LGGMC Newsletter

Lake George Gem & Mineral Club

April 2024

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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 GYM

Map to Meeting Location

About Us

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

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

Club Officers

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

President	Dave Bruess	***david@bruess.me***
Vice President	Bart Zobel	***bezobel@gmail.com***
Secretary	Steve Kahler	***pipprophet@gmail.com***
Treasurer	Cathy McLaughlin	***cathy_mclaughlin@hotmail.com***
Newsletter	Betty Bowles	***bbowles2@gmail.com***
Field Trip Coordinator	Dave Alexander	***dave@davealex.com***
Show Coordinator	Carol Kinate	***kinatec@aol.com***
Pebble Pups Coordinator	Betty Merchant	***betty.merchant@yahoo.com***

Club Officer Biography

This month, we would like to introduce you to our Secretary, Steve Khaler.

I must give credit to Paul Combs for his "Geology of Teller County" course, which kindled my interest in geology. After Paul's class, I joined the LGGMC and my rockhounding interests took off from there. I have been a member of LGGMC since 2014. I enjoy lapidary and that has further led to mixed metal jewelry making, which I enjoy doing with my wife, Shelly.

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

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

Annual Membership

Current year membership application and/or renewal and application occurs only during **January 1-March 31**. Membership is closed for the current year after this time and last years membership list will be purged April 1. Please note that all memberships must be current in order to participate on any field trip or to use any club claim.

How to Apply

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

Annual Membership Fee

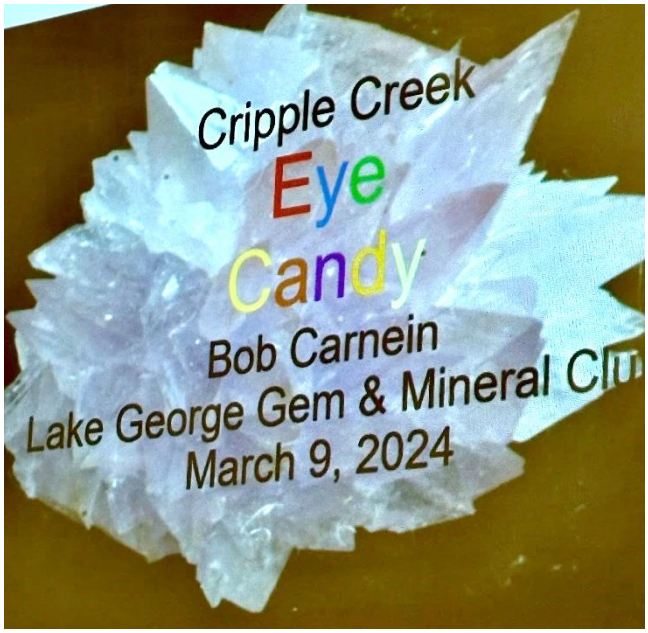
Annual membership dues are collected (Jan. 1 through Mar. 31). They are as follows:

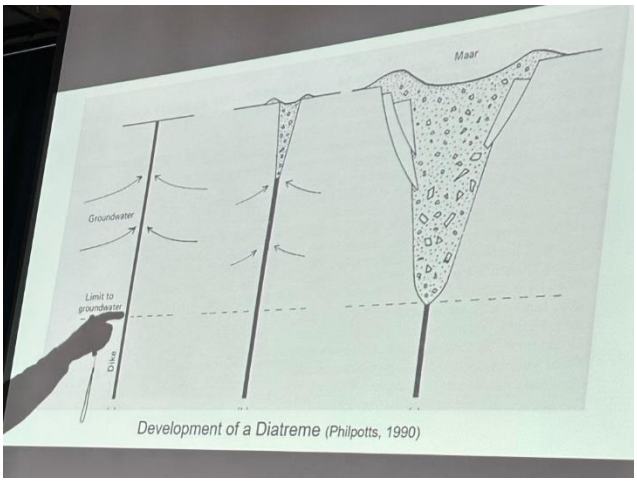
LGGMC Annual Membership Dues 2024		
$15.00	Individual	Age 18 and over
$25.00	Family	Parents + kids under age 18

Look Forward to April Meeting (April 13, 2024)

At our April meeting Dave Bruess will make a presentation on the past, present, and potential future of mining claims.

