
Littleton Gem and Mineral Club

February 2023 Newsletter



Time and Place: February 17 In-person Meeting
St. Philips Lutheran Church, 7531 S. Kendall Blvd., Littleton, CO 80128

February Program: “Metal Detecting” by Chris Davis



Speaker Bio: James “Chris” Davis

Chris has been metal detecting for over 40 years. He has metal detected in England 8 times, Scotland once and participated in a government sponsored search for a missing WWII bomber pilot in France. He detects on both land and water. He is currently a member of the Eureka! Treasure Hunters Club in Denver and served 2 terms as President. He is also a member of the Pikes Peak Adventure League in Colorado Springs. He has written numerous articles on metal detecting. None of this should be taken to infer or imply he has a clue what he is doing. It just means he has been doing it a long time.

President’s Letter

Happy Groundhog Day! This years’ event is coming up soon, on February 2nd. I am tired of cold and snowy weather (I am so not a skier!), so I am hoping that the famous groundhog, Punxsutawney Phil, does not see his shadow and therefore predicts an early spring. I am itching to get out there to collect some pretty minerals!

I’m a big fan of space exploration. We’re getting closer, but until we have much better technology, we have to rely on robotic rovers to explore the surfaces of other planets. There have been 5 NASA rovers on Mars, with 2 of them currently active – Curiosity and Perseverance. In January, NASA announced that Curiosity had discovered opals in Mars’ Gale Crater - a dream find for a rockhound! Of course, the NASA folks are excited about this for another reason – since opals are composed of water and silica, they could potentially offer a source of water for future crewed missions to the “Red Planet”. To release water, the opals would be ground and subjected to heat. Even if they’re not gemmy, I would love to see these opals. I hope future astronauts can rescue some and bring them back to Earth for us to enjoy. To read more, try these links:

<https://www.forbes.com/sites/davidbressan/2023/01/07/nasa-rover-discovers-gemstone-on-mars/>

<https://www.space.com/mars-opals-water-habitable>

In spite of a last-minute change to Zoom (which is not how I wanted to start the year, but c'est la vie), our January General Meeting was fascinating! Brian Walko spoke about "Collecting Colorado Fluorescent Minerals", and he had some beautiful photos and specimens to show. We had 28 attendees, which set a LGMC record for the best attended Zoom meeting! One of those attendees said to me, "I have now heard Brian speak three times and each time I learn something new". Another commented to me, "I found the presentation thoroughly fascinating and now understand why my crappy UV light is, well, crappy". Yup, me too!

A few days ago, I attended the first meeting of the "recently reincarnated" Mineral Study group, led by Lesley Sebol and Richard Parsons. We focused on "luster", which is how light reflects off the surface of a mineral. Who knew that there are at least 10 different types, with the main categories being Metallic and Non-Metallic? For a mineral newbie like me, it was a great change of pace from my day job. Thanks Lesley and Richard for a great first lesson! I am looking forward to the next meeting, on February 22nd at 7:00pm, which will feature "color". Please attend if you can!

Mineral Study Group looking at examples of different types of mineral luster.



Since I was thwarted in my attempt to hold my first in-person General Meeting, fingers crossed for February 17th! Chris Davis will speak to us about "Metal Detecting". I've been perfectly happy searching for minerals and fossils, but... how about a buried old coin? Or long-lost jewelry? Yeah!

Thank you for renewing your LGMC membership. You will continue to receive Highlites and monthly meeting invitations, and be eligible to sign up for field trips!

Continuing on with my "Colorful Rock of the Month" photo, let's go with something pink in honor of February and Valentine's Day. Anyone that knows me, knows I am a sucker for Rhodochrosite, a beautiful manganese carbonate mineral that also happens to be the Colorado "state" mineral. This specimen isn't local, but it is still one of the stars of my collection. So, feast your eyes on this very pink Rhodochrosite and Kutnahorite specimen from the famous Kalahari Manganese Fields in Cape Province, South Africa.



