

LGMC November Meeting

November Program: *The Micromount Collection of the Denver Museum of Nature and Science*

Speaker: *Larry Havens, DMNS Earth Science Department Associate*

Time and Place: November 15, 7:30 PM, St Philip Lutheran Church, 7531 S. Kendall Blvd, Littleton, CO 80128.



The Micromount Collection of the Denver Museum of Nature and Science

“What a small world” is a familiar phrase, but it truly describes the 20,000 plus micromounts housed at the Denver Museum of Nature and Science. They are worlds of mineralogical wonder contained in a relatively tiny



Pyrite needle, 2mm field of view

space. Micromounts are specimens that must be viewed under a microscope to appreciate their beauty and mineral lore. This collection began its existence in 1971 when Shorty Withers started to mine the museum’s general collection for bits and pieces of special interest to mount in one-inch plastic boxes. He created 3000 micromounts in this fashion, and the collection grew an additional 3000 when his personal collection was donated in 1983. The collection grew substantially when the Paul Seel collection was donated in 1985. Since then the collection has continued to accrue mounts from several smaller donations and the creation of a supplementary collection of mounts by James Hurlbut, assisted by Larry Havens. In 2012 the substantial collection of Willet R. Willis (long-time resident of Colorado Springs and member of the CSMS) was added. Most recently, Jim Hurlbut’s heirs have donated his Colorado collection to the museum.

This presentation will explore these and other elements of the DMNS collection, and there will be plenty of jaw popping photos by Richard Cook and Jack Thompson.

Presidents Message

November 2019

November is traditionally a time for me to give thanks and be grateful for my family, friends and fortunate life circumstances. Yes, I put a lot of effort into most things that I do but I’ve also been lucky to be surrounded and supported by good people. This includes our club members who have volunteered to help me learn our hobby and fulfill the President’s responsibilities.

This year, I am especially grateful for the club volunteers who made this year’s annual silent & verbal auction a success. This includes our Board members whose efforts were indispensable to work through potential obstacles at our new location. Their positive energy, attitude and experience made the transition easier than I could have ever imagined. I want to recognize the following members for their valuable time and effort:

- Board members- Lynette Warren (Trustee), Lesley Sebol (Treasurer), Ian Duncanson (Vice President), Jim Hooten (Field Trip Coordinator), Larry Havens (Secretary), and Dan Lovitt (Trustee).
- Members- Randy Kokkinen, Kent Havens, Susan Duncanson, Kate and Bob Chavez, Bob & Ruth Zartman, Nancy Kimber, Steve Graves, Chauncy & Sandy Walden and everyone who brought food. Thanks also to anyone who I may have inadvertently not mentioned. Thank you all!

To celebrate the spirit of Thanksgiving, we are working with St. Philip Lutheran Church to provide new warm winter hats and gloves for local communities who are less fortunate than ourselves. All donations of new clothing are appreciated. We will collect them at the Holiday party in December. St. Philip also has an ongoing "Sharing with Sheridan" program. This month they are asking for canned tuna and chicken, canned fruit, canned diced tomatoes, and personal care items. Please place these items in the bins by the front office.

Thanks again to all our member volunteers. I hope that everyone has a healthy Thanksgiving with their family and friends!

Ron Wankner

President LGMC

Voting For the Odiorne Award

For those who may not know, the club has 3 contests that we vote each year. This year, two of those contests, the best mineral purchased at the Denver Mineral show for twenty dollars or less, and the any price, both were held at the clubs September 20th regular meeting.

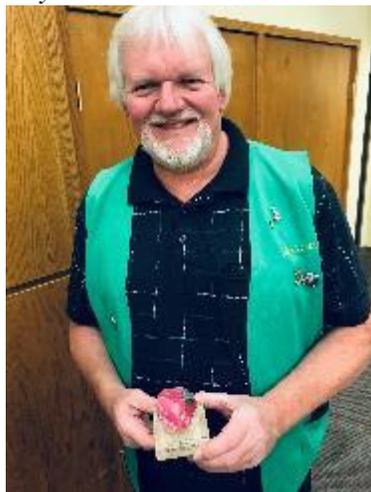
The winners were:

Jim Hooten for under 20 dollars or less

Nick North for the any price contest.



