

The Lake George Gem and Mineral Club -

Club News,
November, 2011



Regular Meeting of the Lake George Gem & Mineral Club
Saturday, November 12, at 10:00AM
Lake George Community Center

As you know, the October 8 meeting had to be cancelled because of snow. I hope that we will have good attendance at the November meeting, as we have Annual Elections, a vote to add the Editor as an Officer of the Club, and several other items of importance to discuss. Those items include proposals relating to use of the Club claim and Lapidary Workshop, which may affect all members. If you want your opinions heard, you need to be there and speak up.

After the business meeting, **John Rakowski** will give a short program by **Bob Carnein** on organizing the minerals that you have collected during the year, titled "**Keeping Your Collection from Becoming a Hodge-Podge that Gets Thrown Out When You're Gone**". --John Rakowski, President

At present, our constitution provides the following guidelines on officers and elections:

Article IV - Officers and Elections

1. The officers of this club shall be:

- A. President**
- B. Vice-President**
- C. Secretary**
- D. Treasurer**

2. Election of officers:

At the September regular meeting, the President shall appoint a nominating committee to present a list of nominees at the October meeting. The President may ask those present if they would be willing to hold an office. At the October meeting additional nominations may be made from the floor. NO PERSON MAY BE NOMINATED OR APPOINTED TO OFFICE WITHOUT HIS OR HER CONSENT. Following the nominations and the closing of nominations at the October regular meeting, election will be by secret ballot of the members present, except when there is but ONE candidate for an office. This requirement may be waived and a unanimous vote called. Officers will take office at the next regular meeting.

The Nominating Committee will present a slate of Candidate Officers at the October meeting with additional nominations welcome from the floor before the vote.

Proposal for Fifth Officer: The Club Constitution and By-Laws provide for a total of four officers: President, Vice President, Secretary and Treasurer. Your Officers are proposing to make the Newsletter Editor an Officer. A significant contribution of information and insight is received from the Newsletter Editor. Additional ideas, thoughts, concerns and comments are valuable when decisions need to be made. As an officer, the Editor would have a stronger contribution to the Club. With four officers, a vote could result in an even split. A fifth vote would be a tie breaker. Article VI of the Club Constitution about amendments was read to the members at the September meeting, when the proposal to add the Editor as an Officer was made as a motion and approved. As required by the Constitution the vote will take place at the next regular meeting.

Other Issues of Concern: The collecting of material from the Club Claim was discussed in September. There is concern over personal use as opposed to commercial use. Club members have collected material from the Piety and/or Patience Claims and offered it for sale at rock shows for personal profit. Some members feel this is inappropriate and not in accordance with Club objectives, as stated in the Club's Constitution, which states, among other things:

Article II - Objectives

*The objectives of the club shall be:
(SNIP)*

4. *To encourage fossil, mineral, crystallographic and arrowhead study, collecting and fashioning as a hobby.*
5. *To perform the objectives of a **NON - PROFIT** organization.*

We also need to address the issue of commercial cutting versus hobby cutting in the LGGMC Lapidary Shop. In the September meeting discussion, it was emphasized that the Club is a non-profit organization to promote collecting and cutting as hobby activities. There did not appear to be an objection to the occasional trades or sales, but the key word is "occasional". In order to be fair to all members and to summarize the issues clearly, it was decided to continue the discussion at the October meeting. Jerolynn Kawamoto volunteered to organize the concerns, thoughts and suggestions for presentation at the November meeting.