Photos by Nancy Kimber, except for portrait of Nancy taken by Mark Jacobson

Nancy Kimber

2023 President, Littleton Gem and Mineral Club (LGMC)

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(303) 807-8919

Announcements & Other News

New Club Historian

We have a new historian Gail Tracy, so please also send club photos to our Club Historian at gctracer@gmail.com.

Holiday Party Quartz Pendant

We had a fund raiser at the Christmas Party, for a pendant with a 9x11 mm, approximately 3 carat, clear quartz gem, mounted in silver with an 18" silver chain. It was cut by John Kleber from a clear portion of a Red Feather Lakes quartz crystal. The design is called "Sunny Oval," by Jim Perkins, as published in the October 2011 issue of Rock and Gem magazine.

A sample crystal from Red Feather Lakes is also included in the photo.



Grab Bag News Update



If you have any minerals or sewn grab bags to contribute, bring them to a meeting or contact me, John Kleber, at jkleber@att.net or 303-570-8164, or Lynette Warren at flywithle123@comcast.net.

John Kleber
The Bag Beggar

Faceters and Cabbers News

The Faceters and Cabbers group did not meet in January due to weather, but will meet again on February 21th, the third Tuesday, at 7:00pm, in our usual room at the church. Note, this will occur after our main meeting not before, as in most months. The main topic will be white or clear minerals.

If you would like to be added to our Faceters and Cabbers email list for an email reminder, or need directions, let me know at jkleber@att.net.

John Kleber & John Revis

Mineral Study Group (**NEWish**)

The inaugural meeting of the reincarnated Mineral Study Group was held on January 25, 2023, at the St. Philips Lutheran Church, using the same room used by our Faceters & Cabbers Group. The first meeting included a discussion by Richard Parsons of useful mineral reference books, which he brought with him. I gave a PowerPoint presentation on mineral luster. This was then supported by example minerals brought to the meeting by various club members. The total meeting length was about 1 hour.

These Mineral Study Group meetings will be held on the last Wednesday of the month from September through May. If we need to cancel due to weather, I will try to send an email by 5 pm of the day of the meeting.

The topic for the next meeting to be held on February 22, 2023 will be COLOR. Attendees are welcome to bring examples from their own collection.

Lesley Sebol

LGMC FIELD TRIPS

IMPORTANT---REQUESTING ASSISTANCE WITH LGMC FIELD TRIPS

I have been organizing the LGMC Field Trips now for approximately 26 years and leading the majority of them myself. I have loved doing this and want to continue doing it in a decreased capacity. A number of factors lead me to ask for more Club involvement for the future. Other Clubs in the Council have a more inclusive participation in planning and leading their trips, and I want to move in that direction also. It will require a much greater participation from LGMC members, but I truly believe that there are sufficient members who continue to enjoy the field trips, and hopefully will be able to step forward to help.

I will still be involved, alongside any others who can help. My main request is for **ALL LGMC members**, especially, but not limited to, those who have been active in attending the Club field trips in the past, to give some serious thought to the Club's future Field Trip activities. Please think of trips that you think would be interesting and fun. Of course, there will still be some of our previous "stand-by" trips that are always fun and/or educational. I want to organize a Zoom Meeting in the next month or two, with what I hope will be a good number of interested Club members. I will want member's input for field trip ideas, especially if you have knowledge of (or direct access to) some new areas. I will ask that Club members be able to organize a trip and hopefully serve as Trip Leader. I currently have a few members who are interested and able to do this, but I would like to have a greater number of regular participants.

I will send out a notice, either in the Newsletter, at the monthly General Meeting, or through a special batch email, informing everyone of when this Meeting will take place. The hope is that, through the Zoom connection, we can discuss some new, and old, trip ideas and actually complete a calendar of dates and locations for a full season of Field Trips. Like I said, I will have made some contacts already for some of the Trips, but I want some new ideas from others. Hopefully, each member can plan on leading one (or more) of the Trips.

