

# Littleton Gem and Mineral Club

## March 2021 Highlites Newsletter.



March (no meeting)

### Selected upcoming LGMC and Earth Science Events

March 16<sup>th</sup>, 7:30pm

**Faceters and Cabbers** - The Faceters and Cabbers group continues to use Zoom for our regular monthly meetings. Our next meeting will again be on the third Tuesday of the month, March 16th, at 7:30pm. For March's discussion we decided to again make it "cutter's choice" for any cabbing material and faceting material we want to share. We will continue meeting on Zoom for now. If you need suggestions on how to share your work in a Zoom session or if you would like to join our group, and are not on our email list, contact me at [jkleber@att.net](mailto:jkleber@att.net) for meeting information.

March (no meeting)

**LGMC Meeting**, no meeting this month, we will see you in April.

### Grab Bag News

March Grab Bag News

If you would like to sew some bags while stuck at home, contact Lynette Warren at [flywithle123@comcast.net](mailto:flywithle123@comcast.net) or 303-956-4634 if you need any information on that. We would welcome any that you can make during our time of social distancing.

If you have any specimens at home to donate for grab bags, let me know and I can arrange to pick them up. I can also arrange for supplies if you need any. Contact John Kleber at [jkleber@att.net](mailto:jkleber@att.net) or 303-570-8164 to make arrangements.

The Bag Party Lady and the Bag Begger

Lynette Warren and John Kleber



### Geology Corner

#### Bauxite and Greenhouse Earth

Bauxite is a hard clayey material, generally white to red with dark spots or blotches called pisolites. It looks like it has an illness of some sort. This material was once described as a mineral ( $Al_2O_3 \cdot 2H_2O$ ). We now know it is a mixture of various aluminum hydroxide minerals (gibbsite, boehmite, diaspore) with minor amounts of clays and iron oxides. The reason one can still find it discussed in mineralogy classes is that once mineralogists describe something, they hate to let go of it. It is also a handy field name because one can't determine the specific mineral composition of bauxite without sophisticated analytical tests. Bauxite is our major source of aluminum. Aluminum is one of the most common elements in the earth's crust, but it usually occurs in minerals that are difficult to process, such as feldspar. Aluminum is handy stuff. It's





light, relatively strong, and corrosion resistant. Charles Martin Hall, an industrial chemist and founder of what was later to become ALCOA, first learned to extract aluminum commercially in 1886. He used a rare mineral called cryolite, found mostly in Greenland. Cryolite was later supplanted by bauxite as the major aluminum source. The production of aluminum really expanded after World War II, when more uses were found for it.

Bauxite is a type of ancient soil or regolith. It requires tropic to subtropical climates in order to form. Bauxite will form only over rocks that are already rich in aluminum but poor in silica - such as nepheline syenites or clay-rich limestone. Then strong weathering is required over a long period of time. This leaches out anything even remotely soluble, leaving behind only the very insoluble aluminum hydroxides. Thus, bauxite is a good indicator of areas that have in the past experienced very warm, moist climates. Not surprisingly many economic sources of bauxite are in tropic areas such as Surinam, Brazil, New Guinea and Jamaica.

Bauxite was first described in 1821 for deposits at Les Baux, St Remy, Bouches de Rhone, France. France is not known for a tropic climate, so a good question is why did bauxite form there? The answer is that the bauxite formed when the climate was much different from today.

Much bauxite worldwide formed during the Cretaceous and early Tertiary periods, from 50 million to 150 million years ago. This is when the large deposits in Arkansas formed. Often this is ascribed to the effects of plate tectonics. Areas that are not now in the tropics were moved through such climates as their plates shifted. During the Cretaceous, for example, Minnesota was at the same latitude as present-day Spain. But there is a second factor. During that period of geological time, the earth was experiencing a large-scale greenhouse effect.

