

The Lake George Gem and Mineral Club -

Club News,
February, 2010



Regular Meeting of the Lake George Gem & Mineral Club
Saturday, February 13, 10:00AM
at the Florissant Fire Station!

Directions: The Florissant Fire Station is located on the South side of US 24, about ¼ mile west of the intersection of Teller 1 and US 24, Florissant.

Bob Carnein Will Present a Program Titled "[Mineral Identification 101: What You Need to Know to Identify Common Minerals](#)"

When you find a mineral specimen in the field, there are several simple tests and observations that will help you with identification. With the help of a basic mineral ID manual and some easy-to-obtain tools, you can become an expert at distinguishing topaz from "rock crystal" quartz, microcline from rose quartz, and biotite from hornblende. Bob will use dozens of examples from his own collection to illustrate what you need to look for in order to develop your mineral-ID skills. Bring along one or two "unknowns" from your collection to get help with which properties are most useful!

One Direction of Cleavage



Hackly Fracture



Help the Club treasury: Bring your duplicates to the regular club meeting for the Silent Auction!

Coming Events

At our March 13 meeting, member **Loren Lowe** will present "**The Elusive Gold of Antelope Springs**" He sent this summary:

"In the early 1900s, an eastern mining company claimed over 5000 acres in South Park for the purpose of gold production. Today, the area sits quietly as people drive by not knowing of the mining activity that has taken place. The presentation will talk about the history of the area and the remnants that still exist today, over 100 years later."

- Monthly meeting, Columbine Gem & Mineral Society**; 6:30PM, Shavano Manor, 525 W. 16th (at J St.), Salida ... Feb. 11
- Monthly meeting, Denver Gem & Mineral Guild**; 7:30PM, Berthoud Hall, Rm. 109, Colo. School of Mines, Golden ... Feb. 12
- Monthly Meeting, Colorado Springs Mineralogical Society**; 7:30PM, Colorado Springs Senior Center, 1514 N. Hancock Ave., Colorado Springs ... Feb. 18
- Monthly Meeting, Pueblo Rockhounds**; 7:30PM, Westminster Presbyterian Church, 10 University Circle, Pueblo ... Feb. 18
- Tucson Gem, Mineral, & Fossil Showcase** (various venues) ... Jan. 30-Feb. 14
- Tucson Gem and Mineral Show** (Tucson Convention Center) ... Feb. 11-14
- Desert Gardens International Gem & Mineral Show**; free; Desert Gardens RV Park, Quartzsite, AZ; info@desertgardensrvpark.net ... Feb. 1-28
- Denver Gem & Mineral Guild Show**, Jefferson County Fairgrounds, 15200 W. 6th Avenue, Golden, info: Beth Simmons, cloverknoll@comcast.net ... Feb. 26-27
- International Gem & Jewelry Show**, Denver Merchandise Mart, \$7 admission ... March 6-8
- Fort Collins Rockhounds 48th Annual Mineral Show**, Lincoln Center, 417 W. Magnolia St., Ft. Collins; \$3 adult admission; contact Dave Halliburton 970-493-6168 for info. ... March 26-28
- Flatirons Mineral Club Silent Auction**, West Boulder Senior Center, 909 Arapahoe Ave., Boulder, 7PM, all welcome ... April 8
- Colorado School of Mines Museum Garage Sale**, 1310 Maple St., Golden; 9AM-4PM ... April 18
- Colorado Mineral & Fossil Show**, Denver Central Holiday Inn, 4849 Bannock St. (I-25 and I-70), Denver; free admission and parking ... Apr. 23-25
- Wichita Gem & Mineral Society 57th Annual Show**, "Tri-State Treasures", in conjunction with the **Rocky Mountain Federation of Mineralogical Societies Annual Convention** ... Apr. 23-25

Club News

♥♥Because the Lake George Community Center's "facilities" were still frozen; we had our January 9 meeting in the **Lake George Charter School's** excellent facilities. Many thanks to **Pat Lewis** for making the arrangements with President **John Rakowski**.

♥♥At that meeting, about 30 members welcomed guests **Bob and Jean Kane**. We were all glad to see our Secretary, **Marge Breth**, back on her feet after knee surgery in December and wish her well in her continued recovery.

