The Lake George Gem and Mineral Club -

Club News,
October 9, 2010, 9:00AM

Regular Meeting of the Lake George Gem & Mineral Club
Saturday, October 9, 9:00AM
Lake George Community Center

Our LGGMC member and former newsletter editor, **Richard Parsons**, will present a program titled "**What's All the Buzz About Micromounts"**. Richard, who is currently President of the Rocky Mountain Micromineral Association, will lead us on a tour of the dazzling world of minerals seen through the microscope. Microcrystals often show a degree of perfection rarely seen in the big specimens that most of us collect. They are also perfect for the collector on a limited budget—micromineral collectors commonly share their finds to a greater extent than most other mineral collectors.

- Please bring a guest and join us for this thought-provoking program.

We will also elect officers for 2011 at the October meeting. Except for our faithful Secretary, **Marge Breth**, the current officers have accepted nominations to retain their positions.

- We are looking for a person who would like to assume the office of Secretary.

After the business meeting, President **John Rakowski** will lead interested members to our Club's new Patience claim near Wigwam Creek, where we will join **Dick Lackmond** and guests from the Cañon City club. If you plan to go, be sure you have a hat, water, munchies, and digging tools. The claim is about an hour and a quarter from Lake George, so make sure you have plenty of gas. The trip is partly on good dirt roads, and collecting there doesn't require much exertion.

Coming Events

Monthly Meeting, Denver Gem and Mineral Guild, "The Current Plight of Uranium Deposits and Mining in the World", by Karen Wenrich, 7:30PM, Berthoud Hall, 16th and Maple Sts., Rm. 109, CSM (Golden)	…	**Oct. 10**
Monthly Meeting, Columbine Mineralogical Society, Jack & Mary Crawford on the Boleo district, Mexico, 6:30PM, Shavano Manor, 625 W. 16th (at J St.), Salida	…	**Oct. 14**
Monthly Meeting, Pueblo Rockhounds, 7:30PM, Westminster Presbyterian Church, 10 University Circle, Pueblo.	…	**Oct. 21**
Monthly Meeting, Colorado Springs Mineralogical Society, 7:30PM, Colorado Springs Senior Center, 1514 N. Hancock, C.S	…	**Oct. 21**
."**The Chinese National Museum"**, by Bruce Geller, 7PM, Lutheran Church of the Master, northeast corner Bear Creek Parkway/West Alameda/West Jewell Ave., Lakewood. Contact Tom_Moklestad@dinoridge.org or 303-697-3466	…	**Oct. 26**

31st Annual New Mexico Mineral Symposium and 2nd Annual Mining Artifact Collectors Association Symposium, Macey Center, New Mexico Institute of Mining and Technology, Socorro NM. For information, call 575-835-5302 or visit the website. **… Nov. 13-14**

Club News

Please *Welcome New Members*:

Mike Gemmill
Alan Ketcham
Roger and Joanne Petrick

☠☠At the September 11 Club meeting, **John Rakowski** thanked everybody who helped make this year's show a success. The Miner's Table netted $132 for the Lake George and Florissant Fire Departments. **Bob Kane** has volunteered to camp on site next year, allowing us to resume the Jump-Start. Members were reminded that they need to contact **Dan Alfrey** by email at alfreydan@aol.com before visiting the Club Claim near Wigwam Creek.

☠☠Upcoming field trips:
Oct. 2: Baculite Mesa, with North Jeffco Club; (meet 9AM, N side K-Mart parking lot, Pueblo).

- Visit the LGGMClub.org website for details on these and updates on other trips.

☠☠Loren Lowe was busy with gold panning and Bob Carnein with a fossil lab for "No Child Left Inside Day", September 25. About 290 kids showed up at the Florissant Fossil Beds, and there was a crowd at the Pikes Peak Historical Society Museum. Others enjoyed a trip to the God Send Claim, thanks to claim owner **Rich Fretterd**.

☠☠Congratulations to **Marge Breth**, who won an Honorary Award for a painting of an air shaft with an iron gate at the "Victor Celebrates the Arts" festival in early September. I'd have included a scan of the painting, but Marge reports that it sold immediately.

☠☠Our thoughts and prayers go out to **Adam Breth** and **Roger Loest**, both of whom have been ailing.