A startling picture of this period of earth history is emerging from new studies of sediments laid down then on land and in the sea. During this time, CO<sub>2</sub> levels were over 1000 ppm and perhaps as high 4000 ppm. (For comparison today's values are about 380 ppm, and may go up to 750 ppm by the year 2100.) The source of this ancient CO<sub>2</sub> is thought to be from excessive volcanism. The world had a very different climate in Cretaceous and early Tertiary times. It was warm enough that continental temperatures may never have dropped below freezing. Crocodiles and palm trees grew at latitudes now occupied by the Arctic Ocean. There was likely no polar ice. Sea surface temperatures were very warm. In places in the equatorial oceans during the Cretaceous, sea surface temperatures were 95° F, and locally as high as 107° F. Today, sea surface temperatures at the equator are about 82° F. At the latitudes of Newfoundland sea surface temperatures were about 86° F, compared to 37-39° F today. If this sounds good, realize also that the ocean often went stagnant for periods of time, and that sea level was 300 to 600 feet higher than today. This was enough to put a major seaway across the Dakotas, give Minnesota monsoons and cause Gulf of Mexico waves to lap at to the tip of Illinois. In such a warm climate, weathering conditions to make bauxite were much more widespread, and it's not surprising to find it formed in areas we think of as non-tropic.

Bauxite-like materials that formed at this time can be found in western Minnesota. Glaciers distribute this material widely in gravel pits where rock hounds often pick agates. This turns out not to be true bauxite. It's mostly clays (kaolinite), so weren't leached quite enough to get rid of the silicate minerals. Still, its formation in the local bedrock also speaks to this large-scale climate change, giving us a window into a very different past, and perhaps a model of the future.

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

#### References:

Jensen, M. and Bateman, A, 1979, *Economic Mineral Deposits*, John Wiley Publishers, 593 p.

Setterhom, D and Morey, G.B., 1989, An extensive Pre-Cretaceous weathering profile in east central and southwestern Minnesota, U.S. Geological Survey Bulletin, 1989 H, 9p.

Takashima, H. et. al., 2006, "Greenhouse World and the Mesozoic Ocean", *Oceanography*, vol. 19, #12,

# Field Trip News

## JOINT FIELD TRIP TO THOMAS RANGE NEAR DELTA, UTAH, APRIL 17-19, 2021

With the COVID-19 situation improving from last year at this time, the RAMS Mineral Club is again planning a Thomas Range trip this spring. It is scheduled for Saturday, April 17 to Monday, April 19, 2021 and will also include the Lake George Gem & Mineral Club as originally planned. The Littleton Gem & Mineral Club is again invited to join this trip.

Last fall, Chris Rayburn went to the Thomas Range with a small group of RAMS members on what amounted to a scouting trip. They visited four of the *Gem.tours* fee sites over three days. Based on their experience, Chris has decided that this spring's trip would include only one of the four sites, the Solar Wind claim. Their plan is to spend April 17 collecting at Topaz Mountain, and April 18-19 at Solar Wind. Folks will have the option to spend either one or two days at Solar Wind, at \$75 per day. This rate may come down if enough participants sign up.

The distance from Denver to the Meeting Place (40 miles northwest of Delta, UT) is **approximately 560 miles**. Estimated drive time is **approximately 8 hours**. This would make the full trip a total of 5 days (April 16-20, 2021), with a full travel day on both ends of the 3 collecting days.

**RSVP deadline date to respond is Friday, March, 26, 2021**, so you have a full month to see if this will work for you.

Again, everyone is asked to evaluate their desire to attend versus the potential COVID-19 risk. Hopefully, many of our members will have had a chance to obtain their vaccine shot(s) by that time, which would definitely be a plus.

Think it over and let Chris Rayburn know if you are interested. I would also appreciate your letting me know as well.