Coming Events

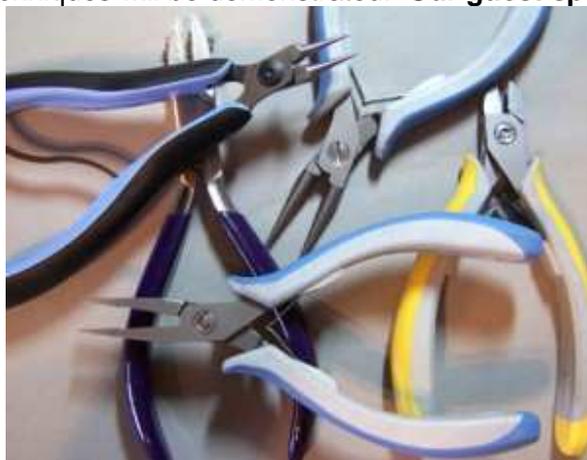
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|--|--------------|
| <u>"Evolution, Sequence Stratigraphy, and Organic Richness of the Green River Formation..."</u> by Kati Tanavsuu-Milkeviciene, 4-5PM, Berthoud Hall, Rm 241, CSU
(go to http://geology.mines.edu/calendar/Van_Tuyl.html for more info) | ... Nov. 3 |
| <u>Denver Area Mineral Dealers Public Show</u> , Jefferson Co. Fairgrounds, 6 th Avenue, Frontage Rd. and Indiana St., Golden (free admission and parking) Call 303-279-5504. | ... Nov. 4-6 |
| <u>"The Evolution of Photosynthesis and the Rise of Oxygen"</u> , by Woodward Fischer, 4PM, Benson Earth Science Bldg., Rm. 180, C.U. Boulder | ... Nov. 9 |
| <u>"Digital Earth: Explore the World from Space"</u> , by Vance Howard, 7PM, Gates Planetarium, Denver (adm. Charge); go to http://www.dmns.org/learn/adults/after-hours | ... Nov. 9 |
| <u>Columbine Gem & Mineral Society</u> monthly meeting, 6:30PM, Mt. Shavano Manor, 525 W. 16 th (at J St.), Salida. | ... Nov. 10 |
| <u>"Rock Out For the Ridge"</u> , Dinosaur Ridge annual fund raiser. Go to www.dinoridge.org for info. | ... Nov. 11 |

- New Mexico Mineral Symposium**, Socorro, NM. Go to <http://geoinfo.nmt.edu/museum/minsymp/home.cfm> for info. ... **Nov. 12-13**
- "How to Clone a Mammoth"**, by Beth Shapiro, 7 PM, Denver Museum of Nature and Science (adm. Charge). Go to <http://www.dmns.org/learn/adults/after-hours> for info. ... **Nov. 16**
- Colorado Springs Mineralogical Society** monthly meeting, 7:30PM, Colorado Springs Senior Center, 1514 N. Hancock. ... **Nov. 17**
- Pueblo Rockhounds** monthly meeting, 7:30PM, Westminster Presbyterian Church, 10 University Circle. ... **Nov. 17**
- Littleton Gem & Mineral Club** Annual Auction (minerals, fossils, books, etc.), Columbine Hills Church, 9700 Old Coal Mine Ave., Littleton, 12 Noon-?. Info at 303-840-1177 or info@littletongemandmineralclub.com ... **Nov. 19**
- Flatirons Mineral Club Show**, Boulder Co. Fairgrounds Main Exhibit Bldg., Hover Rd. and Nelson Rd., Longmont. Go to <http://bcn.boulder.co.us/community/fmc/fmcshow.htm> for info. ... **Dec. 9-11**

Club News

⚡ **Dick Lackmond** reminds members that the Lapidary Workshop will be open at 6PM on November 9. Last month's program on wire wrapping had to be canceled but will be given this month. Here's the description from last month's newsletter:

"At the next Lap shop meeting (Nov. 9, 6pm), we will have the pleasure of having a Wire Wrapping lesson - demonstration to help us all understand and maybe get into wrapping. Wire wrapping tools and techniques will be demonstrated. **Our guest speaker will be Kim**



Packham, Running Boar Minerals, a well known jewelry wrapper. Kim will have many fine pieces to show and sell!

Please bring your equipment, if you have any, and learn how to use it. Kim will bring hers, so you can play and get a feel for how it works.

What a great opportunity--- SEE YOU THEN!!!!"

Location: Mountain Aspen Granite Countertops, 213 Aspen Garden Way #4

Remember, Glenn Raymond, the owner of the business, has made the space available to the Club at No Cost!!! In return for his generosity, we encourage all Club members to keep Lake George Gem and Mineral Club

November, 2011

Mountain Aspen Granite Co. in mind for stone counter tops, hardwood flooring and window coverings. They have polished natural granite and other rock that they can custom fit to kitchens, bathrooms or elsewhere. Phone 719-641-0214.

If anyone who plans to attend has access to a video recorder, please bring it. We would like to record the presentation and make it available in the Club library.

--Dick Lackmond

✈ **Reminder:** We now have an expanding **Club library**, overseen by **Duane Russell** duaneruss@msn.com. If you have something to donate, please get in touch with Duane, and he will update the inventory.