☠☠Congratulations to **Laura Fawley**, who won a silver pendant with a piece of sowbelly agate from Last Chance Mine owner (and jewelry maker) Jack Morris.

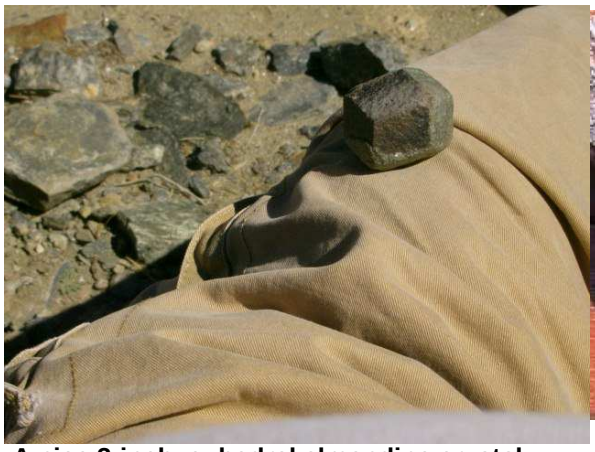
☠☠**Mike Sandifer** reports he has some small, uncut sapphires, pink tourmalines, and orange spessartine garnet for anyone working on their gem-cutting skills or just needing some pretty stones for their collection. Contact Mike at msandifer@aol.com.

☠☠**Steve Veatch** presented the results of the Alma Study at the Denver Gem & Mineral Show on September 18 and twice at the Old Stone Church in Alma with a short tour on September 25. He will also present at the following:

Nov. 13, 3:30PM, at the New Mexico Mineral Symposium (see "Coming Events", above);
Nov. 16 at the Pikes Peak Chapter, Colorado Archaeological Society, Colorado Springs;
Dec. 17 at the Pillar Institute of Lifelong Learning, Colorado Springs.

☠☠**Dick Lackmond** reports that several Lake George Club members enjoyed the Sedalia Mine trip on September 12, in conjunction with the Columbine Club (thanks to Fred Jackson and Einar Wolfsberg). He sent the pictures below:

View of the mine from below (photos by Dick Lackmond)



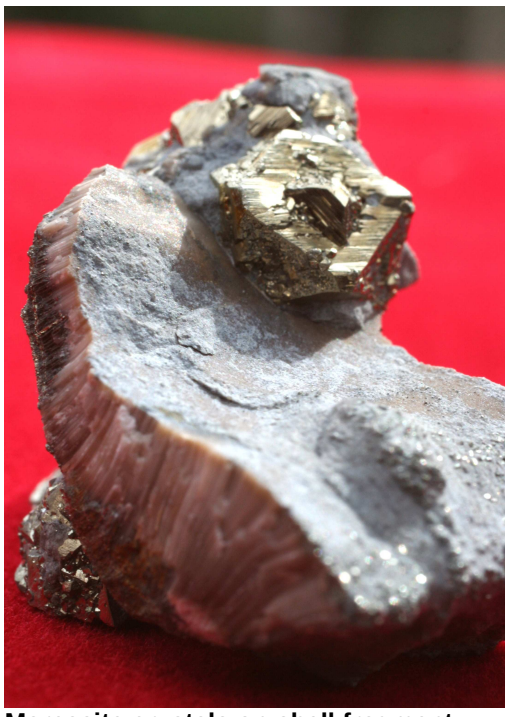
A nice 3-inch, euhedral almandine crystal.

Dan Alfrey specimens.

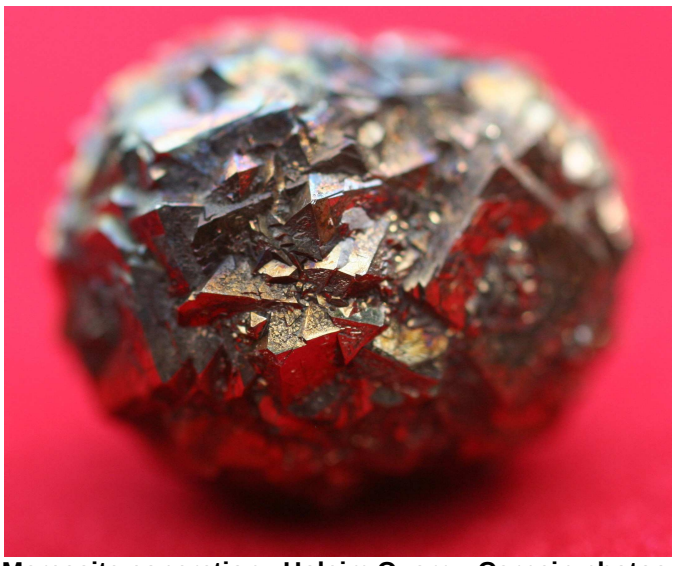
Dick also sent the photos below, showing two sceptered smoky-amethyst quartz crystals found near the Wigwam Creek area in early September. A great website dealing with quartz varieties can be found at http://www.quartzpage.de/gro_text.html#scepter

