The Lake George Gem and Mineral Club -

Club News,

August 9, 2008

Meeting Time 9:00 AM

Following a short business meeting, we will adjourn to the show site to lay out the grounds for our annual show, after which the club will provide pizzas for the volunteers..

Showtime!
Remember; the annual show is next week. Dealers will begin arriving on Tuesday the 12th! We need lots of volunteers to set up the grounds, to help Roger and Lee Loest welcome and sign in dealers Tuesday through Friday, and guide dealers to their assigned spaces. Volunteers are also needed to staff the club booth to answer visitor questions about the show and the Club. It's fun, and it's a great way to get to know fellow club members better.

Rebecca Blair has lined up a full complement of Forty Dealers, and Show Chairman John Rakowski has covered all the advance work such as mowing, putting up signs and arranging for trash bins and portable toilets. It should be another great show!

Coming Events

Dinosaur Discovery Day at Dinosaur Ridge, near Morrison … **August 2 through October**

Free public tours with volunteer guides, 10:30-2:30 p.m. First Saturday of each month through October. The walking tour is free ,or for a small donation, you can ride the "Vanosaurus" bus up one way and hear guides explain the interpretive sites as you walk back. For more info see www.dinoridge.org, call 303-697-3466, or stop and see the Visitors Center at 16831 W. Alameda Parkway. The new highway interchange at C-470 and Alameda Parkway is now open.

Lake George Gem and Mineral Club … **August 9**

Monthly Meeting, 9:00 at the Lake George Community Center.

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

August 8 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, nice scenery, and the usual guarantees (almost) of typical mountain weather: morning sunshine and late afternoon wind and thunderstorms!

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

This is our time to shine! Our annual show is back on track in its customary location, after a one-year hiatus resulting from uncertainties about the show site. Forty dealers are signed up, offering a complete range of rocks, minerals, fossils, meteorites, jewelry and other "rockhound" related items.

Annual Open House, Colorado School of Mines Geology Museum ⋯ **Sept. 10**
This is a "dressy" reception with tours of the museum, music and beverages, a silent auction and the formal unveiling of the Museum's new gift shop. Call Bruce Geller at 303-273-3823 for information or to RSVP.

Denver Gem and Mineral Show ⋯ **Sept. 12 - 14**
Denver Merchandise Mart, 58th Ave. at I-25; sponsored by nine area gem and mineral societies, and the second-largest mineral show in the U.S.A.; the show's theme this year is "Minerals of Colorado". For info see **http://www.denvermineralshow.com/** and for interesting photos of last year's show, http://geology.com/articles/denver-gem-and-mineral-show.shtml

Colorado Mineral and Fossil Show held at the Holiday Inn-Denver Central (4849 Bannock St. = frontage road on west side of I-25, just north of I-70). For info see http://www.mzexpos.com/colorado_fall.htm ⋯ **Sept. 10 - 14**

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File Photo, Lake George Gem and

Mine Donation Keeps Big Crystal At Home

According to a May 28 article in ***The Pikes Peak Courier View***, the largest smoky quartz crystal found in North America now belongs to the Pikes Peak Historical Society. This amazing specimen has been on loan to the historical society museum from Lake George club member Rich Fetterd. The crystal will now be on permanent display in the society's museum at 18033 Teller County Road 1 in Florissant. This was made possible by a generous donation from the Cripple Creek & Victor Mining Co.

Jane Mannon, community affairs manager at the mine noted that "this was a unique opportunity to keep the crystal in the area where it was found and it was a unique donation for us."

The crystal was found in the Holy Moses Pocket of Fetterd's Godsend Claim in Teller County. It is 4-foot, 3-inches long and weighs 439 pounds.
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For those new members of the Lake George Gem and Mineral Club who may not be familiar with the history of the mineral exhibits at the Museum, the exhibit began with specimens donated by Club members. The club has The club has also purchased two display cases for the mineral exhibit.

The museum is open 10 a.m. to 4 p.m. Mondays, and Wednesdays through Saturdays in summer and 10 a.m. to 4 p.m. Mondays, Thurs\-days, Fridays and Saturdays in winter. Admission is free.