Jim Hooten  
LGMC Field Trip Coordinator  
[jahooten@msn.com](mailto:jahooten@msn.com)  
303-548-7412

**Thomas Range, Utah  
Saturday-Monday, April 17-19 2021**







# Mile Hi RAMS Field Trip



Thomas Range, Utah  
Saturday-Monday, April 17-19 2021  
(joint trip with Lake George Gem & Mineral Club)

TRIP LEADER: Chris Rayburn  
PHONE: (303) 503-8637  
EMAIL: [crayburn319@gmail.com](mailto:crayburn319@gmail.com)  
VEHICLE: Blue-Gray Toyota Tundra

MEETING TIME AND PLACE: Saturday April 17, 9 AM, Topaz Mountain turnoff from UT 174 / Brush Wellman Rd (Brush Hwy), approximately 40 miles northwest of Delta, UT.

DIRECTIONS TO MEETING PLACE: From Delta: Take US 6 East approximately 10 miles to UT 174 / Brush Wellman Rd. Turn left on UT 174 for 37.3 miles to meeting place (see map). Meeting place coordinates are 39.66256, -113.06167. Directions to Solar Wind claim (Sunday and Monday collecting area) will be provided on site.

VEHICLE REQUIRED: 4WD preferred but hi clearance 2WD is acceptable.

GENERAL ITINERARY: We will collect at the Topaz Mountain public collecting area (the Amphitheater, aka the Cove) on Saturday, and the Solar Wind claim, a private fee site, on Sunday and Monday. Hikes to the Topaz Mountain collecting areas range from easy to strenuous. The Solar Wind claim is a short hike from vehicle parking.

PAYMENT: Our group rate for the Solar Wind claim is \$75/day per person. Participants can choose to collect at Solar Wind for one or both days. Participants can keep everything that they collect. An online payment link will be provided to participants prior to the trip. Cash payments are also accepted on site.

LODGING: The closest lodging is in Delta. Dispersed camping is available in the area. Directions to nearby camping will be provided prior to the trip.

WHAT TO COLLECT: Topaz, red beryl, bixbyite and other minerals.

WHAT TO BRING: Shovel, rock pick, pry bar, chisels, scratcher, wrapping material and specimen containers. A 1/8" or 1/4" screen is useful. Water, food and appropriate clothing, including foul weather gear.

ELEVATION: Approximately 5,500 ft

POTENTIAL HAZARDS: Sun and heat; occasional rattlesnakes, scorpions and centipedes. Roads in area can become impassable when wet.

***Please RSVP by Friday March 26!***

## **Second Field trip**

**COLLECTOR'S EDGE TOUR, Golden, CO, Friday, May, 7, 2021.** Have been able to schedule a repeat of a fascinating tour taken a few years ago by the Club. That's the good news. The not-so-good news is that they're still exercising COVID caution and, for now, are limiting the number of participants to 16. Also, due to their busy weekends, the tour is planned for a week day, **Friday, May 7<sup>th</sup>**. That may not work for some members who are working that day. Due to this limited number of attendees, only current LGMC members are eligible to participate, and we ask that any young children (under age 10), not be brought along at this time. If there is a strong response, I may be able to schedule another tour later this Fall or next Winter.

**Meet at Collector's Edge main building (490 Orchard Street, Golden, CO). The tour will begin at 10:00 A.M. so be sure to arrive around 9:30 A.M.** There will be a short PowerPoint slide overview to bring everyone up-to-date on their mining progress at the Detroit City Portal of the Sweet Home Mine. They will then be able to show some of their latest mineral finds from around the world. We'll be able to see the beautiful minerals in their retail gallery, check out their huge wholesale warehouse, and visit their world-class mineral specimen preparation lab. The tour should conclude around 12 Noon.

Should be lots of fun, but, remember the limited number of participants. First come, first served for reservations.

**Call or text or email Jim Hooten (contacts below) if you are able to attend this tour. Please only sign up if you are sure you can attend.**

Jim Hooten / 303-548-7412 (cell) / 303-770-7177 (home) / [jahooten@msn.com](mailto:jahooten@msn.com)

## Club Announcements

**Moving?** Change of Address, Email or Phone Number?

Ready to go paperless?