From the March meeting, where Bob Carnein was our guest speaker, we have some photos taken by Laura Canini. Thank you, Bob!





Upcoming Events

Colorado Mineral & Fossil Spring Show

(April 12-14, 2024)
Crowne Plaza, 15500 East 40th Avenue, DIA, DENVER, CO

Discover the ultimate mineral and fossil extravaganza with RMGM Promotions! Our renowned events grace three states each year—Colorado, Texas, and Tucson, Arizona—bringing together over 180 premier dealers showcasing top-notch minerals, fossils, and meteorites from across the globe. Whether you're a seasoned collector or a curious enthusiast, our shows offer both retail and wholesale shopping opportunities, ensuring something for everyone.

Southern Colorado Rock & Mineral Show

(May 3-5, 2024)
COS Convention Center, 3960 Palmer Park Rd COS, CO

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

Club Meeting Mineralogy 101

(May 11, 2024)
Lake George charter School Gym, Lake George, CO

John's Rakowski's popular 101 presentation at monthly meeting will be followed with the club claims trip on the same day. An overflow trip for Saturday 5/18/2024 is currently available for signup on the club website.

Johnstown Meteorite

(July 6, 2024)
Roosevelt High School, 3349 Roosevelt Pkwy, Roosevelt High School, Johnstown,CO

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

Pikes Peak Gem & Mineral Show

(June 7-9, 2024)
Norris Penrose Event Center, 1045 Lower Gold Camp Rd, COS, CO

This the 60th annual event which is hosted by the Colorado Springs Mineralogical Society. This event will feature over 50 vendors offering gems, minerals, and fossils from Colorado and around the world, as well as jewelry, sculptures, meteorites, and more! Enjoy this family-friendly event with activities for the kids, exhibits from private collections, lapidary and faceting demonstrations, gold panning, door prizes every 30 minutes, and mineral auctions.

Annual Victor Gem & Mineral Show

(June 14-16 2024)
Victor, CO

The annual Victor Gem & Mineral Show presented by the Southern Teller County Focus Group (STCFG) in Victor, Colorado will be held the third weekend in June.

The event will be held in downtown historic Victor and is open and free to the public. The show will include vendors from across the state selling Colorado dug minerals. Items for sale will include polished gems, hand-crafted jewelry, rough slabs, specimens, cabochons, geodes, and more. There will also be gold and gem panning at the Victor Lowell Thomas Museum. Show hours are from 9 to 5 Friday and Saturday and 9-4 on Sunday.

Florissant Heritage Day Festival

(July 27, 2024)
Florissant, CO

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

Club Volunteer Needed!!!

We are looking for someone to coordinate the annual Florissant Hertiage Day Rough-To-Gem event. If you have not participated, this is a fun outreach event where the club shows off lapidary tools and skills, and a highlight is we cut rocks for ourselves and visitors. It is a lot of fun and not too much effort to lead this event. Dave Alexander would like someone to help him this season so he can share the process of coordinating and facilitating the event as this will be his last season for doing this event.

Upcoming Field Trips

We had a lot of enthusiasm for the trips published in March.

Due to popular demand, we will be splitting the Prospecting 101 field trip into two trips. The original trip will stay the same, Saturday May 11th and the second date will be Saturday May 18th. Anyone is welcome to join the presentation part at our Saturday May 11th club meeting (it is amazing, highly recommended for anyone new to prospecting).

Due to parking restrictions, however, only people signed up for the trip will be able to join us to the club claims. We will be doing the second presentation and trip on Saturday May 18th, again at the Lake George school then caravan after the presentation to the club claims. If you are signed up for this trip, your place in line will be honored; we will send an email with more details on what you need to do (if anything) by us splitting the trip into two. After the trip is split, folks can signup for either trip, but not both. The field trips that we have available for sign-up at the April meeting are as follows:

May 4, 2024 (SAT)	Mushroom Gulch
May 5, 2024 (SUN)	Corral Bluffs
May 22. 2024 (WED)	Hartsel Park Barite

Now is a great time to re-read the two important documents "LGGMC Field Trip Rules" and "AFMS Code of Ethics". This is a required ANNUAL read by all club members that choose to sign-up for field trips. We urge you to read this, it is obvious many of the questions we get each season are due to folks not reading these required documents.