The contest for The Odiorne Award, named in honor of late club member Tom Odiorne, will be held at the upcoming November meeting. The Odiorne Award is for the best specimen collected from the field by an LGMC member since the previous November. Any collected natural material, crystals, agates, faceting material and fossils are eligible for entry. No distinction will be made between specimens collected on private, federal or on a fee-only site. The winner is announced at the December meeting. The winner receives a patch for their club vest, and a \$50 cash award, and they get to sign the travelling trophy, which is a copy of Tom Odiorne's book, *Colorado Amazonstone, the Treasure of Crystal Peak*.



Nick North (any price winner) with his Rhodochrosite from Alma, Colorado.

Jim Hooten (under \$20 winner) with Fluorite, from Durham, England.

Selected upcoming LGMC and Earth Science Events

Fri Nov 15 LGMC November Meeting, 7:30pm, don't forget we are at our new location, St Philip Lutheran Church, 7531 S. Kendall Blvd, Littleton, CO 80128. Speaker Larry Havens.

We are in need of some volunteers to bring snacks for the meeting, Thank you!

Nov 15-17 Denver Area Mineral Dealers Show. Jefferson County Fairgrounds. Free admission & parking. Friday & Saturday 10 am - 5 pm. Sunday 11 am - 4 pm.

Tue, Nov 19 Faceters and Cabbers - Faceters and Cabbers group will meet on Tuesday, November 19th, starting at 7:30 PM. Our meeting will be at the St. Philip Lutheran Church, the new location for our club meetings. We will share and discuss our creations and other items. The discussion topics will be Rhodochrosite, as the cabbing material and Beryl, as the faceting material. All Littleton members and guests are welcome to join us. If you are planning to attend and not on our email list, send me an email at jkleber@att.net for any last minute updates.



Junior Rockhounds

November 2019

No meeting this month

If your children or family want to join the LGMC Junior Rockhounds and receive the program materials send an email to rwankner@msn.com.



LGMC Summary Minutes Board Meeting, 10/7/2019

Location: St. Philips Church

Called to order at 7:08 pm by President Ron Wankner.

In Attendance: Ron Wankner, Larry Havens, Ian Duncanson, Travis Leach, Lynette Warren, Lesley Sebol, Dan Lovitt, and Jim Hooten.

Minutes of the August meeting were approved as published.

Treasurer's Report: Lesley reviewed the report for the financial activity for the period 8/1/19 to 8/30/19. Income was from dues, picnic silent auction, and food donations. Expenditures included chicken for club picnic and club claim and filing expenses.

Motion to accept treasurer's report by Havens; second by Leach; motion carried.

Reminder: Any club member may ask the Secretary to see the treasurer's report at any regular club meeting.

Membership: Ian presented Erik Lundgren for membership.

Old Business: Stefanie Hughes is withdrawing from the board for now for personal reasons.

Field Trips: With the joint field trips with Lake George GMC to our club claims on 9/21/19, and to their wigwam claim on 9/28/19, the 2019 field season came to a close. Jim Hooten said these exchange trips were well attended by both clubs and are worth repeating perhaps every other year.

Programs: Phil Persson is the presenter for November.

Facebook: Nicole Bolger's report via email: Here is what is happening on Facebook:

The FB Selfie promotion was a success - I was able to invite all of the entries to attend our regular meetings and directed them toward membership. All but 1 entry were local so I hope that we will get some new members that way (added bonus, most all have kids and I hyped up our Junior Rockhound program)! I intend on doing another photo booth next year.

John Kleber donated the dyed green agate slab for the winner, I have to mail it to her since she couldn't attend our September meeting.

I want to start posting more of the craft side of the hobby (jewelry making, wire wrapping, art, etc) and would love to help get some hands-on lessons scheduled for club members (really, I want to learn these things...)

Once I get speaker information from Ron or Stef I'll post events to our page. I am currently promoting the auction on the 19th.

