The Lake George Gem and Mineral Club -

Club News, July 2008

Meeting Time 9:00 AM!

Topic for this month's meeting: The Annual Show – It's coming soon!

There are two Lake George field trips in July, both to topaz collecting localities!

Field Trip #1 - Petra Placer
Rich Fretterd has again invited the club to dig for topaz at his placer claim. Following a challenging climb, participants will dig and screen for topaz crystals in the loose dirt and rubble. A ¼" mesh screen in a wooden frame works well. A shovel used for any kind of digging in this area should have a pointed (not square) blade. Keep things as light as possible consistent with required sturdiness, as the hike is mostly vertical.

Field trip participants will need to sign in at the meeting and will leave the Community Center as a group, following the business meeting.

Field Trip #2 - Spruce Grove Area July 19
Parking is limited and there may only be spaces for 6-8 cars, so please carpool if you can.
We will meet at 8 am at the Spruce Grove Campground on Park County 77 located about 17 miles (25 minutes) north of Lake George or about 25 miles south of Jefferson (40 minutes).
The primary digging spot is a 1.5 mile hike each way of low to moderate difficulty. Be sure that you have plenty of water, a half gallon per person is the bare minimum I would suggest, more would be better. It can get very hot and dry there.

For tools bring a pick, regular shovel and a screen with 1/4 inch mesh size. A light wood frame on the screen works well and if you can put legs on it that's even better. I'd recommend that people partner up taking turns digging and shoveling onto the screen then the other person shaking the screen. Be sure you and your digging partner agree on how you will divide finds.
Topaz can be as elusive as fish - don't always find them but this area has a reasonably good track record. You may be lucky and find something quickly but figure that you and your digging partner should plan on working hard for several hours at least. If you have any further questions contact John Rakowski at 719-748-3861, email rak873john@centurytel.net.

Coming Events

Lake George Gem and Mineral Club — **July 12**

Monthly Meeting, 9:00 at the Lake George Community Center. Field trip follows a short business meeting.

Petra Placer Field trip — **July 12**

Rich Fretterd has again invited the club to dig for topaz at his placer claim. Following a challenging climb, participants will dig and screen for topaz crystals in the loose dirt and rubble. Contact Dan Alfrey for details at AlfreyDan@aol.com

Archaeology of South Park* … **July 19**

Dr. Susan Bender; 9 – 5 at the Fossil Beds This class will focus on the basics of archaeology. The morning session will cover techniques and theory. In the afternoon, there will be a field trip to South Park, near Wilkerson Pass to an archaeological site for an opportunity to see a real excavation and meet with volunteers conducting the research. Participants must be able to hike up to 3 miles over varied terrain.

Spruce Grove … **July 19**

Another topaz dig! The trip will begin at the Spruce Grove campground N. of Tarryall There a half mile hike up a steep trail to the beginning of the collecting area. Some crystals of topaz have been found loose, but most are found by digging for pockets in the pegmatite, which may also contain smoky quartz, microcline, and pseudomorphs of goethite after siderite. Contact Dan Alfrey for details at AlfreyDan@aol.com

Treasures in the Basement: Pegmatite Minerals of the Pikes Peak Granite at Crystal Peak* … **July 20**

Dr. Bud Wobus, 9 – 5 The oldest ("basement") rocks of the Florissant area are granites of the Pike Peak intrusive event which occurred about a BILLION years ago. Associated with certain phases of this granite are pockets of coarse crystals (pegmatites) which have made the area around Crystal peak famous among mineral collectors. The day will begin with a slide program at the Monument. Handouts will be provided. This seminar is suitable for anyone with an interest in geology and mineralogy. The morning will be devoted to a field trip in the surrounding area to understand the regional geologic setting, which includes granites older than the Pikes Peak (which also contain pegmatites, but of a different kind) and the still- older metamorphic rocks they intruded. We will learn to distinguish the several generations of granite, only the youngest of which contains the famous pegmatites. We will spend the afternoon searching the "dumps" of pegmatites on the Callender property at Crystal Peak. Participants should be able to do some moderately strenuous hiking and should have sturdy footgear.

Free USGS GPS, Map, and Compass Classes. … **Now through November**

July 11 and the second Friday of every month through November, Building 810, Federal Center, Lakewood; 9-11 a.m. Map & Compass, 12-4 p.m., GPS class. Call 303-202-4689 or email gpsworkshops@usgs.gov for reservations, or see www.cr.usgs.gov/gpsworkshops/index.html for more information.