Website Field Trip Signup

Based on feedback from membership, here are some pointers for web sign-up for our field trips:

- We will be allowing sign-up for most field trips first at our monthly club meetings. This encourages folks to participate in our award-winning club meetings.
- Sign-up on the field trip website will occur approximately within a week following our club meeting. Each trip will detail the date it will be available for web sign-up. This date typically won't change especially once we finalize the trip's leader.
- The availability time for website sign-up is at Midnight on the date stated.
- You will see TBD somewhere in the trip (title, leader, meeting place) and see information at the top of the trip's details if the trip is not yet Confirmed. These trips details are subject to change, including trip date, availability date, etc.
- If a field trip is made available outside of this normal process, you will see an email notification come in from our website; make sure you keep an eye on your spam/junk mail email folders.

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.

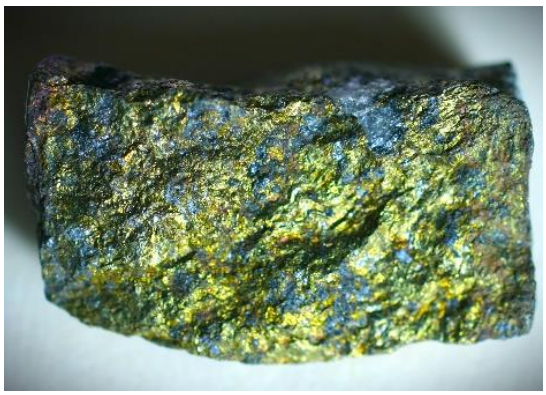
Pueblo Rockhounds
Meets on the 3rd Thursday of each month at 6:30PM at Westminster Presb. Church, 10 University Circle, Pueblo

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



The monthly mineral for April is a common and important ore of a base (non-precious) metal. It looks a lot like several other minerals, but it can be distinguished by its low hardness (3.5 to 4), moderate specific gravity (4.1-4.3), greenish black streak, and tetragonal crystals that resemble tetrahedrons (see middle photo, above). Its bright golden color is often obscured by iridescence (again, see the middle photo). This is a common hydrothermal mineral, but it also occurs as masses in dark colored igneous rocks such as gabbro. A large deposit of this type in Canada occupies a huge, ovoid structure that geologists interpret as an asteroid-impact site. Associated minerals commonly include galena, sphalerite, pyrite, and a variety of Secondary minerals—malachite, azurite, cuprite, native copper, etc. There are too many Colorado localities to mention. What is this extremely important ore mineral?

Last Month's Mineral: Rhodochrosite, MnCO 3

Rhodochrosite is probably Colorado's most famous collector mineral for two reasons: (1) the superb, rhombohedral crystals from the Sweet Home mine, a former minor silver mine in Park County, and (2) the abundance of Colorado localities, which are scattered in a band running from the southwestern to the northern part of the state. Mindat.org (accessed in March, 2024) lists localities in 20 Colorado counties. Although a few lapidaries have faceted stones from the Sweet Home mine, the crystals are so soft and easily cleaved that such stones are only useful as display items. Specimens are better appreciated for their colorful beauty. Massive rhodochrosite can be made into nice cabochons, but these are soft and easily scratched. Not all rhodochrosite looks like the piece above—it's sometimes orange (as some of

you saw in the recent talk on Cripple Creek minerals), brown, and various shades of pinkish tan. Large, transparent crystals are relatively rare and highly valued by collectors.

