heard of blue holes when the Bahamian locals told of a time when Zach Cousteau came in on his vessel, Calypso, to explore them for his documentary, The Undersea World of Jacques Cousteau - E16 - Secrets of the Sunken Caves. The investigation of these blue holes, which are spotted throughout the Bahamas, led to a better understanding of the sea levels of the oceans before and after ice age events. Here is how.

Blue holes are actually caves that formed in the coral based limestone from which the current day islands are made. The most recent blue holes and caves lie within the top few hundred yards of the limestone surface and were formed during the Pleistocene period over the last million years as a result of the last ice age. During the Ice Age, the ice caps rose and spread over the world causing the sea water levels to slowly fall. Throughout the islands during this time, fresh water easily dissolved the island limestone base, creating tiny holes throughout. First, little enclosed pockets formed and the moving water enlarged cracks in the rock forming an open passage. Eventually underground caves with their stalactites and stalagmites formed deep down in the ground as a result. At the end of the ice age, ice melted and the sea level rose again. These deep caves were filled with seeping salt water forming what we know today as blue holes.

Blue holes come in many shapes and sizes. Often they are circular, but some are not. This circular formation is usually typical of either collapsed caverns or from the erosion caused by rain. Over time the rain wears away the irregular edges and forms a circle.



In contrast many of these similarly formed blue holes found in the sea are irregular in shape, presumably because they have not been subjected to surface erosion like the ones on land. Sea water is saturated with calcium carbonate and cannot do any further dissolving of the limestone, so the shape of the offshore blue holes is probably much the same as when the sea rose to its present level.

Blue holes are a unique feature of limestone rock and are found in the areas of the world where limestone exists in abundance. As the Bahamas is made of pure limestone, it contains the highest concentration of blue holes in the

world. All the major islands of the Bahamas have blue holes, but Andros Island has the greatest number with 178 documented blue holes on land and at least 50 in the sea. One of the most impressive blue holes in the Bahamas is Dean's Blue Hole of Long Island. It is the third deepest blue hole in the world with a depth of 201 meters (663 feet).

The blue holes in the Bahamas have been interesting to both marine biologists and geologists. In a blue hole, a thin lens of fresh water—supplied by rainfall—lies atop a denser layer of salt water. The freshwater lens acts as a lid, isolating the salt water from atmospheric oxygen and inhibiting bacteria from causing organic matter to decay. Scientists have discovered that deep down in a blue hole where the freshwater and saltwater meet, a layer of leaves and detritus (broken up organic material) can be seen. This layer is highly populated by bacteria feeding on the organic material which in turn supports many tiny creatures that are only found living at this point and nowhere else in the world. Essentially, it is its own ecosystem. Blue holes have also provided a great place for fossil discovery in the Bahamas. Read here to find out more: Extinct animals, archaeological artefacts, and human remains have been found there.

The Scottish Highlands, the Appalachians, and the Atlas: Once United as the Central Pangean Mountains

Reported by Wayne Orlowski

The Scottish Highlands, the Appalachian Mountains, and the Atlas Mountains may seem like distinct and separate ranges today, but they were once part of a massive mountain chain that stretched across the ancient supercontinent of Pangaea. This ancient ridge, known as the Central Pangean Mountains, played a crucial role in shaping Earth's geological history.

The Formation of the Central Pangean Mountains

The Central Pangean Mountains formed during the collision of two supercontinents, Laurussia and Gondwana, around 335 million years ago during the Carboniferous period. This colossal mountain chain ran from present-day North America through Europe and into North Africa. At its peak during the early Permian period, the Central Pangean Mountains rivaled the modern-day Himalayas in height and scale.

A Once-Mighty Ridge Shaped by Time

Over millions of years, the powerful forces of erosion and plate tectonics began to reshape the massive Central Pangean range. The Permian period saw intense physical weathering, reducing the towering peaks and carving deep valleys. By the Middle Triassic period, the mountains had significantly diminished, leaving behind vast intermontane plains.

By the early Jurassic period, roughly 200 million years ago, Pangaea began to break apart. As the landmasses drifted, the once-unified Central Pangean Mountains fractured into separate ranges. The geological remnants of this ancient chain are what we recognize today as the Scottish Highlands, the Appalachian Mountains, and the Atlas Mountains of Morocco.

The Legacy of the Central Pangean Mountains

The remnants of the Central Pangean Mountains serve as a testament to Earth's dynamic geological history. These mountain ranges, though now separated by vast distances, share a common origin and exhibit similar rock formations, mineral compositions, and fossil records.

From the rugged beauty of the Scottish Highlands to the misty peaks of the Appalachians and the arid landscapes of the Atlas Mountains, the geological fingerprints of the Central Pangean Mountains remain embedded in these landscapes. This ancient connection highlights the immense power of plate tectonics, erosion, and natural forces in shaping the planet over hundreds of millions of years.

The Scottish Highlands, the Appalachian Mountains, and the Atlas Mountains may no longer be physically connected, but their shared history tells a remarkable story of Earth's past. Understanding the formation and transformation of these ancient mountain ranges helps scientists uncover critical

insights into plate tectonics, geological evolution, and the history of Earth's supercontinents.

The next time you admire the towering peaks of the Scottish Highlands, hike through the Appalachian trails, or explore the Atlas Mountains, remember—they were once part of the same great chain that once crowned the supercontinent of Pangaea.

Scholarship Opportunity 2025 (Apply Jan-Mar 2025)

$1000.00 scholarship opportunities are being offered to young individuals who wish to pursue their educations in various earth science studies. Check out the flyer below!