"Contin-Tail" rock swap and mineral sale, … **Aug. 7-10**

Buena Vista rodeo grounds, Buena Vista, CO. Outdoor sale by dealers of rocks, minerals, fossils, jewelry, etc.; free parking and admission.

Lake George Gem and Mineral Show … **August 15 – 17, 2004**

"Local Specimens, Field Trips, Free Admission, Free Parking!" Lake George, CO (38 miles west of Colorado Springs on US 24)

**For more information about prices, logistics, registration, or any other questions about the programs offered through the Florissant Fossil Beds National Monument please call the Monument at (719) 748 – 3253 and ask for extension 109 and leave a message or fax at (719) 748-3164 or email at jeff_wolin@nps.gov or send a letter to PO Box 185, Florissant, CO 80816.*

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Rocks and Minerals on the Web

Richard Parsons, Mineral Collector

As we have many new members since this was last published, I thought it would be worth re-publishing this piece. The World Wide Web is a marvelous resource for rockhounds of all stripes! There are endless sites with information for the rockhound, at any level of sophistication. Here are some that I really like.

Home Base
If you don't go anywhere else, check out Bob's Rock Shop at http://www.rockhounds.com/rockshop/table.shtml. Bob has links to everything conceivable about rocks, fossils, minerals, beads, equipment, jewelry making, rock clubs, shows, collecting guides, lapidary, faceting,….. The site is co-sponsored by Rocks and Minerals Magazine, and you can access their site from Bob's.

Identifying Rocks
http://www.rockhounds.com/rockshop/rockkey/index.html#Igneous. A good starting point for the rockhound (like me) without a background in geology.

Identifying Common Minerals
A good tool for systematically using the observable physical properties of a mineral to identify a hand specimen is the Mineral Key found at http://www.rockhounds.com/rockshop/mineral_id/index.html.

Crystallography
A great feature linked to Bob's Rock Shop is a short course on crystallography for amateurs written by Mike Howard and Illustrated by Darcy Howard. You can access it at http://www.rockhounds.com/rockshop/xtal/index.html**.**

Minerals in Detail
Here are two sites I use so much I have plugged them into the toolbar on my web browser. The first is "The Mineral and Location Database" at http://www.mindat.org/.. At Mindat, you can get detailed info on thousands of minerals, with a photo gallery and a listing of published localities for each. You can also look up a locality, and see what minerals have been reported from there. Really useful! The second is the mineral database at http://www.webmineral.com/ . "Webmineral" has loads of info, and the "home page" for each mineral includes a 3-D drawing of a typical crystal habit, that you can rotate in three dimensions. Cool!

Here is a web site from which you can print out a few basic crystal models**: "Introduction to the Crystal Class Models**" with fold-up models. Print them out, cut them put, glue them up, and there you are!
(http://bca.cryst.bbk.ac.uk/bca/ed/Class.pdfhttp://bca.cryst.bbk.ac.uk/bca/ed/Class.pdf); and

If you enjoy crystal forms or just want to know about shapes of crystals, check out this website (thanks to Bob Loeffler for spreading the word): http://www.smorf.nl/frames360.html. After getting to the website, wait a minute until the "blue sky with clouds background" appears in the
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picture on the left. Then click on the "All 48 crystal forms" link on the right. You can then click on any of the crystal form links and you will see the form in the picture on the left. If you then click on the picture and "drag" your mouse in any direction (while the mouse button is still down), you can spin the crystal form to see its different faces and angles. Also, below the crystal form is a legend of other things you can do. For example, pressing the "m" key on your keyboard will display the Miller Indices on each crystal face. NOTE: The crystal form is a Java Applet, which means you must have Java Applets enabled (turned on) in your web browser. If they are disabled, you won't be able to see the crystal form and you might get an error message from your web browser.

Software Downloads
Here is a great freebie! I use this labeling program all the time. It has pre-designed mineral label formats, and you can easily design your own. You can do anything from micromount labels to sophisticated business cards. Ososoft's Freeware Specimen Labeling Software for Rock Collectors can be downloaded at http://www.rockhounds.com/rockshop/minerallabel.shtml.

Don't forget our own, **Lake George Website** at http://www.lggmclub.org/ . Webmaster Dan Alfrey has put together a really nice website where you can (among other things) view back issues of our newsletter, and pictures of club members having fun (such as the following shot of John Rakowski hard at work!