Interesting Reads

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

From Rock Seeker

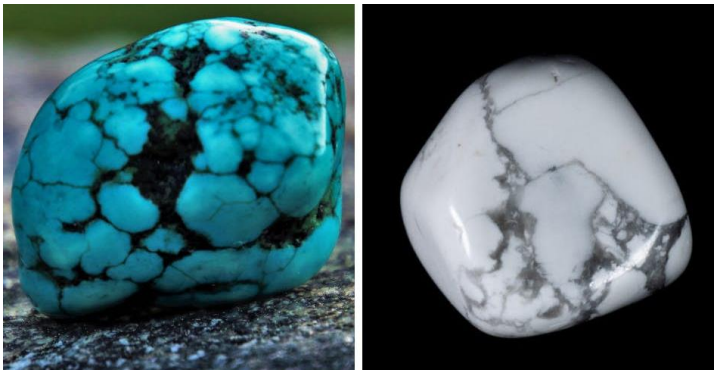
VIDEO OF THE DAY: Geode Cracking

There's something magical about cracking open geodes. It doesn't matter if it's your first time or your hundredth. I don't know if it's because you're catching a glimpse of something that's been hidden for millions of years, or if its the anticipation of what you might find. Whatever the reason, its fun to do...and its fun to watch! And to top it off, several of these geodes are full of ancient water that's been trapped inside for eons!

Experts Showcase the Art of Opening Geodes

WHAT'S THIS ROCK?

It may look like there are two different types of stones in this photo, but in fact they are the same type of stone. This stone is really porous and takes dye very easily.



Think you know what it is? ***You can find out what it is here.***

MINERAL IN THE SPOTLIGHT

While Franklinite may not catch your eye at first glance like other colorful minerals, it does hold a unique intrigue. Known for its deep black crystals, it's exceptionally rare.

Spinel's Strange Cousin: A Guide to Franklinite

PICTURE OF THE DAY

This is a photo of a 400 million year old Psychopyge trilobite that has been masterfully prepped by Horst Burkard of Germany.

Learn more about trilobites, why and when they went extinct and much more. Image: Stan Celestian

THE METEORITE EDITION

At about 9 AM on September 29, 1938 in the town of Benld, Illinois, a meteorite fell from the sky, crashed through the roof of a garage, through the roof of the car parked inside, through the back seat and through the floorboard. Then it bounced off the car's muffler and eventually came to a stop inside a seat cushion. Seems crazy, right? Like, what are the odds? Believe it or not, it's not completely unheard of for stuff like this to happen. And I'm going to share some of the more interesting ones I've learned about, from meteorites hitting cars and people, to meteorites being cashed in for small fortunes! Today's issue of newsletter is a little different than normal, so I hope you enjoy.

CRAZY METEORITE STORY #1

This first story is about the Benld Meteorite from 1938. What's also interesting about this one is that it's the first recorded instance of a meteorite hitting a man-made object.

The Remarkable Benld Meteorite

CRAZY METEORITE STORY #2

Ann Hodges' story is an extraordinary one, as she remains the only known person in history to have been struck by a meteorite. On November 30, 1954, in Sylacauga, Alabama, Hodges was resting on her couch when a meteorite weighing nine pounds crashed through her ceiling, ricocheted off a radio, and ultimately struck her on the upper thigh and hand.

Woman Hit by Meteorite and Survived

CRAZY METEORITE STORY #3

It's October 9, 1992 in Peekskill, New York, when A 26-pound meteorite, zooming at a whopping 25,000 miles per hour, picks a parked red Chevy Malibu as its landing spot!

The Peekskill Meteorite Car Story

CRAZY METEORITE STORY #4

Deep within the heartland of Michigan, a seemingly ordinary rock, used for decades to prop open a door, has been revealed to be an extraordinary find – a 22-pound meteorite worth $100 K! $

30 Year Doorstop, 22-Lb Meteorite Valued at $100 K

CRAZY METEORITE STORY #5

Gold-prospector, David Hole stumbled upon an unusual object outside of Maryborough, Australia. Thinking the stone could possibly contain gold, he tried to crack it open with every tool in his arsenal, including a rock saw, drill, and even a sledgehammer. But none of his efforts were able to even make a scratch!

Mystery Rock Turns Out to Be a Rare Meteorite!

CRAZY METEORITE STORY #6

The 10 Most Famous Meteorites in History!

TIP OF THE DAY

How To Tell If You Have a Meteorite or Just Another Rock

If you've ever stumbled upon a peculiar rock and wondered if it's a meteorite, you're not alone. While it's tricky to confirm a rock's extraterrestrial origins with absolute certainty, there are several steps you can take to get a better idea. This approach helps you sift through the possibilities, getting closer to identifying your find as a meteorite.