This notice is being sent to the full LGMC membership so you all can start thinking of how you can help with this very important aspect of our LGMC membership. Don't be intimidated if you are a new Club member, or if you haven't done this before. It's something that anyone can do, and needs to be done, if we want to continue having a fun and exciting time digging for our favorite treasure---**Minerals** (and don't forget that Fossils are also something that many people would enjoy).

So, watch for upcoming communication regarding this new approach to our LGMC Field Trips. In the meantime, do some serious thinking regarding this important Club activity. I truly do appreciate your help.

Jim Hooten
LGMC Field Trip Coordinator

[Editor's Note: Field trips are extremely important if we want our club to grow and retain the new members.]

Geology Corner



February' birthstone is amethyst, so I am reprinting this article. Lesley

How Amethyst Cathedrals Form

One of my fondest memories of the Tucson Gem and Mineral Show is coming upon a parking lot full of enormous amethyst geodes ("cathedrals") 6 feet or more high, resting partly in the sawdust of their packing crates. The bulbous to tubular geodes were big enough for an adult to sit in, and lined with deep purple gemmy amethyst, sparkling in the Arizona sunlight. All for sale! How do such wonders form?

These excellent geodes come from a region along the Brazil-Uruguay border. The genesis of deposits on the Brazil side of the border has recently been extensively researched by an international team of geochemists lead by H. Albert Gilg of Technische University Munchen in Germany (Gilg, et. al., 2003). The geodes are mined from several lava flows belonging to the Parana Continental Flood Basalt Province. This was one of the largest outpourings of basalt lava known. An estimated 800,000 cubic kilometers of lava extruded over an 11-million-year time span. For comparison, this would be enough to cover Minnesota with a pile of basalt lava over 2 miles high. The lava outburst occurred as part of the opening of the South Atlantic Ocean during Cretaceous time about 130 million years ago. Of all these flows, however, only a few are known to host amethyst cathedral geodes.

Gilg et al. proposed a 2-stage model for their formation. In the first stage the large hollows form. This was caused as volcanic gases were released from certain lavas as they cooled. Not every lava has enough dissolved gas to form such big openings. As gas bubbles emerged from the congealing lava (much as bubbles emerge when beer or soda pop is poured) they coalesced as they rose. The lava was cooling fast too, and soon became so thick and sticky that bubbles quite rising and were trapped. The bulbous to tubular shapes thus point towards the top of the flow, a fact easily seen when the geodes are in place in the mines. These cavities, though, were empty of crystals.

The second stage was the formation of the amethyst, plus celadonite, calcite and gypsum fillings. An important clue to this event is the presence of small gas and liquid bubbles (called fluid inclusions) trapped within these minerals. These are samples of the mineral-forming liquids caught as the crystals grew. Fluid inclusions are treasure troves of information when studied with sophisticated instruments. Analyses of the fluid inclusions in the amethyst, calcite and gypsum show them to be filled with slightly salty water. This water had a temperature of no more than 100 degrees C, and possible less than 50 degrees C, during mineral formation. These cannot be fluids related to the magma that formed the lavas.

What was the source of these fluids? An amazing story unfolds from the radiometric dating of the minerals. The basalts formed about 130 million years ago, but the green celadonite, which makes up the rinds of the geodes, formed about 70 million years ago. For 60 million years these enormous cavities sat empty of crystals. Trace element data from the fluid inclusions gives another important clue to the source of the mineral-forming fluid. Below the lavas is a large aquifer (the Botucatu aquifer) filled with groundwater that closely resembles the fluid inclusion liquids. Uplift and tilting of the area about 70 million years ago would force water out of the aquifer into

the porous areas of the overlying lava. In the lava flow these waters would have found volcanic glass. Glass breaks down over geologic time and makes silica and other chemicals available in a form that is readily soluble in water soaking through the rocks. The water carried these chemicals into the cavities, where the amethyst and other minerals grew due to cooling and pressure release.