✈ If you'd like to lead a field trip next season or have a suggestion for one, please contact Richard Kawamoto, kawahome@hughes.net, who is our new field-trip coordinator.

✈ The Denver Post had an article recently about a donation from AngloGold Ashanti of 72 troy ounces of 24-karat gold from Cripple Creek to re-gild the State Capitol dome. A 68-pound doré ingot was delivered on Sept. 22 and will be refined to produce the gold for the dome. According to the article, "The gift from the Cripple Creek mine will reinstate a tradition established in 1908 of using only pure Colorado gold on the dome."

✈ If any member has extra specimens of marble or slate, **Bob Carnein** (ccarnein@gmail.com) is looking for about 10 pieces of each for the December Pebble Pups class.

✈ The Nominating Committee, consisting of **Maury Hammond** and **Dick Lackmond**, will present the following slate of nominees for 2012 officers at the November meeting:

President: **John Rakowski**
Vice President: **Jo Beckwith**

Treasurer: **Wayne Johnston**
Secretary: **Charlene DeVries**

✈ **John Rakowski** reports that 90,000 historic USGS topographic maps are available for free digital download or for purchase at the USGS Store. Go to <http://nationalmap.gov/historical>.

✈ **Here are this month's "Bench Tips" from Brad Smith:**

Some of your members who do jewelry might be interested in a video tutorial I came across about how to make a tube setting. It's at

<<http://design.kcjewelbox.com/2011/10/12/tool-time-tuesday---tube-setting-tutorial.aspx>><http://design.kcjewelbox.com/2011/10/12/tool-time-tuesday---tube-setting-tutorial.aspx>

- Brad Smith

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HOMEMADE WAX TOOLS

Save your used X-Acto or scalpel blades for utility work on the bench. They're wonderful for delicate wax work. Use a cutoff blade or a grinding wheel to shape the blades to what you need. For instance, you can carve away excess metal on the spine to make yourself some narrow carving knives that do a great job of detailing small areas of your waxes.



RING SIZE VARIATIONS

The numerical sizes marked on ring gauges and ring mandrels are often not the same across different manufacturers. If you're using a ring gauge to measure a customer, be sure to compare the markings on the gauge with the markings on the mandrel you use to make the ring. They may not be the same.

Also, you may have to adjust a little for the width of the ring shank. If you're making a wide shank ring, the ring generally has to be a little bit larger in diameter than the ring gauge size in order to get a comfortable fit.

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More BenchTips by Brad Smith are at: groups.yahoo.com/group/BenchTips/ or facebook.com/BenchTips.

Pebble Pups Corner

Nine Pups showed up for **John Rakowski's** presentation on igneous rocks on October 18. Here's a summary by John:

Our Pebble Pups learned about Igneous Rocks at the October meeting. Igneous rocks are formed when melted magma, or very hot melted rock, cools either underground or on the surface. Pieces of different types of igneous rocks were viewed, handled and discussed. We talked about volcanic ash flows in this area as well as ash from volcanoes in Italy and the Philippines. By handling some rock, everybody could understand why the Hawaiian name of A'a (Pronounced "ah-ah") is given to some lava with sharp edges! All 9 of the Pebble Pups got samples of obsidian, a volcanic glass.

At the meeting we also discussed the overall Rock Cycle which shows Igneous, Sedimentary and Metamorphic rock environments. On the third Tuesday (15th) of November we'll discuss **Sedimentary Rocks**.

Please note: The December Pebble Pups class will cover **Metamorphic Rocks** and will be held on **December 13**, rather than the 20th, to avoid interfering with holiday travel plans.

Remember, parents and other guests are welcome to attend Pebble Pups meetings, which are normally held at **6PM on the third Tuesday** of the month in the **Lake George Community Center**.

NOTES FROM THE EDITOR

Bob Carnein, Editor
ccarnein@gmail.com
719-687-2739



Here's the third installment of an occasional series of articles on minerals of the Mohs hardness scale. Once again, please send me your written contributions or suggestions for articles. I'll be glad to help you with the editing, if necessary.

The Gist of Gypsum by Bob Carnein

Introduction. Gypsum is a common mineral that should be familiar to most mineral collectors. It comes in many colors as attractive crystallized specimens from various world-wide localities (including crystals up to 12 meters long from the Naica lead-zinc mine, in Chihuahua, Mexico, Figure 1). It is easily carved, and the variety *alabaster* has been used since ancient times for vessels and sculpture (Figure 7).