Smoky quartz/amethyst scepters from near the Wigwam Creek area. (Dick Lackmond photos)

☠☠SeveralClub members went on the trip to the Holcim Quarry on September 18. Everybody found lots of marcasite concretions and calcite crystals (see below), which occur in limestones of the Niobrara Formation. Many thanks to quarry geologist **Joe Lamanna** for spending several hours showing us around.



Marcasite crystals on shell fragment.



Marcasite concretion. Holcim Quarry; Carnein photos.

☠☠**Steve Veatch** received the following letter from Elizabeth Waite, whom we supported as a paleontology intern at the Florissant Fossil Beds this past summer:

August 13, 2010

Lake George Gem and Mineral Club,

I would like to thank you for your support of the paleontology internship program at the Florissant Fossil Beds National Monument. Because of your generous support, I have been afforded a truly irreplaceable internship

experience full of personal and intellectual growth.

I am currently an undergraduate Geosciences student at the University of Texas at Dallas. Paleontology has always been an academic interest of mine, and this internship has allowed me to participate in projects that are very unique to the Florissant, Colorado area.

As an intern at the Fossil Beds this summer, my work focused on creating application documents for a proposed local Geopark. I was given the opportunity to learn about the remarkable history and geology of not only the Florissant Fossil Beds but of the entire south-central Colorado region from Florissant to Cañon City. My project allowed me to gain valuable experience collaborating with others, communicating about geologic resources, and developing a proficiency with the map creation program, ArcMap. In addition to my Geopark work, I was able to assist on other paleontology projects going on this summer, including excavations and Inventory and Monitoring projects.

My time at Florissant has been challenging and beneficial. I appreciate the contributions you made that allowed me to come to Florissant and be a part of the exciting projects taking place at the Monument.

Best regards,
Elizabeth Waite

Pebble Pups Corner

Steve Veatch gave a presentation on Egypt for the students at the September Pebble Pups meeting.

Pebble Pups will meet at the usual time: 6PM, October 12-th, at the Lake George Community Center. If you know interested kids or home schoolers, please urge them to attend! Adults are welcome to sit in.

NOTES FROM THE EDITOR

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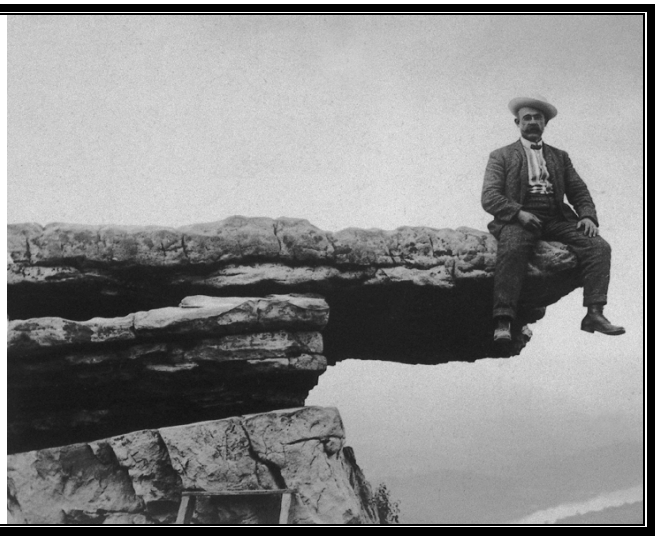

If you read **Mike Nelson**'s article on Topaz in last month's newsletter, you might enjoy a "Part Two", on other minerals of Utah. Here it is. Many thanks to Mike for his contributions!