Page Stats -- we continue to get on average about 20-30 new followers each month, we are JUST shy of 400 people now! I'm going to start reaching out to LGMC supporters (Collector's Edge, Pinnacle 5, other clubs) to try and get cross-posts. I'm hoping we'll be able to get some new members physically to our club meetings and events that way.

Members	Like	Follow
June	296	322
July	311	337
August	338	366
Before Show	344	372
Denver Show	356	385
September	363	392
As of Today	367	397

Faceters/Cabbers: 3rd Tuesday of every month at the church.

Mineral Study Group: Nothing scheduled for the rest of the year.

New Business: the fate of the contents of the club's "Library" was discussed. Jim Hooten moved to put library items out for auction in October; Lesley seconded, and the motion passed unanimously.

Remaining focus of the meeting addressed the auction and Holiday Party in December.

Lynette Warren reported on the status of auction planning:

Some jobs still needed additional workers, and she will continue to fill those positions.

Additional details were reviewed and decided. The bulletin will cover the salient elements for the membership.

While the majority of December party planning will take place at the next board meeting, it was decided to continue having members bring their favorite chili versions and to have chicken as an alternative.

Nicole Bolger expressed a desire to work on the center pieces for the party tables. In the past approximately \$80.00 has been spent to fabricate the center pieces.

Next Board Meeting: 11/18/19 at St. Philips – 7 PM

Meeting adjourned 8:17 pm.

Respectfully submitted,
Larry Havens, Secretary

Calendar of Coming Earth Science Events!

Fri., Nov. 8, 8 a.m. – 4 p.m., **Colorado Science [Teachers'] Conference for Professional Development**, at the Denver Mart, 451 E. 58th Ave., Expo Hall Aimed mainly at classroom science teachers, anyone may register to attend this conference. There will be more than 100 different presentation sessions and more than 50 commercial and non-profit exhibitors. There is an early registration discount for preregistration made by Oct. 18. The registration fee is \$60 through Oct. 18, \$75 thereafter, and \$20 for students, pre-service and first-year teachers, and retirees (\$30 after Oct. 18). Full information and online registration info for the Conference are at:

<https://coloradoscienceconference.org/> and <https://coloradoscienceconference.org/registration>.

Tues. Nov. 12, 3:00-4:00 p.m., Denver Museum of Nature & Science Earth Sciences Colloquium, **400 Million Years on Six Legs: Evolution of the Insects**, by Michael Engel (University of Kansas); see <https://eeb.ku.edu/michael-s-engel#link3> . VIP Room, all welcome.

Thurs., Nov. 14, 7:00 p.m., **Archaeology of Peru's North Coast: The Moche Culture and Beyond**, by Michele Koons, Denver Museum of Nature and Science. Colorado Scientific Society monthly meeting, Shepherd of the Hills Church, 11500 W. 20th Ave., Lakewood; social time at 6:30; all welcome.

Thurs., Nov. 14, 7:30 p.m., **Gold: A journey from the Big Bang to the forest of the Amazon**, by Dr. Terry Wallace, Director Emeritus, Los Alamos National Laboratory. At the bimonthly meeting of Friends of Mineralogy, Colorado Chapter; Berthoud Hall Room 109, Colorado School of Mines campus, Golden. All are welcome.

Fri.-Sat.-Sun., Nov. 15-17, Gem and Mineral Show, Jefferson County Fairgrounds; 10-5 Fri. & Sat., 11-4 Sun., 15200 W. 6th Ave., free parking & admission.

Fri.-Sat.-Sun., Dec. 13-15, Flatirons Gem & Mineral Show, "Rocks & Rails", Boulder County Fairgrounds, 9595 Nelson Rd., Longmont CO, Main Exhibit Building. 10 a.m. – 5 p.m. each day. Held in conjunction with the Boulder County Model Railroad Club Show.

Thurs., Dec. 19, 5:30 p.m., **Colorado Scientific Society Annual Meeting**, 2019 President's Address (Tom Casadevall, USGS), and potluck dinner. Shepherd of the Hills Church, 11500 W. 20th Ave., Lakewood; all welcome.