Magnetic Attraction Test

To test if a rock has iron, which many meteorites do, use a strong magnet like a rare-earth magnet. For a more sensitive test, hang the magnet on a string. Move the rock towards the magnet; if the magnet is attracted to the rock, it indicates iron presence. **However, this test alone doesn't confirm the rock as a meteorite, since many terrestrial rocks also contain iron.** It's simply a useful step in identifying iron content in the stone.

Surface Test

Carefully observe the stone for any metallic-looking grains on its surface or contraction cracks indicative of meteoritic descent.

Watch for a dull, burnt coating known as a fusion crust — a common feature on newly fallen meteorites. Look for a smooth overall surface without voids or rough, sharp edges. Closely inspect the rock's surface with a magnifying glass, searching for these specific features:

- **Texture:** The surface should be somewhat rough with no sharp edges or holes.
- **Metallic Speckles:** Look for tiny iron flecks.
- **Fusion Crust:** Fresh meteorites have a black, burnt outer layer called a fusion crust.
- **Contraction Cracks:** Fresh stones might display cracks from cooling but remember, holes negate meteorite possibility.

Window Test

By grinding a small, flat area onto the rock, you can inspect the innate structure or matrix within. Seek out shiny iron flecks or the presence of chondrules, which look like tiny, spherical inclusions that differ in color from the surrounding material. The absence of these features may point away from a meteoritic classification. Create a flat spot on the rock's surface to examine its interior matrix: Use a grinding tool or file to polish a small area, approximately the size of a thumbnail. Analyze for:

- **Iron Flecks:** Even if weathered, some iron flecks should be visible.
- **Chondrules:** Rounded, off-colored inclusions within the matrix could indicate a meteorite.

Remember, observing these characteristics provides preliminary evidence and may warrant further investigation from a specialized laboratory or university.

You can watch a video that demonstrates each of these tests and what to look for here (and below).

ANOTHER VIDEO OF THE DAY

This video demonstrates each one of the meteorite tests I mentioned above. It's an older video, but it's one of the best that I've seen on basic meteorite testing. So whether you're just wanting to learn, or you think you might have found a meteorite, I highly recommend taking a look at this video.

How To Tell If You Have a Meteorite?

ARE WE IN THE ANTHROPOCENE YET?

Measurement matters, but should not detract from the reality that humans are altering Earth systems.

Researchers are investigating plutonium traces in the sediment of Crawford Lake in Canada as a marker for the start of the Anthropocene.Credit: Peter Power/AFP/Getty

For 15 years, geologists have been involved in a complicated technical process to determine whether human impacts on Earth systems amount to a new geological epoch. Earlier this month, 12 members of a subgroup of one of their professional bodies, the International Commission on Stratigraphy (ICS), voted that *the 'Anthropocene' is not a new epoch* that would have ended the Holocene epoch, which started some 11,700 ago at the end of the last ice age. Four voted in favour of the proposed new epoch. Some members want to annul the vote because of disagreements about whether ICS rules were followed, including during the voting process.

News of the vote, and the ensuing controversy, has created both confusion and concern, including among those currently working on Anthropocene science. This confusion arises because the term is understood and widely used by scientists, as well as people outside research, to mean a time in Earth's history when *humans are having severe biophysical impacts on the planet*.

The concept is used by researchers in natural sciences, engineering, humanities and social sciences; by authors of books on the topic, film-makers, editors of journals with Anthropocene in the title and, indeed, by the Nature Portfolio. In 2023, we launched a newsletter called *'Nature Briefing: Anthropocene'*, highlighting research about humanity's footprint on Earth.

The difficulty is that the concept has taken off while geologists have been locked in discussion about how the Anthropocene should be measured, and when it started. One concern is that a rejection of the proposed epoch could lead to the perception that scientists somehow doubt that there is a human fingerprint on global change.

(RELATED) ***Geologists reject the Anthropocene as Earth's new epoch — after 15 years of debate***

The Anthropocene concept, in its wider sense, is more than one century old1. The word was used at least as long ago as 1922 by Russian geologist Aleksei Pavlov. The term was popularized after Dutch atmospheric chemist Paul Crutzen and US biologist Eugene Stoermer reintroduced it in 2000. At the time, Crutzen and Stoermer were less concerned with finding a precise start date than researchers are now, but they did have a preference2: "To assign a more specific date to the onset of the 'anthropocene' seems somewhat arbitrary, but we propose the latter part of the 18th century, although we are aware that alternative proposals can be made (some may even want to include the entire holocene)." In 2002, Crutzen wrote in *Nature*3: "It seems appropriate to assign the term 'Anthropocene' to the present, in many ways human-dominated, geological epoch, supplementing the Holocene. [It] could be said to have started in the latter part of the eighteenth century, when analyses of air trapped in polar ice showed the beginning of growing global concentrations of carbon dioxide and methane."