OTHER GEMS OF THE WEST DESERT, UTAH

Mike Nelson

Captain James H. Simpson served the Army Corps of Topographical Engineers in the southwest part of the U. S. during the 1850's and was most active in Texas and New Mexico. In 1858 he was assigned to the army of General Albert Sidney Johnson during the "Utah War". One of his assigned tasks was to survey a new wagon road from Camp Floyd (the encampment of federal troops southwest of Salt Lake City) to California. The new road was situated south of the more popular Humboldt River Road. Leaving Camp Floyd in October, Simpson only made it as far as the Thomas Range in the West Desert and so "discovered" what we now know as Topaz Cove---the subject of an article in the LGGMS Newsletter of September, 2010. What I did not mention in that article is that the Thomas Range has produced numerous other quality display minerals, many of which the causal collector might never observe in the field elsewhere (unless very lucky).

Bixbyite is a manganese iron oxide, $(Mn, Fe)_2O_3$, named for Maynard Bixby, an early collector and explorer in the Thomas Range (the type locality for the mineral). Bixby also had a Colorado connection: in 1894 he published A *Collector in Colorado*. Bixbyite has a black streak, a metallic luster, a black color, a hardness of around 6-6.5, and a specific gravity of about 5. It belongs to the isometric crystal system and generally occurs as small (on the order of 3/8 inch) euhedral cubes (Fig. 1) that are sometimes striated and sometimes modified (the corners seem "cut off"). In most cases, the mineral looks like a black cube of pyrite and has a similar streak, hardness and specific gravity. Bixbyite occurs in the same mineralogical environment in the Thomas Range as does the topaz---in lithophysal cavities of the rhyolite. In fact, bixbyite often is found "growing with", and appended to, topaz crystals (I am certain there is a mineralogical term for this growth). The specimen in Fig. 2 was found in a large chunk of rhyolite that I brought home with me from the Range. I also located, on the field trip, an isolated cube of bixbyite that was associated with the float topaz crystals (Fig. 1). For a geologic description of the host rhyolites, see the September 2010 Newsletter of the LGGMC.

Although various mineral databases list several localities for bixbyite, the Thomas Range is the best known U. S occurrence. I have seen specimens collected from the Marysvale District in Utah. Mindat.org also lists Arizona localities. Eckel and others (1997) did not list a collecting locality in Colorado for bixbyite. Specimens seem rare in rock shops, other than a those found in Utah. So, bixbyite seems like a nice specimen mineral for the display case.

Not to be confused with bixbyite is **"bixbite"**, an early name sometimes still in use for what is now known as red beryl. "Bixbite" was also named for Maynard Bixby, with a type locality in the Thomas Range. However, the name is no longer recognized as valid, and specimens are correctly known as red beryl or beryl var. red. *Red Emerald* has come into use as a trade name. Red beryl is a silicate, $Be_3Al_2(Si_6O_{18})$, belonging to the hexagonal crystal system and usually appears as small elongate or tabular prisms. Red beryl has a vitreous luster, a hardness of 7.5-8.0, a specific gravity of around 2.7 but low dispersion and a low refractive index. Its red color, the primary reason for its value, has been described as "raspberry red" (Fig. 3). The red color is most likely due to manganese and small amounts of iron, chromium, and calcium substituting for some of the Al ions (Ege, 2010). All gem beryls (yellow ***heliodo***r, green to blue ***aquamarine***, salmon to pink ***morganite***, very intense green ***emerald***, and the colorless ***goshenite***) are fairly

expensive as faceted gems. However, red beryl is by far the most expensive of the gem beryls and perhaps one of the most expensive gem stones in the world. As with many gems, the price is often directly related to the availability of the mineral, and to the quality and color of the stone. Although red beryl was originally described from the Thomas Range, the specimens from this locality are generally non-gemmy and usually consist of small (1/4 inch or less) flat disks; however, a private claim near Wildhorse Springs reportedly has produced a few gemmy crystals near. During my summer, 2010 field trip, one participant found three of these very tiny (1/8 inch) hexagonal disks associated with some small topaz crystals. As with topaz and bixbyite, the red beryl occurs in lithophysal cavities in the rhyolite, a situation different from the occurrence of most other beryls, which are found in pegmatites.