Thank you once again to Pete Modreski for sending us all the upcoming science events!

Geology Corner

New Places to Look for Diamonds

Diamonds are usually found in kimberlite, an igneous rock containing chunks of diamond-bearing rock from the earth's mantle. They also occur in surface placer deposits formed by the weathering of kimberlite. They may be rarely found as tiny crystals in certain meteorites. Now a new geological occurrence has been reported from the Kukchetin block in northern Kazakhstan. Here diamonds are found in gneisses formed by the metamorphism of sedimentary rocks.



The Kokchetev block is about 800 kilometers west of Novosibirsk, Siberia and 1000 km. north of Tashkent. It is a fault-bounded block of high grade metamorphic rock formed approximately 530 million years ago from rocks deposited as sediments about 2 billion years ago. The diamonds are found as perfect cubes and octahedrons about 0.0005 inches in diameter enclosed inside garnet and zircon crystals. Other minerals found here as inclusions in garnet and zircon are titanite, phengite (a type of mica), K feldspar, quartz and kyanite. None of these minerals are

traditionally thought to be associated with diamonds. In addition to these minerals, the gneisses contain pyroxene, plagioclase, biotite, chlorite, calcite and graphite.

The diamond-bearing rock was once a sediment deposited on land about 2 billion years ago. It was then buried deeply, metamorphosed and uplifted back to the surface. A major question is whether the diamonds actually grew during metamorphism or whether they had been deposited in the original sediment from an eroded kimberlite somewhere else. This is an important question, because diamonds had never before been seen growing within rocks of the earth's crust.

Sobolev and Shatsky (1990) studied this question with some care and showed that the diamonds did indeed grow in the rock during metamorphism. They cite a number of pieces of evidence for this. First, the diamond crystals' shapes are such that they could not reasonably have survive any degree of transportation as a sediment. Also, the diamonds are intimately intergroup with minerals such as garnet that were known to grow in this rock during metamorphism. Plus, the associated minerals show that the rock was subjected to temperatures of 900 - 1000 degrees C and pressures of over 40,000 atmosphere. This puts them within the stability field of diamond. This also implies that the sediments were buried to depths of over 100 kilometers (60 miles) within the earth. After metamorphism the rocks were uplifted to the surface. The diamonds, which should logically have converted to graphite, survived by being insulated within the garnet and zircon crystals.

There are several interesting implications to this find. First is what I will refer to as the "elevator concept". To make the diamonds, these sediments had to be pushed down into the earth over 60 miles then brought all the way back up to the surface. The forces and causes of such large vertical movements are unknown. Geologists for years have focused on the large horizontal movements of blocks associated with plate tectonics. A small group of geologists, most notably Russian, have argued that large vertical movements were also important. These little diamond crystals are proof that their arguments are justified. I predict that in future years geologists will be thinking more and more about large up and down movement of crustal blocks. The second implication is that if diamonds can be found in a particular rock in one place, they will be found in the same kind of rock elsewhere. These diamonds are very tiny, hence easily overlooked. Most geologists studying high grade gneisses would also not be expecting to find diamonds. A truism in geology is that you usually find only what you are looking for. Now geologists will be on the look-out for diamonds in high grade gneisses in other parts of the world and I think they will find them.

Some logical places I would look are in the gneisses of the Adirondacks in New York, of the Beartooth block in Wyoming and, yes, of the Minnesota River Valley around Redwood Falls.

Even though these diamonds are too small to see without extensive magnification, they are important for what they tell geologists about the complex history of this marvelous planet.

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

References:

Sobolev, N.V. and V.S. Shatsky, 1990, "Diamond inclusions in garnets from metamorphic rocks: a new environment for diamond formation," *Nature*, vol. 343, p. 742-745.

Claue-Long, J.C. et al., "Zircon response to diamond pressure metamorphism in the Kokchetov massif, U.S.S.R." *Geology*, vol. 19, p. 710-

713.