The special combination of geologic circumstances, unfolding over millions of years, is not often duplicated. Understanding the process gives geologist tools to prospect more efficiently for these wonders.

-Dr. Bill Cordua, University of Wisconsin-River Falls

Reference:

Gilg, H. et. al, 2003, "Genesis of amethyst geodes in basaltic rocks of the Serra Geral Formation (Ametista do Sul, Rio Grande do Sul, Brazil): a fluid inclusion, REE, oxygen, carbon, and Sr isotope study on basalt, quartz and calcite" Mineralium Deposita vol. 38, p. 1009-1025.

Upcoming LGMC and Earth Science Events

Feb 17: [LGMC meeting \(details on page 1\)](#)

Feb 21: [LGMC Faceters & Cabbers Group Meeting](#) St. Philips Lutheran Church

Feb 22: [LGMC Mineral Study Group Meeting](#) St. Philips Lutheran Church

Feb 24-26: [Jewelry, Gem & Mineral Show](#) sponsored by the Denver Gem & Mineral Guild, held at the Jefferson County Fairgrounds 10-6 Friday & Saturday, 10-5 Sunday

Mar 17: [LGMC meeting](#) St. Philips Lutheran Church

Mar 24-26: [Fort Collins Gem & Mineral Show](#), Larimar County Fairgrounds at 5280 Arena Circle Loveland, 4-8 Friday; 9-6 Saturday, 10-5 Sunday

Mar 25-26: [WIPS Symposium \(details below\)](#)



General Club Announcements



Welcome to our New Member: Joanna Morsicato

Moving? Change of Address, Email or Phone Number?

Please notify **Ian Duncanson** of any changes at idunc@g.com or 303-798-9174. For email address changes, please also email editor.lgmc@gmail.com

Club Vests: Show your club support at the meetings and other events! **Ian Duncanson** has club vests available for sale. Price includes vest, sewed on club patch (on back) and a club pin

\$18 for small and medium sizes

\$19 for large and X-large sizes

\$20 for XX-large and XXX-large

Sunshine Cards: *Do you know someone who could use some sunshine?* Nobody knows everybody. If you know of a club member or family who is having a health problem or other problem, and who could be encouraged by receiving a thinking-of-you card, please let us know so that we may encourage them. Send a note to our sunshine coordinator and let her know, **Lynette Warren**, flywithle123@comcast.net.

Thanks to everyone who contributed to the newsletter! Don't forget to send in your own field trip reports with photos. Email them to editor.lgmc@gmail.com. Make sure to label each photo with the trip and who is in the photo. If you did not take the photo, add that info also so proper credit can be given. Also send photos to our Club Historian at Gail Tracy at gctracer@gmail.com

~ Lesley



Like us on FaceBook

LIKE and FOLLOW us @LittletonGemAndMineralClub

LGMC Website

Please check out the new "Member" section of the website! We'll archive Newsletters, share photos, and get details of upcoming field trips. To view the "Member" section, you must register as a member of the website: <https://littletongemandmineralclub.com/register/>

As only LGMC members will have access to this material, we'll be checking your name against the current club roster, so if you haven't yet, reach out to Ian Duncanson to pay your 2022 dues!

Its Dues Time Again

2023 Membership Dues

Imagine....awesome field trips, general meetings, parties, picnics, incredible rock & mineral displays and even getting free rocks!! dues are only **\$20!!**

Don't delay!!! Send your 2023 dues to:
LITTLETON GEM AND MINERAL CLUB
P.O. BOX 283
LITTLETON, COLORADO 80160

LGMC dues for 2022

Please bring the following form to the next meeting with your \$20 check:

Name(s) _____
Dues payment (\$20) ____ **Renewal**
Email address: _____

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Show Committee Representative	<i>Lynette Warren</i>	303-956-4634
Cabbers & Faceters Group	<i>John Kleber, John Revis</i>	720-851-8510
Mineral Study Group	<i>Lesley Sebol/Richard Parsons</i>	L: 720-999-1372

Meetings: The Littleton Gem & Mineral Club meets the third Friday of each month, September through May, at the St Philip Lutheran Church, 7531 S. Kendall Blvd, Littleton, CO 80128. Doors open at 7:00 p.m. and the meetings begin at 7:30 p.m. All meetings are open to the public. Club and section meetings may deviate from their regular schedules due to holidays, shows, inclement weather, pandemic, etc.