For more information about the museum and the historical society, call 719-748-3562 or visit the Museum's Web site at www.pikespeakmuseum.org.

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CSM Geology Museum to Open Gift Shop

The CSM Geology Museum will be opening a gift shop shortly on the lower level of the Museum. This is the first time that the Museum has had a gift shop in its new building at 13^th and Maple Street. The shop will feature surplus mineral specimens, lapidary materials and equipment, fossils, books, fluorescent minerals, starter kits, and related materials. Specimens will range from "starter" pieces for under a dollar, to fine specimens for the advanced collector.

The Grand Opening of the shop will be in conjunction with the Museum's annual open house slated for 6 P.M. on September 10th. Further information will be available as the event approaches. Phone inquiries can be directed to Bruce Geller at 303-273-3823.

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Silicon, Silica, Silicates and Silicone

Dr. Bill Cordua, U. Wisconsin- River Falls

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People get confused about the differences between silicon, silicate, silica and even silicone. What is it exactly that we collect, cut and polish??

Silicon is a chemical element, one of the 97 natural building blocks from which our minerals are formed. A chemical element is a substance that can't be subdivided into simple substances without splitting atoms. Silicon is the second most abundant element in the earth's crust, making up about 27% of the average rock. Silicon links up with oxygen (which makes up 55% of the earth's crust) to form the most common suite of minerals, called the silicates. Quartz, feldspars, olivine, micas, thomsonite, jadeite, and prehnite are all silicates. There is so much oxygen around that pure native silicon is almost never found naturally.

Silica is a bit trickier concept. It refers the combination of silicon plus oxygen. The mineral quartz is silica. But so are the minerals tridymite, coesite, cristobalite and stishovite, which are mineral forms of silica that are stable at high temperatures and pressures. All these minerals are also silicates. In other words, quartz is a silicate made of pure silica. But feldspars contain sodium, aluminum, potassium and calcium in addition to silicon and oxygen. Thus feldspars are silicates but they aren't pure silica.

Geochemists also use the term "silica" to refer to the overall silicon and oxygen content of rocks. This is confusing, but stems from the fact that in rock analysis and sample is dissolved, the solution treated, and the amount of silicon present is determined by precipitating it as silica.
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So a geologist may say "This rock is 48% silica". A rockhound will look at the rock and say "How can that be? I don't see any quartz in it!" Both are right. The rock will not have the mineral quartz because the silicon and oxygen are tied up with other elements to make silicate minerals like feldspar. Its a bit like looking at a cake and saying "I don't see any eggs in there!" The eggs are cake ingredients but are present now in different forms.

Now, what is silicone? It's a synthetic polymer of silicon with carbon and oxygen that could be in solid, liquid or gel form. It has all kinds of medical uses, such as in antacids, artificial joints, pacemakers and implants of various notoriety, but is not, as far as anyone knows, found in rocks.

Can pure silicon be found in Nature? Yes, rarely. Recently Russian geologists were sampling gasses from Kudriavy volcano on the Kamchatka Peninsula. Here they drove quartz tubes into vents jetting out gases of over 900 degrees C. Their tubes filled with minerals precipitating from this gas. Among them were pure silicon metal embedded in masses of salts such as halite. The silicon formed crystals up to 0.3 mm across. It was associated with pure aluminum metal, Si-Al alloys and other rare minerals. This find was unusual enough to warrant a note in the prestigious science journal, Nature.

So unless you are in Russia sampling hot volcanic gases, you can be sure that what you are finding are silica and silicates, but not silicon or silicone.

Reference:

Korzhinsky, M.A., et. al., 1995, "Native Al and Si Formation", Nature, vol. 375, p. 544.