Club Announcements

New Members: Eric Lundgren and Ray and Julie Vigil

Moving? Change of Address, Email or Phone Number? Ready to go paperless?

Please notify **Ian Duncanson** of any changes at idunc@q.com or 303-798-9174.



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

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.

Field Trip



A new field trip has been added that is a trip hosted by Lake George GMC, in conjunction with RAMS and LGMC. An email announcement has been sent to LGMC members that describes the collecting areas, the start date, and a place to respond. This information is repeated below for those not receiving emails.

LGMC has received an invitation to join The Lake George Gem and Mineral Club, and the RAMS club, for a 5-day trip next spring to western Utah to collect at 3 different claims (Searle Canyon, Solar Wind, Maynard). Two days driving (there and back), 3 days collecting). It will be from Saturday, May 2 thru Wednesday, May 6, 2020.

Unfortunately, this is just a few days prior to our already scheduled trip to the Blanchard Mine in Bingham, New Mexico from Friday, May 8 to Sunday, May 10, 2020. That makes it difficult for someone to do both (although not impossible). Just a lot of driving and being gone a lot. Contact Jim Hooten if you are interested in doing one or both of these trips, preferably by email at Jahooten@msn.com.

Field Trip Name: UTAH: Searle Canyon, Solar Wind and Maynards Mines (with Mile Hi RAMS and LGMC clubs)

Field Trip Date: 2020-05-02 at 09:00:00

Meetup Location: TBD

Trip Leader: Dave Alexander (LGGMC), Chris Rayburn (RAMS), Jim Hooten (LGMC)

CAN WE BE FRIENDS?



Our LGMC Facebook Page is a great place for club members to hear about upcoming events, learn interesting facts, have a laugh, share mineral and field trip photos, and engage with other rockhounds in Colorado and beyond!

LIKE and FOLLOW us @LittletonGemAndMineralClub

See you on Facebook! Nicole Bolger

Annual Gem & Mineral Show
November 15-17, 2019
Jefferson County Fairgrounds, Exhibit Halls
15200 W. 6th Ave., Golden, CO
Hours: Fri. & Sat. 10 AM - 5 PM, Sun. 11 AM - 4 PM

Public Welcome!

Free Admission and Parking!

Gems, Jewelry, Carvings, Books
Minerals, Fossils, Lapidary

Artisan Jade	Lithos/Lithographie
Black Stone Lapidary	Mineral Stop
Bright Star Gemstones	Morocco's Fossils
Buckskin Booksellers	Moss Rock Shop
Costigan's Minerals West	ORCA Gems
Cut Edge Gems	O'Dark Thirty Boyz
D & J Rare Gems	Phantom Minerals
Dan's Used Rocks	Pinnacle 5 Minerals
Earthstones-The Solitaire	Porter Minerals International
G & C Creations	Prospector's Choice
Hands of Spirit	riverrun Designs
Jensen Meteorites	Rocky Mtn. Mining
K & M Enterprises	Spirit Whispers

Information: 303-993-6685, 303-986-3647, 303-660-9564

Map labels: South Golden Road, Colfax Ave., Indiana St., 6th Ave., 6th Ave. Frontage Rd., Jeffco Fairgrounds, I-70, C-470, N

Thanks to everyone who contributed to the newsletter!

~Tammy

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“ “	<i>John Kleber</i>	720-851-8510
Mineral Study Group	<i>Bob Zartman & 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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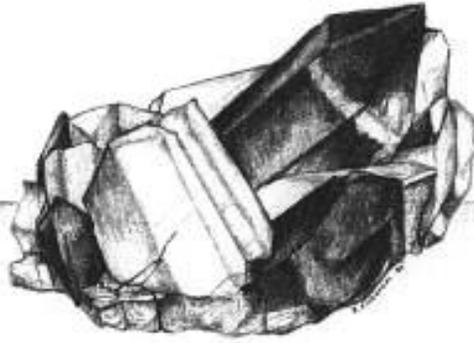
****The deadline for submissions is the 1st Friday of each month.** Please send your material by email to jacobstammy80@gmail.com.

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