Figure 1. Men in cooled suits explore the gypsum "cave" at the Naica mine.
(IronAmmonite.com)

Properties. Chemically, gypsum is hydrous calcium sulfate ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$). It is number 2 on the Mohs hardness scale, and, like talc (number 1), it is softer than a
Lake George Gem and Mineral Club

November, 2011

fingernail. Unlike talc, gypsum commonly occurs as well formed crystals (Figures 1-3) and lacks the "slippery" or "soapy" feel that helps to identify talc. Gypsum is more common than talc and should be suspected if you find an unknown mineral that is softer than a fingernail, occurring in sedimentary rocks.

Gypsum crystals are often simple and easily recognized as belonging to the monoclinic crystal system (Figure 2). Thin ones are flexible—if you are careful, you can bend them without breaking (but I don't recommend trying this on a fine specimen from Spain or



Figure 2. Gypsum crystal, near Nanton, Alberta, Canada. (Carnein coll. & photo)



Figure 3. Gypsum crystals, Zaragoza, Spain. (Carnein collection & photo)

Australia) (Figure 4). Unlike muscovite mica, which is elastic, bent gypsum won't "snap back" when you remove the pressure. This helps to distinguish gypsum from muscovite.

Gypsum exhibits 3 directions of cleavage, one of which is better developed than the other two (Figure 5). This helps to distinguish it from both talc and muscovite, which each have only one cleavage. It could be confused with calcite, which also has 3 cleavage directions, but calcite is harder than a fingernail and fizzes if powdered and placed in a weak acid (e.g. vinegar or hydrochloric acid). Gypsum will not effervesce.



Figure 4. Bent gypsum crystal from Ellsworth, Ohio. (Carnein collection & photo)



Figure 5. Cleavage in gypsum. (Carnein collection & photo)

It exhibits a pearly luster, unlike calcite, whose luster is more glassy (Figure 5).

Varieties. Gypsum comes in 3 common varieties or habits. **Selenite** (Greek *selene*, Moon) is the well crystallized variety (Figures 1-5). It is often transparent or translucent

and may be vividly colored by various impurities. **Satin spar** is a fibrous variety that often occurs in veins or layers in sedimentary rocks (Figure 6). It is usually white, and, if a specimen is cut and polished perpendicular to the fibers, it may exhibit weak fiber-optic properties when placed on top of a picture or printed page. **Alabaster** (sometimes called "rock gypsum") is composed of a fine grained aggregate of intergrown, randomly oriented gypsum crystals (Figure 7). It may occur as masses or layers tens of meters thick, interbedded with other sedimentary rocks (especially limestone and shale). Such masses have been mined or quarried as a source of gypsum for industrial uses (see below).

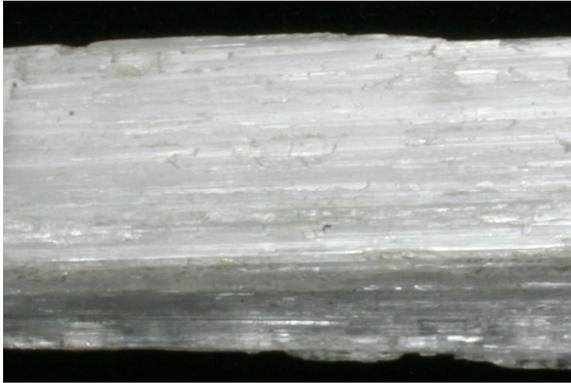


Figure 6. Gypsum var. "satin spar".
(Carnein collection & photo)



Figure 7. Alabaster carving.
(liveauctioneers.com)

Mode of Occurrence. Gypsum usually forms by precipitation from water. If ordinary sea water evaporates, several common minerals precipitate as the "salt" solution becomes more concentrated. In general, calcite (CaCO_3) forms first, after about half the water evaporates. After about 80% of the water evaporates, gypsum crystallizes. Eventually, if evaporation continues, halite (NaCl) forms (at about 90% evaporation), followed by sylvite (KCl , at 98%). Other minerals may also form, and the *evaporite sequence* can be very complex in fresh water lakes.