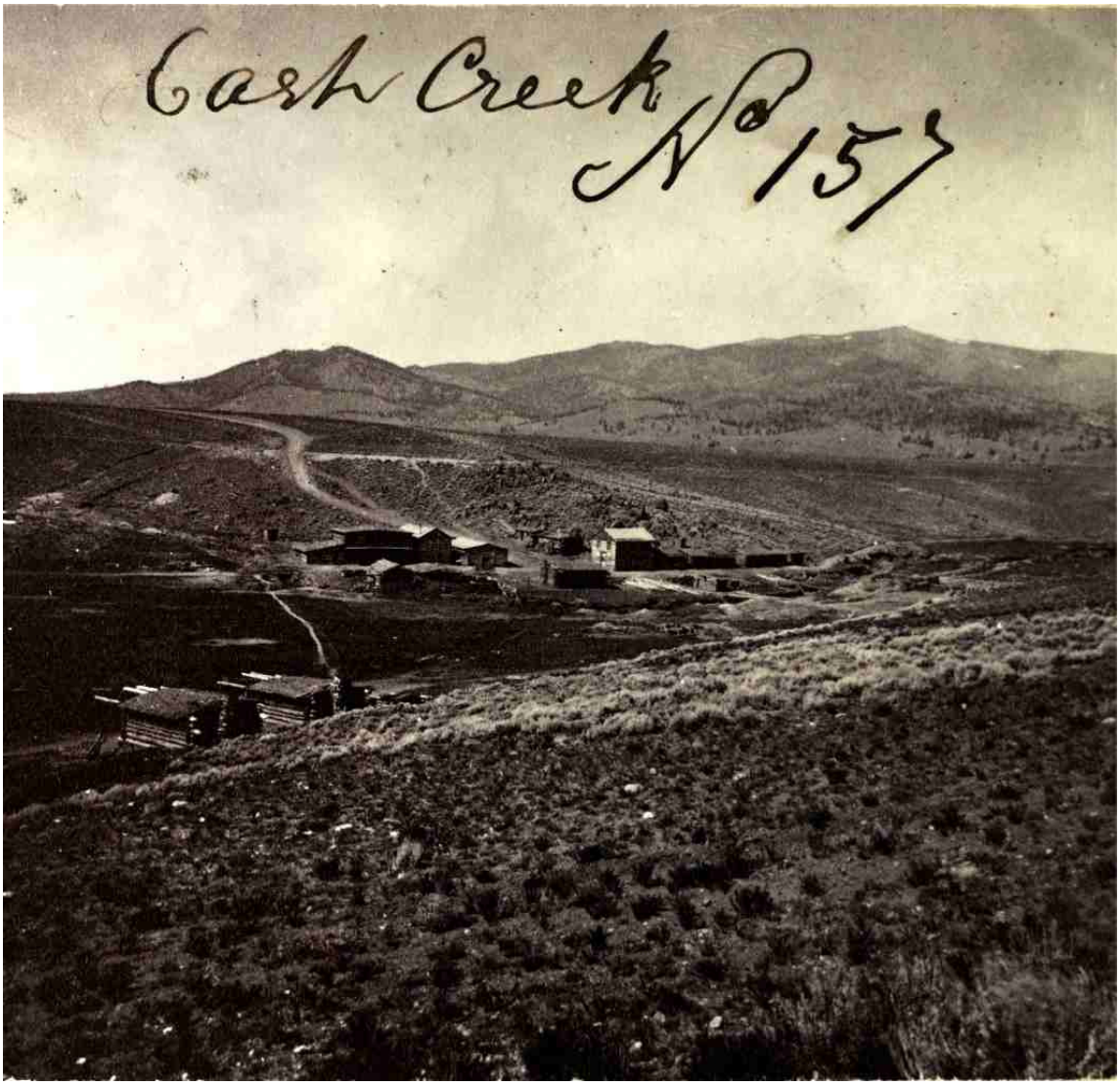
Cache Creek Park: A Chaffee County Gold Rush

By Steven Wade Veatch

The first gold discoveries in Colorado were placer gold deposits. Cache Creek Park …, a few miles west of the small town of Granite in northern Chaffee County, was one of these early gold discoveries. The gold of Cache Creek Park was discovered in 1859 (Parker, 1992), the same year gold was found by George A. Jackson along Chicago Creek on the present site of Idaho Springs and only a year after Green Russell's discovery of a small gold placer near the confluence of the South Platte River and Cherry Creek that started the "Pikes Peak or Bust" gold rush (Chronology of Colorado History, Colorado State Archives, 2007, Davis and Streufert, 1990). These placer deposits not only started early gold rushes to Colorado but also led to rich vein strikes. Placer gold production of about 1,801,482 troy ounces has been recorded in 36 Colorado counties (Parker, 1974). Summit, Lake, Park, Clear Creek, Gilpin, and Chaffee Counties had the most significant placer deposits of Colorado (Parker, 1992).