♥♥Members agreed to buy **2 display cases**, for use at shows and other events. We also agreed to make a donation to the **Western Museum of Mining and Industry**.

♥♥**Dave Harvey** showed off some great blue agate that he found in South Park. He had both polished and rough samples, some with drusy quartz or botryoidal surfaces.

♥♥**Dick Lackmond** has agreed to take over as our publicity person for Club meetings and Pebble Pups activities.

♥♥**John Rakowski** reminded members that the deadline for applications for our annual \$500 Earth-science **scholarship** is March 1. The scholarship is available to college students from Teller and Park counties. **Dan Alfrey** has contacted local High Schools and Colleges in the State to try to find more applicants.

♥♥**Dan Alfrey** announced that our **2010 Study Project** will focus on the *Alma Mining District*. He noted that the Park County archives have recently been improved, with better access to old photos, maps, etc. Members were encouraged to sign up to participate in Study Group activities. Last year's Victor study has stirred a lot of local interest, thanks to presentations by **Steve Veatch** at various clubs and other events.

♥♥**John Rakowski** reports that the Club is considering staking a claim—we'll hear more about this soon. **Todd Mattson** has explored several possibilities for a Club Claim.



♥♥**Mike Nelson** gave a comprehensive overview of "Microcrystalline Quartz", including terminology used to define various fibrous and granular varieties. He noted that thousands of articles and names have resulted in a lot of confusion among professionals and laymen alike. He talked about types and origins of agates and about fake varieties, especially of onyx. Thank-you Mike for an interesting presentation!

Pebble Pups Corner

Six Pebble Pups and their family members came to the January 12 meeting, where **Bob Carnein** led a "hands-on" lab on identification of 10 common ore minerals, using the properties learned at the December meeting. Students were able to use our new streak plates, *donated by Mike Fisher and Progressive Technology*, thanks to **Dick Lackmond**. Thanks, also, to **John Rakowski** and **John Gibbs**, who donated pyrite specimens for the "Pups".



Photos thanks to Dan Alfrey



Once again, the **Pebble Pups** group encourages any members who want to "sit in" to come to the meetings on the second Tuesday of the month, at 7:30PM. We are still looking for specimens to give to the kids at the meetings, so go through that pile of rocks in your garage and see what you can spare. Remember, we're looking for 8 to 10 samples of each.

NOTES FROM THE EDITOR

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I recently received a series of e-mails from a neighboring club via **Dan Alfrey**, talking about the *supposed* dangers of wearing jewelry that contains irradiated blue topaz. That got me thinking about irradiated stones, in general, and the result is the following article. Hope you like it!

"Irradiated Gemstones" by Bob Carnein

Recently, several "scandals" relating to gemstone "enhancement" have rocked the jewelry industry. Consumers apparently discovered what jewelers have long known—that most colored stones are treated to increase their clarity or modify their color. Of all of the myriad treatments developed in the industry, irradiation is probably the least understood and most controversial. Although the Nuclear Regulatory Commission controls distribution of all radioactive materials in the U.S., some consumers don't trust government regulations to protect their health.

The discovery of radioactivity by Henri Becquerel dates to 1896. This led to a flood of scientific experiments, some of which eventually yielded commercially valuable products, while others did serious harm to the experimenters. By 1904, William Crookes showed that certain radium compounds could be used to change and improve the color of some diamonds. Unfortunately, this treatment also made the diamonds dangerously radioactive. Although safer methods for irradiation of diamonds have been discovered and widely used, some older stones still have levels of radioactivity that are not acceptable by today's standards.

Other experiments led to a 1981 landmark paper by G. Robert Crowningshield on radioactive blue topaz. Ever since, treated topaz has been the subject of controversy, with some parties claiming it to be safe while others say it should not be worn. Besides diamond and topaz, many other stones have been irradiated, with varying results. Radiation is sometimes used to modify the color of beryl, spodumene (kunzite), quartz, zircon, tourmaline, sapphire, and pearls.



Irradiated diamonds

The type of irradiation used to treat a gemstone determines the effect produced. Common treatments involve exposure to electron beams in linear accelerators and bombardment by neutrons in a reactor. Other methods involve the use of alpha particles, beta particles, and gamma rays.