If gypsum is buried at depths where the temperature exceeds 42°C , it converts to anhydrite (CaSO_4), with a loss of volume. When anhydrite is exposed near the surface, it converts back to gypsum by taking on water. The conversion involves a large volume increase and may cause distortion of the layering in surrounding sediments. Gypsum and anhydrite are common minerals in salt domes, where they may form a residual *cap rock* when more soluble halite and sylvite dissolve as the salt migrates upward toward the surface and interacts with ground water. In some cases, bacteria in the cap may break down the sulfates and release sulfur. Native sulfur occurs in several of the salt domes in the Gulf Coast region of the U.S., where it has been produced commercially.

Gypsum can also form by oxidation of sulfides (e.g. pyrite, marcasite) by calcium-rich ground water. This produces fine, scattered gypsum crystals in black shales such as the Pierre Shale in Colorado and Kansas and some of the black shales of Ohio.

Gypsum sand dunes occur in several closed drainage basins in the Rio Grande rift, the most famous being the White Sands dune field, in New Mexico (Figure 8). Here, the gypsum crystallized in saline lakes before being picked up and moved by the wind. Similar gypsum dunes may occur on Mars (<http://www.sciencedirect.com>).



Figure 8. Gypsum dunes in White Sands, NM. (Wikipedia.org)

Uses. Gypsum has a wide variety of uses, including the manufacture of ammonium sulfate $[(\text{NH}_4)_2\text{SO}_4]$ fertilizer, plaster of Paris, and Portland cement. Heating gypsum to about 175°C drives off $\frac{3}{4}$ of the water. The resulting material is ground and may then be mixed with other substances (e.g. perlite, vermiculite) to make the plaster used in walls and castings. Drywall and stucco also contain gypsum. A small amount is added to control the setting of Portland cement. It is also used in foot creams, shampoos and other hair products, as a soil conditioner, and in the making of mead and home brew (mineralszone.com; Wikipedia.org).

Sources. Most exploitable gypsum occurrences are found in areas of evaporite deposits. Major sources in the U.S. occur in California, Iowa, Michigan, New York, and Texas. Iran, Canada, Cyprus, India, Jamaica, Pakistan, and Russia have large reserves, and there are a number of important European sources (mineralzone.com; Wikipedia.org). Some gypsum is also derived as a byproduct of fluidized-bed combustion in power plants.

Lake George Gem and Mineral Club

Box 171

Lake George, Colorado 80827

LGGMClub.org

2011 MEMBERSHIP APPLICATION

Name(s) _____

Address _____ City _____ State __ Zip _____

Telephone () _____ - _____ E-mail _____

Names and ages of dependent members: _____

Annual membership - dues Jan. 1 through Dec. 31 are as follows:

- Individual (18 and over) \$15.00
- Family (Parents plus dependents under age 18) \$25.00

Annual dues are due on or before March 31. Members with unpaid dues will be dropped from the roster after this date. **Any new member joining on/after August 15 shall pay one half the annual dues.**

I hereby agree to abide by the constitution and by-laws of this club.

Signed _____ Date: ____/____/____

I have previously been a member of Lake George Gem & Mineral Club. Yes __ No __

My interest areas include:

Minerals __ Fossils__ Lapidary __ Micromounts __
Other _____

I would be willing to demonstrate any of the above for a club program or educational activity? If yes, which: _____

Please indicate which of the following activities you might be willing to help with:

Writing _____ Editor _____ Mailing _____ Local shows _____

Club Officer _____ Programs _____ Field trips _____ Refreshments _____

Questions about the club or club activities? Contact John Rakowski (719) 748-3861

Rev. Jan. 2011

**Lake George Gem and Mineral Club
P.O. Box 171
Lake George, CO 80827**

The Lake George Gem and Mineral Club is a group of people interested in rocks and minerals, fossils, geography and history of the Pikes Peak/South Park area, Indian artifacts and the great outdoors. The club's informational programs and field trips provide an opportunity to learn about earth sciences, rocks and minerals, lapidary work and 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 meets the second Saturday of each month at the Lake George Community Center, located on the north side of US Highway 24 on the east edge of town, sharing a building with the county highway shops. **In the winter we meet at 10:00 AM. From April through September, we meet at 9:00 AM, to allow more time for our field trips.**

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 also sponsor an annual Gem and Mineral show at Lake George, where collectors and others may purchase or sell rocks, minerals, fossils, gems or jewelry. Annual membership dues (Jan. 1 through Dec. 31) are \$15.00 for an individual (18 and over), and \$25.00 for a family (Parents plus dependents under age 18).

Our Officers for 2011 are:

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