Please notify **Ian Duncanson** of any changes at [idunc@q.com](mailto:idunc@q.com) or 303-798-9174.

**Club Vests** Show your club support **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

*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](mailto:flywithle123@comcast.net).

## Its Dues Time Again!

**2021 Membership Dues Slashed!!!**

We're celebrating the end of 2020 and the arrival of 2021 with the hope for a return to more "normal" activities. Imagine....awesome field trips, general meetings, parties, picnics, incredible rock & mineral displays and even getting free rocks!! We're sharing our enthusiasm with existing 2020 members by **slashing the 2021 annual dues to only \$10** (from \$20.00)!! Yes, you read that right, **ONLY \$10!!!!**.

Don't delay!!! Send your 2021 to:

**LITTLETON GEM AND MINERAL CLUB  
P.O. BOX 283  
LITTLETON, COLORADO 80160**

Ian Duncanson

## LGMC Website

**Our website has been updated!**

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 2021 dues!

Thanks,  
Gus

**LGMC dues for 2021**

**Name(s)** \_\_\_\_\_

**Dues payment (\$10) \_\_\_\_\_ Renewal**

**Email address:** \_\_\_\_\_



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LIKE and FOLLOW us @LittletonGemAndMineralClub

Thanks to everyone who contributed to the newsletter!  
~Tammy

**What are you working on?**

Send us what you are doing and we will include it in next month's newsletter.

[Jacobstammy80@gmail.com](mailto:Jacobstammy80@gmail.com)

☞ **2021 Board of Trustees** ☞

President	<i>Ron Wankner</i>	303-618-5549
Vice President and Membership Chairman	<i>Ian Duncanson</i>	303-798-9174
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Trustee (Year of 2021 as past President)	<i>Travis Leach</i>	303-887-9787
Trustee (2-year term 2019 & 2021)	<i>Lynette Warren</i>	303-956-4634
Trustee (2-year term 2019 & 2021)	<i>Charlie Wall</i>	303-933-0368

☞ **Chairpersons & Appointed Officers** ☞

Sunshine Chairperson	<i>Lynette Warren</i>	303-956-4634
Refreshments	<i>Anne Jenkins</i>	303-730-7696
Librarian	<i>Mary Davis</i>	303-680-5112
Historian	<i>Open</i>	
Facebook Editor	<i>Nicole Bolger</i>	720 344-5280
Hospitality	<i>Nick North</i>	303-840-1177
Grab Bags	<i>John Kleber</i>	720-851-8510
Web Administrator	<i>Gus Hansen</i>	480-489-3978
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RMFMS & AFMS Representative	<i>Larry Havens</i>	303-757-6577
Denver Council Representative	<i>Nick North</i>	303-840-1177
Cabbers & Faceters Group	<i>John Revis</i>	720-569-6685
“ “	<i>John Kleber</i>	720-851-8510
Mineral Study Group	<i>Bob Zartman &amp; Nick North</i>	303-973-0405

**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, 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.

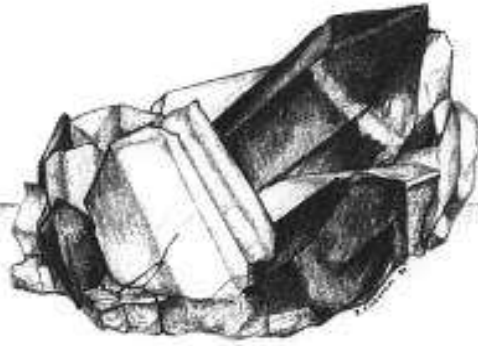
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# *HighLites*

LITTLETON GEM & MINERAL CLUB



HARRIS PARK AMAZONITE & SMOKY QUARTZ

LITTLETON GEM & MINERAL CLUB  
P.O. Box 283  
Littleton, Colorado 80160

FIRST CLASS MAIL

