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The 870th Meeting of The Mineralogical Society of Southern California

The Benitoite Gem Mine: Past, Present and Future

By

Rick Kennedy

Friday, November 12, 2010 at 7:30 p.m.

Geology Department, E-Building, Room 220

Pasadena City College

1570 E. Colorado Blvd., Pasadena

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October Program Report

Mines and Minerals of Minas Gerais

Bruce Carter gave an account of the August 2009 Los Angeles Natural History Museum trip to Brazil led by Tony Kampf. Flying into Belo Horizonte, the group visited the natural history museum and botanical gardens there before boarding their bus and beginning an exciting tour of old colonial towns and a wide variety of mines in one of the most mineralogically diverse regions of the world.

He first gave a brief summary of the geological development of Brazil, mainly underlain by crystalline rocks formed between 3 billion and 1.2 billion years ago, assembled into a supercontinent of Gondwanaland beginning about 500 million years ago, and then breaking up to form modern continents over the past 200 million years. The group saw mineral deposits reflecting this long complex history as well as the deep mantle of red iron-rich soil that has developed over much of the region during the long period with no major tectonic activity since the assembly of Gondwanaland.



Stopping first at the world heritage colonial town of Oro Prieto, the group enjoyed the picturesque old buildings, steep cobblestone streets (see picture below by Bruce Carter) and numerous magnificent churches. They visited the extensive museum at the school of mines and shopped at the large number of gemstone and jewelry shops, pestered constantly by street dealers during their walks between shops.

The group visited an open pit imperial topaz mine and then the next day another topaz mine worked by hand by local part-time miners. The open pit is a mechanized operation, but the final operation is a conveyor line with workers hand sorting and picking out specimens. The second is a hillside of deep red soil with occasional pieces of topaz that is worked by individuals with picks, shovels and wheelbarrows.

Driving on to the north, many areas showed the scars of old hydrologic gold mining, and at one point the route passed by an area of gigantic iron ore mines digging away at deposits of Precambrian banded iron formation. Highlights included a deep descent into a large old hand-rock gold mine, and another into a huge emerald mine

where the bus actually drove down into the mine deep underground.



Pegmatites in the vicinity of Governador Valadares were the focus of a number of stops, and the tourmaline from these deposits garnered a great deal of attention at the many gem and mineral dealers the group visited. The rich aquamarine deposits of Marambaia provided an exciting opportunity for some participants to actually do some digging. One participant unearthed a very large (fist sized) aqua chunk (similar to the one in the picture to the left), but

were not allowed to keep any but a few lesser fragments.

Near the end of the trip the group spent an entire day at South America's biggest and best gem show, the 18th International Gem Fair (FIPP) in Teofilo Oroni. At the show there were endless opportunities to stock up on any specimens of the sort not already stuffing our luggage to overflowing.

After the group left for home, Bruce and Kathy spent a few days in Rio de Janeiro, enjoying a great bed and breakfast on the tenth floor of a building directly overlooking the beach. Kathy jogged and Bruce lounged on Copacabana and Ipanema beaches, enjoying the superlative views that make Rio so famous. A final excursion to Iguacu Falls on the Brazil-Argentina border rounded out the trip, and they were soon on their way back to southern California to enjoy the excitement (and anxiety) of the largest forest fire in Los Angeles County history (but at least it did not burn their rustic cabin in Big Santa Anita Canyon).

Benitoite Trivia

By Shou-Lin Lee

- Gem quality benitoite was first discovered in 1907 at the very southern tip of San Benito County, California.
- James M. Couch is credited as the person who discovered the mineral.
- Dr. George D. Louderback of the University of California at Berkely was the one who identified benitoite as a new mineral and named it benitoite after the location it was discovered in.
- Benitoite fluoresces bright blue under short wave ultra violet light, a feature that comes in handy when collecting benitoite at night.
- Although benitoite occurs in several other locales, so far gem quality benitoite is found only in San Benito County, California.
- On October 1, 1985, then Governor George Deukmejian signed the Assembly Bill No. 2357 to formally designate benitoite as the official gem stone of California.
- The Natural History Museum of Los Angeles County has a very unusual benitoite specimen (see picture below). The arrangement of the benitoite crystals resembles a wreath, which makes one wonder how did the specimen

get discovered. The specimen was originally inside a specimen of natrolite donated by Michael and Stanley Kazanjian in 1951. The natrolite showed only a few small tips of benitoite crystals then. Thirty years later someone decided to remove the natrolite using acid and a very unique benitoite specimen was finally to see the light of day.



Volunteering for Offices

MSSC's Survival Depends on You!