But words such as 'epoch' and 'period' have precise meanings in the study of Earth's history, which is where the ICS, as a standards-setting body, comes in. According to conventions in geology, a new geological unit of time such as the Anthropocene needs permanent signals in rocks, sediment or glaciers. Candidates for such signals include microplastics, particulates from burnt fossil fuels, pesticide residues or radioactive isotopes from nuclear-bomb tests. The *proposed marker location is Crawford Lake* near Toronto, Canada, where plutonium from hydrogen-bomb tests, detected in 1952, settled in the lake's sediment. As the latest vote demonstrates, there's some way to go before this issue is resolved.

(RELATED) ***Ditching 'Anthropocene': why ecologists say the term still matters***

The current lack of agreement on a start date and which marker to use should not detract from the Anthropocene as a concept. The Sustainable Development Goals (SDGs) provide a useful comparison. The principle of a set of global goals and associated targets to end poverty and achieve environmental sustainability was *agreed on by the international community in 2015*. But the task of defining the goals, targets and indicators came later and was left to specialists, with policymakers pledging to stay out of the process.

The measurement of progress towards each of the 17 SDGs is the responsibility of a set of 'custodian' agencies. These are relevant international expert bodies, working with United Nations agencies. The custodians are charged with proposing measures for the goals and targets in their area of expertise. Periodically, the agencies come together to compare notes — for example, on targets for which data could be improved — and exchange ideas before returning to their individual groups to refine their knowledge. Working in this way, involving specialists from a variety of fields, undoubtedly helps to improve knowledge.

That process is still continuing. Even now, some nine years later, around one-third of the *231 unique data indicators for SDG targets* are recorded in the second-highest category of accuracy. Whether countries are able to regularly produce data, a requirement of the highest tier, does not negate the necessity of achieving the goals. The same overarching principle could be applied to the Anthropocene. The absence of an agreed marker and a specific start date should not detract from the reality of a discernible human fingerprint on Earth systems.

Measurement matters. It is needed not least so that the world is confident that the Anthropocene's start date and marker are grounded in the broadest consensus of scholarly knowledge. Geologists must quickly resolve their disagreements. At the same time, there is little doubt that the world is in an Anthropocene, as understood by researchers who use the term, and that course correction is needed.

Nature **627**, 466 (2024)
doi: https://doi.org/10.1038/d41586-024-00815-0

References

1. Lewis, S. L. & Maslin, M. A. *Nature* **519**, 171–180 (2015).
2. Crutzen, P. J. & Stoermer, E. F. *Glob. Change Newsl.* **41**, 17–18 (2000).
3. Crutzen, P. J. *Nature* **415**, 23 (2002).

Yes, You Can! How to Measure Specific Gravity – by Bob Carnein[1]

Specific gravity (S.G.) is one of the most useful properties for mineral identification. It quantifies the "heaviness" of a mineral. It is defined as a number that expresses the ratio between the *weight of a mineral and the weight of an equal volume of water*. For example, you can readily distinguish between a quartz specimen with SG=2.60-2.65 and a topaz specimen with SG = 3.5-3.57.

Measuring SG is easier to do than you might think. No fancy calculations are needed, and the only special equipment is a scale capable of measurements to tenths, or better yet, hundredths of a gram. (Hundredths become important for small samples.) Dozens of different kinds of scales can be found on the internet for well under $100. The scale should have a maximum capacity of a few hundred grams and should be the type that has a flat pan for weighing.

Given below are step-by-step directions. I recommend that you test the method with a piece of quartz or calcite before you try it on an unknown mineral. That way, you will get the hang of using your scale.

[1] Modifications made by Betty Bowles for clarity.