As far as I know, all gemmy red beryl comes from a claim in the Wah Wah Mountains south of the Thomas Range where a commercial mine is producing, perhaps, about 22-27 grams of red beryl per ton of ore. I visited the Harris rock shop in Delta, Utah, and observed several examples of red beryl, with some specimens selling for several thousand dollars. For example, I saw faceted stones, 12 or 13 specimens per carat (so very tiny), with price tags of around $1000. One .43-carat gem recently sold on a web site for $2150. In 2005, a faceted 1.79-carat specimen reportedly sold for $15,000; I expect there are more expensive offerings. In 1967, the Harris Family purchased the red beryl claim for $8000; in 2000, “capital payment reaching $5.5 million and transfer of Title to Leases made by landowners to GMI” was made (author unknown, 2010). Today, rumors on the market whisper about price tags on the order of $10 million for the mines! I doubt if many other gem mines in the U. S. have created such interest.

Red beryl in the Wah Wah Mountains of southwestern Utah formed ~20 Ma as a post-magmatic mineral in a topaz-rhyolite lava flow, the Blawn Wash Formation. Unlike topaz (and the red beryl of the Thomas Range), this beryl occurs along fractures in devitrified rhyolite occupying a graben. Alteration may be related to the incursion of surface water along shrinkage fractures within the flow and the interaction with fluorine-rich gases and beryllium. (Thompson, and others, 2002).

I also was hoping that, on my recent trip to the Thomas Range, I would find/see examples of the rather rare minerals **pseudobrookite** and **durangite**, minerals with which I am rather unfamiliar. But, “luck” was not with me! Pseudobrookite (Fig. 4) occurs in the Thomas Range as slender black needles (commonly tabular at other localities), usually less than one inch in length. It is found with topaz and bixbyite in lithophysal cavities, has a metallic luster, a hardness of around 6.0 and is an iron-titanium oxide (Fe_2TiO_5). I really was not expecting, but was always hoping, to spot durangite, an exceedingly rare sodium aluminum arsenate fluoride ($NaAl(AsO_4)F$) that is known from only a single claimed locality in the Thomas Range. The few specimens that I have seen in collections are orange-red to red in color with a vitreous luster and a hardness of 5.5 (Fig. 5). The mineral is known from only a few localities in the world, and the Thomas Range specimens are ranked "the best".

Forty-plus years ago I collected garnets in the Thomas Range; however, this year we did not have time to visit the locality, Garnet Basin, on the west side of the Range. I do remember collecting some nice, small trapezohedral crystals (Fig.6). However, over the years and many personal locality moves, “things” just sort of disappeared---like these garnets.
As a graduate student in the late 1960’s at the University of Utah, I noted the faculty was quite excited about a new beryllium discovery in the West Desert at a place named Spor Mountain (spor is an older name for fluorite). Brush Wellman was gearing up to mine very finally

disseminated deposits of beryllium found in volcanic rocks, a type of deposit unrecognized in previous studies (Lindsey, 1998). Although fluorite had been mined from the area as early as 1943, and uranium was known to be present, the deposits of beryllium were the cause for excitement---so a field trip was in order.

A little digression may be in order here. In today's world, where most students seem to be hunched over a computer, I consider myself extremely fortunate to have studied in an age of "going to the field". The Geology Department at Utah did not hold classes on Friday, as that was designated as "field trip day". I suppose today's students of geology need the training in electronic instrumentation; however, nothing beats a learning experience "in the field". Oh well, probably just words from an old curmudgeon!

As it turns out, the most interesting aspect of these beryllium deposits has been the occurrence of mineralized nodules in the volcanic rocks, nodules representing clasts of carbonate rocks altered in the following sequence: dolomite-calcite-chalcedonic quartz/opal-fluorite (Lindsey, 1998). The nodules are composed of fluorite and "opalized fluorite" (fluorite impregnated and coated with opal), **bertrandite**, beryl, quartz, dolomite, rhodonite, manganese oxides, and other minerals (Guisewite, 2010). The gem world knows these blue, purple, white, "cracked" nodules as ***Tiffany Stone*** (Fig.7). There seems to be some confusion as to what this stone should be called and its correct classification. I have seen the term *opalite* in use; however, that is a trademark name for a synthetic stone. *Bertrandite* has been used, but that is a valid mineral name. Though it is/may be present in the nodules, the use of the name bertrandite for the nodules is a sure recipe for confusion. Whatever its correct name, most gemologists agree that Tiffany Stone is restricted to mines at Spor Mountain, and almost all of it has come from mines owned by Brush Wellman. (Unfortunately, the company no longer allows collecting of the nodules.) I say "almost all" because a new company has started marketing "Utah Lavender Stone" from new claims on Spor Mountain, and the miners believe it is similar/identical to Tiffany Stone.