Cache Creek Park produced over 49,000 ounces of gold—most of Chaffee County's production (over $1 million at the old value of $20.67 per ounce). The area was worked by individual prospectors and small outfits from 1859 until 1883.

Starting in 1884, Cache Creek was worked as a large hydraulic mining operation—Colorado's only profitable one—by several English firms. Mining operations continued until 1911 when mining was shut down in one of Colorado's first environmental lawsuits. Since then there has been only intermittent small-scale placer mining (Parker, 1974).



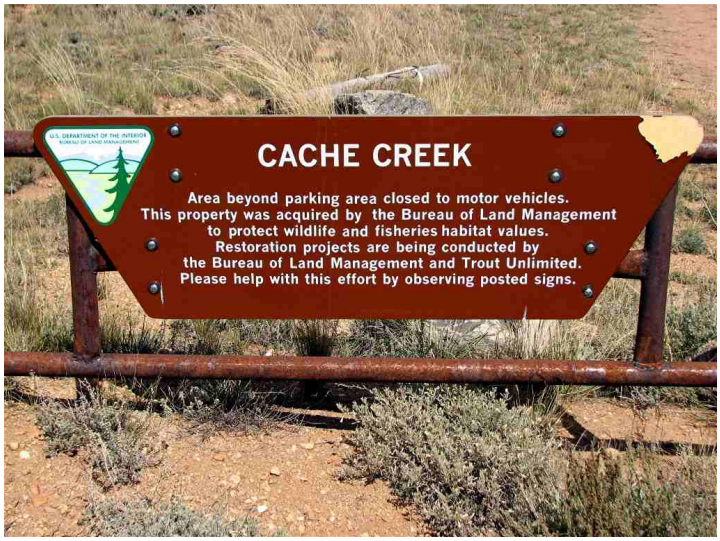
View of cabins and buildings in Cache (Cash) Creek (Park County, later Chaffee County), Colorado. The Cache Creek ditch, stretching 16 miles from Cache Creek Park to Lake Creek, was completed in 1863 and brought water to the goldfields for mining operations. Photo date is between 1865 and 1875 by William G. Chamberlain. Source: from a "scrap" book of Denver and Colorado of William G. Chamberlain, Photographer, 1861-1881. Courtesy of the Denver Public Library, Western History Collection, William G. Chamberlain, Call Number X-19192.© Denver Public Library.

Most Colorado gold placers, produced by natural gravity concentration, were formed during the last Ice Age (the Pleistocene Epoch). Only a few placers were formed earlier, such as the late Eocene or early Oligocene Castle Rock Conglomerate (Parker, 1992).

The earliest glacial period in Colorado is the pre-Bull Lake, followed by the Bull Lake. The last pulse of glaciation is known as the Pinedale. These names are from sites in Wyoming. Almost all of the Pleistocene placers in Colorado have been affected by either Bull Lake or Pinedale age glaciations, which altered or destroyed any earlier glacial deposits (see table 1). Gold was concentrated by glacial melt water action and is often found near terminal moraines. Moraines are glacially formed accumulations of unconsolidated debris deposited where the glacier melted. These debris range from silt-like glacial flour to large

boulders. Terminal or end moraines are ridges of unconsolidated debris deposited at the end of a glacier.

Cache Creek Park was an outwash terrace of lower Bull Lake age; its gravels contained two sources of gold: 1) from the west or southwest, probably Lost Canyon Creek, and 2) the moraines of Lake Creek. In upper Bull Lake time these gravels were reworked by streams which brought in more gold from both of these two sources.