Canadian Firm Completes Staking of Beryllium Mineral Claims Near Lake George

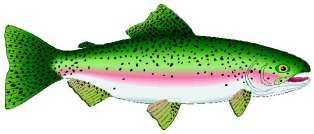
According to a recent press release, International Beryllium Corporation announced that it has completed staking of 517 mineral claims in the Lake George area in a well known zone of beryllium mineralization. The staked area is approximately 10,585 acres and includes the former beryllium producing areas of China Wall, Redskin Gulch and other former producing claims and workings. The block of claims is roughly centered east and west around the Boomer, extending some two miles east and west of the mine, a mile south, and 3 miles north.

Tthis area has been extensively studied by U.S. Governmental agencies, as well as by private and corporate concerns, which have confirmed the presence of beryllium mineralization. The area is home to the Boomer Mine, which was historically the second largest beryllium mine in the U.S. during the early 1960s,"

Some Notes on the Geology of Colorado Fishing

By

Steven Wade Veatch



A stream, as a geological agent, is one of the most powerful forces on Earth. Many of Colorado's magnificent landscapes are the products of what streams do best — moving sediments sporadically downstream in continual cycles of erosion and deposition. The sparkling streams of Colorado not only shape the landscape but also provide great fishing. A deeper understanding of the riparian environment and geologic processes will enhance every fishing trip.

In Colorado, the Continental Divide separates streams that flow west to the Pacific Ocean from those that low westward to the Atlantic and the Gulf of Mexico. Snowmelt gives rise to Colorado's 4 major river systems: the Platte, the Arkansas, the Rio Grande, and the Colorado. The South Platte begins in the high country of South Park, but when it reaches the Cheesman Canyon, south of Deckers, local geology creates some remarkable fishing. Granite had formed under great pressure several kilometers blow the surface and was later exposed by regional uplift. With the erosion of the overlying rock, the granite expanded and cracked due to the release of pressure. Gravity now causes the rock between the cracks in the granite to break loose in concentric slabs from the underlying granite body. This process, exfoliation, is similar to peeling layers from an onion and results in the rounded nature of the granite in the canyon. Granite boulders, slabs, and gravel form bars across the South Platte that dissipates the energy of the flow, producing areas of calm water and deep pools in Cheesman Canyon. Willows grow along the banks while aspens and spruce trees grow tall, providing shade for brown trout. Because browns are very selective in what they eat, they are hard to catch and grow to a large size. Anglers on this river frequently use small files, especially the pheasant tail fly.

The Arkansas River starts in the mountains near Leadville and Tennessee Pass and flows east to merge with the Mississippi in the state of Arkansas. After spring runoff has reworked sand and gravel bars, fresh gold placers can be panned on the upper reaches of the Arkansas. As the Arkansas River flows by Texas Creek on its way to the Royal Gorge, brown trout can be caught with caddis flies. The Texas Creek area is also noted for deposits of rose quartz

associated with pegmatite granite that is intruded into metamorphic rocks. Some rockhounds have pondered, while fishing here, why they have never found a rose quartz crystal.

The Rio Grande River has its headwaters in the San Juan Mountains and flows through New Mexico on its way to the Gulf of Mexico. Near Creede, at Wagon Wheel Gap, the Rio Grande offers excellent fishing for browns, brooks, rainbows, and cutthroats using a prince nymph. Cutthroat trout like slow pools that are just opposite large granite boulders. There are several geothermal springs in the area, and excellent specimens of fluorite occur nearby.

The Colorado River drains the western slope of the Continental Divide and empties in the Gulf of California. The major tributaries of the Colorado River are the San Juan, White, Yampa, and Gunnison Rivers.

The Gunnison River began downcutting into the Earth after a period of regional uplift 28 million years ago. Today steep Precambrian gneiss walls, with pink pegmatite dikes filling cracks and fissures, rise thousands of feet above the Gunnison River in the Black Canyon. Geological processes here have produced the best fishing spot in the state. It is the only place in Colorado where browns and rainbows grow to 16 inches in just four years. Fishermen in this area commonly use big nymphs.

Geologic processes have created 1,800 lakes above 9,000 feet in elevation in Colorado. These high country lakes are generally just below an amphitheater shaped cirque where a glacier eroded into the mountain. If there are enough insects to eat and the lake is deep enough for the fish to winter, there will be a population of trout.

Trout are not always easy to catch in high lakes as they feed along the edges and can be easily spooked. Brook trout, commonly found in high country lakes, beaver ponds, and small creeks, tend to be small because they reproduce rapidly and surpass their food supply.