The Thomas Range and other nearby ranges in the West Desert of Utah are fascinating places with tremendous collecting opportunities. Not only can one easily locate some 'common" minerals such as topaz, but also "uncommon" ones such as bixbyite, as well as some really rare specimens of the 31 reported minerals (see www.mindat.org/loc-4154.html).

For additional information on the minerals discussed above, see a June, 2009 story about red beryl by Bob Jones in *Rock & Gem*. *A Field Guide to Topaz and Associated Minerals of the Thomas Range, Utah* is a fairly recent book by John Holfert, Walter Mroch and Jeremy Fuller.

REFERENCES CITED

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Ege, C., 2010. What Gemstone is Found in Utah That is Rarer Than Diamond and More Valuable Than Gold?: Utah Geological Survey Notes (online publications), http://geology.utah.gov/surveynotes/gladasked/gladberyl.htm.

Guisewite, A., 2010. Mineral Collection Images: http://www.cs.cmu.edu/~adg/adg-pgimages.html#tiffany%20stones

Lindsey, D. A., 1998. Slides of Fluorspar, Beryllium, and Uranium Deposits at Spor Mountain, Utah: U. S. Geological Survey Open-file Report 98-524.

Thompson, T. J., J.D. Keith, E.H. Christiansen, E. H., and D.G. Tingey, 2002. Topaz Rhyolite Hosted Red Beryl in the Wah Wah Mountains, Utah: A Genetic Model and Mine Update [abst]: Geological Society of America Rocky Mountain Section, Abstracts with Program.

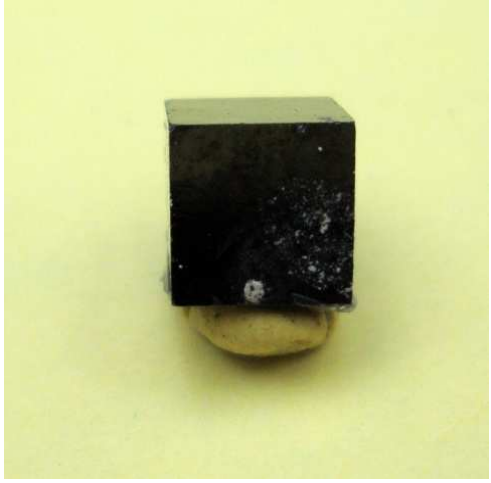

Fig. 1. Small euhedral crystal of bixbyite from the Thomas Range. Specimen is approximately 3/8 inch across. Photo by the author.

Fig. 2. Bixbyite and sherry topaz from the Thomas Range. Specimen is about ¾ inch long. Photo by author.

Fig. 3. Red beryl from the Wah Wah Mountains.

(Natural stone in rhyolite and faceted stone.) Photo courtesy of RedEmerald.com.

Fig. 4. Acicular needles of pseudobrookite ranging in length from less than ¼ inch to nearly 1 inch. Photo courtesy of Utah Mineral and Fossil, Inc.

Fig. 5. Durangite. Photo courtesy of the University of Utah, photographers John Holfert and Jeff Scovil.

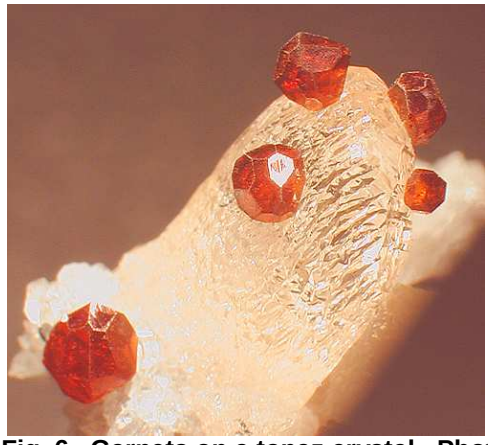

Fig. 6. Garnets on a topaz crystal. Photo courtesy of the University of Utah.

Fig. 7. Cut fluorite nodule ("Tiffany Stone"), from Spor Mountain. Specimen is approximately 2 inches In length. Photo by author.

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 30 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 October, 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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