Exposure of a gemstone to gamma rays, generated by the cobalt-60 isotope, doesn't impart radioactivity to the stone and so is especially advantageous. This method can be used to deepen the pink color of some tourmaline to red and to change the color of some white pearls to gray or blue. The latter treatment is rarely done because pearls can be dyed cheaply. Gamma rays also deepen the lilac color of some kunzite, produce an attractive yellow or orange color in some sapphire, and convert citrine (yellow quartz) into purple or green amethyst or ametrine



Kunzite



Yellow Sapphire



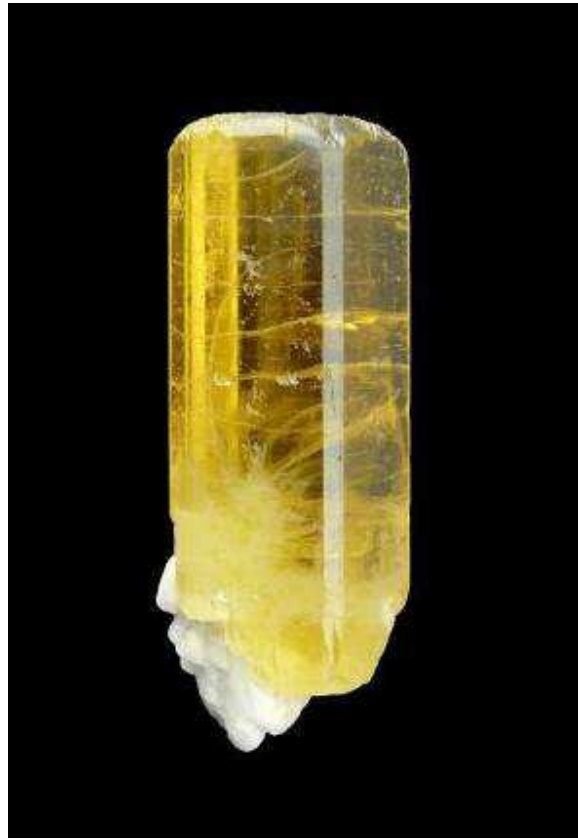
Ametrine

A second common treatment method involves exposing a gemstone to neutrons in a nuclear reactor. Unfortunately, this not only changes a stone's color but also may produce radioactive isotopes, making the gemstone radioactive. An estimated 30 million carats or so of topaz are treated in this way each year. The result is an intense blue color (sometimes called London blue or Swiss blue) that is very rare in natural topaz. In most cases, the isotopes that form in these stones are present in very small amounts and break down quickly--over periods of a few days to a few months,

depending on the impurities that are present. To prevent exposure of buyers, blue topaz lots are tested with a Geiger counter or other radiation detector and undergo a "resting" period before they are distributed and retailed.



Irradiated Topaz



Possibly Irradiated Heliodor Crystal

In the U.S., distribution of radioactive materials, including gemstones, is controlled by the Nuclear Regulatory Commission (NRC). Currently, only three entities are licensed to distribute radioactive gemstones, and the amount of radioactivity is strictly regulated. Topaz, beryl, some kunzite, and some fancy colored diamonds are covered. The distributors must monitor each batch of stones before it is sold. In some states, the NRC also regulates possession of irradiated stones for sale. In others, including Colorado, possession regulation has been delegated to the state.

Most gemstone irradiation is now done overseas, and importers must work through a supplier who has a possession license. Anyone wishing to sell irradiated stones must buy them from a supplier who has complied with NRC distribution regulations. As a result, stones purchased from retail jewelers in the U.S. may expose the buyer to minute amounts of residual radioactivity (if they didn't, they would not be subject to NRC regulations). But their level of radioactivity is well below the safe dose, even if the jewelry is worn constantly. Although it isn't required, some retailers disclose treatment and provide a warranty stating that the treated stones they sell were imported and/or distributed in compliance with U.S. law. Concerned consumers should seek out dealers who provide maximum disclosure.

DUES ARE DUE!



Lake George Gem and Mineral Club

Box 171

Lake George, Colorado 80827

www.LGGMclub.org

2010 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. **Anyone joining after August 31st 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

Lake George Gem and Mineral Club

February, 2010

**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 October, 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 2010 are:

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