Here is the procedure:

1. Choose a clean sample that isn't a mixture of several minerals (Figure 1).
2. Wrap a piece of fine sewing thread around the sample so you can suspend the sample by the thread (Figure 1). This is the hardest part of the procedure; remember, you can trim off extra thread.
3. Turn on the scale. "Zero" the scale and weigh the sample (Figure 2). Record this value; this is **reading no. 1.** Be sure your reading is in grams, not ounces.
4. Put some water in a plastic cup. The cup must be large enough so that you can submerge the suspended sample in it without the sample touching the sides or bottom of the cup. It is best to let the water sit in the cup for a while before suspending the sample. This allows bubbles to escape, which might otherwise attach to the sample and affect the results.
5. Take the sample to the sink and **wet it thoroughly**. This gets rid of air bubbles that might attach to nooks and crannies.
6. Turn the scale back on. Put the cup of water on the scale pan and "tare" (zero) the scale. It should now read zero (Figure 3).
7. With the scale zeroed, pick up the sample by the thread and submerge it in the cup of water (Figure 4). Read and record the scale reading. This is **reading no. 2**.
8. Divide reading no. 1 by reading no. 2. **This is the S.G.**

For this sample, 7.62 divided by 2.88 equals 2.645; rounding to the nearest hundredth, 2.65. If you look up the SG for quartz, you will find that this is the correct value for a clean sample.

Measuring Specific Gravity of a Mineral Specimen	
Reading no. 1 specimen weight (gm)	Sample: 7.62 g
Reading no. 2 Weight of water displaced by (submersed and suspended) specimen	Sample: 2.88 g
Specific Gravity of specimen SG = specimen wt / specimen water displaced wt **SG = reading (no. 1 / no. 2)**	Sample SG: = 7.62 g / 2.88 g = 2.645

Please note that, for truly analytical-grade results, you would need to compensate for water temperature and the weight of the thread. You would also need an expensive analytical balance of the type you may have used in a chemistry class. But the results obtained by this method work very well for small (1 to 5 cm), clean samples. If your results vary somewhat, try making several measurements and take the average. Combine this with other tests and you will have another powerful, cheap tool to add to your mineral ID portfolio!

Fig. 1. Clean quartz crystal ready for weighing.

Fig. 2. Quartz on scale; weight is 7.62 gm.

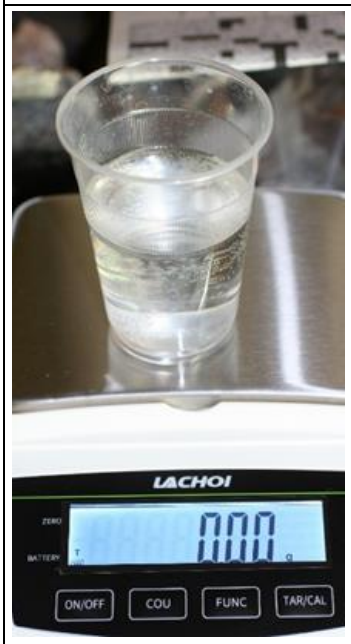


Fig. 3. Cup of water on scale tare to zero.

Fig. 4. Quartz suspended in water; reading 2.88g.

Why it works: Most rockhounds won't worry about why this works. But for you science people, you might be curious why **reading no. 2** is *the weight of the water displaced by the sample*. By submersing and suspending a mineral specimen within a flask of water, one can measure the weight of *an equal volume of water* by finding the difference of weight flask of water with mineral specimen suspended in the water and weight of flask of water without the mineral specimen suspended in it. Remember the scale was zeroed with just the cup of water. So the weight measured with the scale when the specimen is submersed is the weight of the water the specimen displaced.

Field Trip Clarifications & Notifications

Field trip season starts this month! We are still working on solidifying trips and already have a nice selection in April and May ready to go. There are a couple of important reminders as we approach the field trip season.

KNOW THE RULES: Please ensure you read the Field Trip Rules and Code of Ethics each season, now is a great time to do so. It is required, will take <5 minutes and is available on our event website

USE YOUR CALENDAR: Please verify that you add our field trips to your personal calendar. We've made that easy for you, on each event there is an "Add to Calendar" button or you can do it manually yourself. This is important because a common issue we hear creating no-show situations is the person forgot about the trip. Having the event in your personal calendar will highlight when you have a scheduling conflict between personal life and the field trip; allowing for you to remove yourself from the trip as soon as possible.