Trout like to cruise most of the 11,300 miles of streams in Colorado, and if fishermen consider the rock and understand the role that geology plays in fishing, they have an advantage for catching trout. It is “gneiss” to know that fishing and geology can't be taken for “granite”.

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Mineral of the Month: Spodumene

by John Sanfacon

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Spodumene, with the formula $LiAlSi_2O_6$, is a monoclinic member of the pyroxene group, and an important industrial and gem mineral. In the pegmatites of Black Hills, South Dakota, spodumene is mined for its lithium, which is vital to the creation of anti-
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depressant drugs and special lubricants for machinery. Spodumene crystals from these deposits often reach record dimensions: as long as forty feet, weighing up to *65* tons! Industrial-grade spodumene is usually an unappealing gray, which is reflected in the etymology of its name, from the Greek for "burned to ashes". It is hard to believe that such a drab mineral could also occur as giant, transparent crystals of pink, green, and various shades of yellow. The gem varieties are known in the jewelry trade as follows: kunzite (pink), **hiddenite** (green), and triphane (yellow). Kunzite is named for the renowned gemologist George F. Kunz, who promoted the beautiful lilac-colored stones in Tiffany's at the end of the 19th century. Hiddenite is named for the county in North Carolina where it was first found. Purists insist that such specimens show the characteristic chromium lines in the spectrograph, which give hiddenite its deep emerald-green color. A number of "washedout" light-green spodumenes are offered as hiddenites, but the real article remains elusive and is rarely seen on the gem market. When true hiddenites do pop up, they are bought up immediately by gem fanciers, not the public at large. Gem spodumene in varous yellow shades is also popular, but does not command the per-carat prices of the pinks, purples, and violets --- over $100 per carat in small sizes. Like aquamarine, spodumene in small sizes with deep, rich color may be harder to find than the same color in large sizes. Many large kunzites with saturated hues only appear so because of their size. The Smithsonian is home to an 880-carat deep lilac stone, which undoubtedly would appear "washed-out" had it been cut into smaller gems sizes. Although gem spodumene frequently contains minute tabular inclusions, these are usually not visible to the naked eye. Along with golden beryl, aquamarine and most topaz, gem spodumene can be faceted in eye-clear gems of astonishing size. Gem spodumene is found at the classic gem pegmatite sites: Pala, CA, Afghanistan, Pakistan, Madagascar, Myanmar, and Minais Gerais, Brazil.

Gem-quality spodumene is trichroic, i.e., three different colors appear when viewed through the a-, b- or c-axes. In the case of kunzite, the colors are violet, colorless, and deep vio'et. Most stones are cut looking down the c-axis, where the most intense color can be found. Along the c-axis of hiddenite, an emerald-green hue is seen. Spodumene, like jadeite, is a pyroxene often used in jewelry. But the resemblance ends here: jadeite is tough and compact, with hardness of *6½,* and is translucent at best. Spodumene, with a hardness of 7, is often transparent in large sizes (up to 50 pounds), but is difficult to facet because it has well-developed cleavage in several directions and a sensitivity to heat. Some kunzites, in fact, suffer from color-fading over prolonged exposure to daylight. Even though large faceted kunzites are susceptible to cleaving (especially as ring stones), no other natural stone, not even tourmaline, occurs in quite the same exquisite shades of lilac and purplish-pink. Synthetic spinel and alexadrite can come closest to matching kunzite's delicate hues, but they lack the conspicuous trichroism that makes spodumene so fascinating to look at from different angles.

Sources, and suggestions for further reading:

- Arem, **J.** *Gems and Jewelry,* 2nd edition, GeoScience Pess, Tucson, AZ, 1992
- Sinkankas, J. *Gemstones of North America,* Volume III, GeoScience Press, Tucson, AZ, 1997

Lake George Gem and Mineral Club
P.O. Box 171, Lake George, CO 80827
Website: http://www.lggmclub.org/

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 2008 are:

Maury Hammond, President
PO Box 549
Woodland Park, CO 80866
719-687-2702
mauriac@mywdo.com

John Rakowski, Vice President
PO Box 608
Florissant, CO 80816
719-748-3861
rak873john@centurytel.net

Mary O'Donnell, Treasurer
P.O. Box 31
Cripple Creek, CO 80813
719-689-7209

Rebecca Blair, Secretary
117 Yucca Creek Rd.
Divide, CO 80814
blairra@hotmail.com

Richard Parsons, Editor, 13249 Taza Lane, Pine, CO 80470
303-838-8859 *or* e-mail at richard.parsons@att.net