Mining was in operation for nearly 60 years at Cache Creek, among the longest operated single placer deposit in Colorado. A BLM gate is open, allowing access to these present-day goldfields. Photo date 9/2007 by S. Veatch.

The gold deposits of Cache Creek are found in placer gravels up to 61 feet high that are bordered on the north by the Bull Lake terminal moraine of the Lake Creek glacier and bordered on the west by Lost Canyon Mountain and on the east by a granite ridge (Parker, 1992). There is a bench about midway in the gravel: cobbles and boulders above it are less weathered than those beneath it, suggesting that the rocks below the bench were weathered for a much longer time. The gravel below the bench is lower Bull lake outwash; gravel above the bench is upper Bull Lake outwash. The bench is not present in all the parts of the gravel and reveals that the early Bull Lake outwash streams did not flow over the entire Park but were restricted to limited channels (Parker, 1992).

Pleistocene glaciations in the southern Rocky Mountains		
Glaciation	**Age range**	**Notes**
pre-Bull Lake	500,000 to 700,000	Two or more pre-Bull Lake glaciations are recognized.
pre-Bull Lake	300,000 to 500,000	
Bull Lake	130,000 to 300,000	Named from moraines found in vicinity of Bull Lake near Wind River Mountains in Wyoming. This glacial period was followed by a much warmer interglacial period that lasted about 60,000 years.
Pinedale	12,000 to 23,000	Last of the major glaciations to appear in the Rocky Mountains.

TABLE 1. Based on Richmond (1965, 1986) and Armour et al. (2002).

Since the time major mining operations ended, the natural recovery of the Cache Creek area is slowly occurring. The Bureau of Land Management (BLM) manages the Cache Creek area for wildlife habitat, wetlands, and open space. Although the BLM has withdrawn the area from mineral entry, it has recognized Cache Creek's important place in Colorado's mining history and allows placer mining that minimizes impacts to the area. The BLM field office has established a 25 acre area for motorized placer mining. A permit from the local BLM office is required. The

remaining BLM lands in the Cache Creek area are available for non-motorized placer mining, including pans, sluice boxes, and battery-operated re-circulators. The recreational placer season is limited to Memorial Day to November 30 of each year and limited to ten user days in order to minimize impacts to wildlife habitat.

Larry Weilnau is carefully inspecting gold nuggets in his pan. Photo by S. Veatch.

The Cache Creek area has been of interest to the small-scale prospectors because of the placer gold that was left behind when mining operations ended in 1911. Today there has been renewed interest in this locality. Most weekends at Cache Creek look like scenes from the historic California Gold Rush: prospectors are crowded along every foot of the creek working the gold-bearing gravels with all sorts of equipment. Prospectors are busy on weekends shoveling source material—from banks above a gray and orange clay layer—into 5-gallon plastic buckets. This material is put through screens and then worked by sluice boxes or gold pans. Pay streaks of gold are commonly seen in pans.

Novice and experienced prospectors… always find gold and a lot of fun at Cache Creek. The beautiful landscape of this area is an added bonus and enhances the recreational prospecting experience. Respecting the land and environment at this popular location will ensure that the BLM will continue to keep this area open for prospecting for years to come.

For Information on BLM rules at Cache Creek and a copy of the permit, go to:
(http://www.blm.gov/co/st/en/fo/rgfo/minerals/locatable_minerals/placer_mining/cache_creek.html)

Shelly Veatch is screening gold-bearing sediment from nearby glacial deposits. Photo date 7/2008 by S. Veatch.

Getting to Cache Creek:

U.S. Highway 214 West to Leadville
Turn left onto Chaffee County 398 (Lost Canyon Road) at town of Granite
Go past Chaffee County 398 D on left
Go past Chaffee County 398 B on right
Go past power line and take an immediate left
Go through metal BLM gates until road ends at a parking area

References Cited:

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About the Author:

Steven Veatch is an explorer, researcher, writer, and geologist. Steve is from a pioneering Cripple Creek and Nederland mining family. He lives on the edge of the Florissant fossil beds with his wife.

Lake George Gem and Mineral Club
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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).

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