REVIEW THE STATUS OF THE TRIPS YOU ARE SIGNED UP FOR: You can verify the field trips you are signed-up for (or waitlisted) by logging into the field trip event website and choosing Profile and looking at the "My Events" section.

HAVE THE APP GUIDE YOU TO THE MEETING PLACE: When heading out to the field trip meeting point, consider using the "Navigate" feature from within the field trip event description. If you do this on your phone, it will automatically start navigation on your phone and guide you to the exact location. Please plan ahead, look at this the night before the trip so you can get a rough idea of how long it will take, then add some contingency time to your journey, you never know when there will be a delay on the roadway. The feedback we've gotten over the years is this website feature greatly reduces the number of members being late to the meeting point (which leaders often only wait an extra few minutes) and members getting lost.

ENSURE EMAIL NOTIFICATIONS ARE NOT IN SPAM: Some email clients will mistakenly mark our automated notifications as spam email. Make sure anything from *LGGMClug.org* and *LGGMCFieldTrips.com* are both safe senders.

REMOVE YOURSELF FROM WAITLIST: Some folks don't like the "last minute" schedule changes that occur in the final days leading up to a trip. At any point you are no longer wanting to participate on a trip, please remove yourself from the waitlist. If last minute you are added as an attendee from the waitlist, yet you already decided not at attend, that would make you a no-show removing the opportunity for other club members to participate. There could be disciplinary actions take for repeat no-show offenders.

There were several questions over the last couple months on the specifics on event sign-ups. I'll run through these to clarify our process.

Typically, field trips will be available for "early sign-up" at our club meetings. We may not have "early" sign-up for some trips requiring travel (mostly out of state) as these typically don't fill up; in these cases you'll see an automated notification from our field trip website that the trip is available.

After the early sign-up, the Field Trip Coordinators are required to manually enter those attendees into our event site. This could take a few days to complete so we likely will be opening up the website registration process for the trips the following week. You will see the date trips are available for sign-up in the field trip event (its an "action" button on the top right) and can mark your calendar.

On that availability date, the trip opens up first thing that morning, 12:00am.

If you participate in the "early sign-up" at a meeting, it is wise to check to ensure you are registered for the trip as soon as you can. Given that it could take us several days to enter those registrations, I'd recommend to check the day before the trip's availability date and use the "Contact" action button if you discover any issues.

We may trigger an automated notification that a new field trip is available for some trips if we need to get an accurate headcount estimate; often we do this before offering other clubs to join us.

A note on parking at our club claim and in the forests in general...

The local sheriff can enforce parking rules by issuing citations. At the entrance to the forest there is typically rules posted on big signs, and if you read those signs, it often says you are only allowed to park in designated parking spots marked with a posted "P" sign. If there is what looks like a great place to park, but there isn't a posted parking sign, you are running the risk of a ticket. Trust me on this, after a good day prospecting and (hopefully) finding treasures it really sucks to find a parking ticket on your vehicle, takes some of the excitement of the day away from you!

There were several members that received parking tickets at our club claim last season. For our club trips, we will be parking at the trailhead from now on, which is only a couple more minutes easy walk for you.

PROSPECTING 101: John Rakowski's May 11th Prospecting 101 presentation and field trip again was popular this year! John was kind enough to add a second presentation and trip on May 18th. Everyone is encouraged and welcome to come to the May meeting and see John's amazing presentation. Especially if you are new to the hobby, this presentation is something you won't regret and will help you immensely when out prospecting. Only people signed-up for the field trip, however, will be able to participate in that day's trip to the club claims. On May 18th the overflow trip will start with a presentation at the Lake George school cafeteria and those participants together will caravan to the club claims after the presentation.

VOLUNTEER: We need a volunteer to help with our outreach lapidary event on the last Saturday of July (July 27) at the Pikes Peak Historical Society Museum in Florissant. It's a really fun event for the club and community. You'd be in charge of going to the club's storage unit in Lake George (just a few minutes west of the event's location in Florissant) and pulling out some tables, saws, canopy and coordinating other volunteers to bring equipment. Typically, it lasts from about 9am to 1pm.