The Littleton Gem and Mineral Club is affiliated with the American Federation of Mineralogical Societies, The Rocky Mountain Federation of Mineralogical Societies, The Colorado Federation of Gem and Mineral Societies, and the Greater Denver Area Gem and Mineral Council.

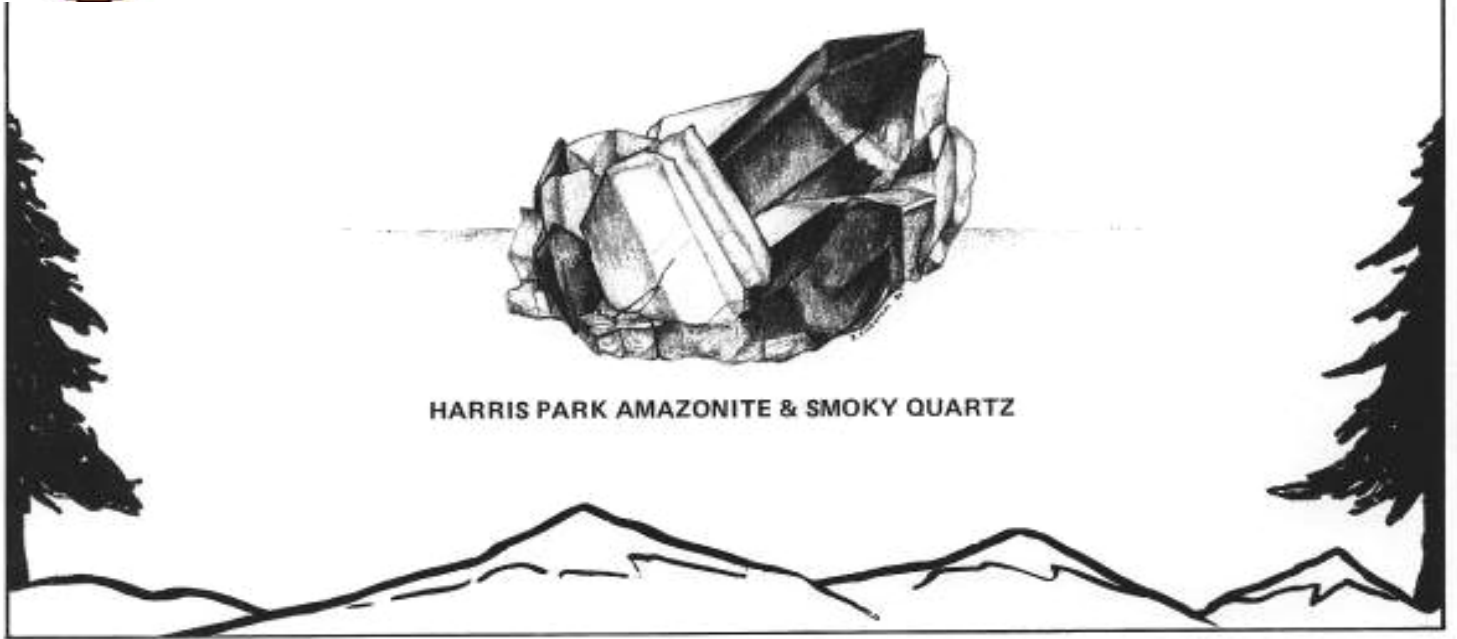
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HighLites

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