November is the time that MSSC forms a nomination committee to nominate candidates for offices in the upcoming new year. In addition to the already vacant Secretary, Field Trip Chair and Show Chair, the Treasurer/Membership Chair, and the Bulletin Editor slots will be vacant too. Without a Treasurer/Membership Chair to manage the money of MSSC, collecting dues and updating membership roster and Bulletin Editor to notify members of upcoming events, **MSSC may not be able to remain active as a society.**

Below are brief descriptions of the responsibilities for these posts:

Treasurer/Membership Chair is responsible for all money matter of MSSC and all matters related to membership.

Secretary is responsible for attending the monthly general member meetings and board meetings, taking minutes of these meetings, and submitting the minutes to the bulletin editor before the deadline via email.

Bulletin Editor is responsible for the monthly publication of the Bulletin of the

Mineralogical Society of Southern California.

Field Trip Chair is responsible for scouting potential field trip locations, organizing field trips, and notifying the bulletin editor on upcoming field trips on a regular basis.

Show Chair is the lead person to organize the annual show that includes getting a show location, getting vendors to fill the show space, ensure all vendors had valid resale permit, arrange advertising and security for the show, and post show survey with the vendors etc. This post requires a considerable amount of time. Although this position was vacant for the past several years, it is still available for anyone who is interested in it.

Anyone interests in filling the posts please contact Geoffrey Caplette at (626) 798-0664

Membership dues are due next month

Please detach and fill the center insert and return it to current MSSC treasurer

-Herman Ruvalcaba

Nikon's Small World Photomicrography Competition

By Shou-Lin Lee

Ever see crystallized soy sauce up close? Well, you can see some at www.nikonsmallworld.com. The tenth place photo of Nikon's 2010 Small World Photomicrography Competition that depicted several yellow cubic shape crystals on an orange background resembles a smiling human face was actually a photo of crystallized soy sauce magnified 16 times.

For more than thirty years, Nikon has held a Small World Photomicrography Competition worldwide annually. This year there were more than two thousand entries from around the world. The top twenty prize-winning photos, 15 honorable mentions, and eighty five images of distinction were posted at www.nikonsmallworld.com/gallery/year/2010. You can also see winning photos from past years. It was quite a visual treat.

According to the website, the competition is open to everyone who is interested in taking photos through the microscope, with no restrictions on the subject matter. Entries can be submitted digitally or on film in 35 millimeter transparency format. The entry form is available on the same website and the deadline for 2011 entries is April 30, 2011.

If you are interested in taking pictures but encounter technical difficulty in the process, www.microscopyu.com has all sort of articles, and videos offering interactive tutorial on all aspects of photomicrography.

CFMS FIELD TRIP SOUTH

Kramer Junction & Wiley's Wells

(Reprinted from CFMS Newsletter November 2010 issue)

Kramer Junction by Adam & Shep

DATE: Saturday November 6

WHERE: sign-ins and waivers to be signed at Antelope Valley Fairgrounds in Lancaster, CA. at 9am. Field trip departs at 11am for the Kramer Junction area.

MATERIAL: various agates, jaspers, opalites with potential for peat bog. Much of this material is fluorescent.

TERRAIN: mostly flat with decent desert roads. High clearance recommended but mandatory for last leg of trip as a steep rocky ravine need be crossed. This area is near the junction of 395 & 58 in the Mojave between Barstow and Boron. Material is plentiful although best may require hammer and chisel. Bring collecting bags or buckets, spray bottle, water, lunch if desired. Weather is unpredictable with rain possible as well as hot temperatures. **BE PREPARED!** Weather this time of year may affect road conditions. The agate potential includes dendritic agate, caramel agate with inclusions including moss; greenish-white opalite, many pieces with caramel agate inclusions; the opalite may include facetable green sections; jasper in a variety of colors and patterns, some with Druze filled vugs. This area encompasses many square miles with widespread variety of materials. We will try for three sites as weather and time allows.

RESPECT THE DESERT!

Pack it in-pack it out and tread lightly. This is an easy trip with easy to find material suitable for beginners and experienced alike.

Shep Koss: freudonetoo@yahoo.com landline - 661-248-0411

Adam Dean: CFMS Fieldtrips-South Co-chair

theagatehunter@verizon.net cell phone: 909-489-4899

Wiley's Well Annual Thanksgiving Rockhound Round-up

By Adam Dean and Robert Sankovich

This trip is open to all CFMS Affiliated Society Members and their guests that agree to abide by the AFMS Code of Ethics, the directions of the field trip leader, and practice safe rockhounding. A Consent and Assumption of Risk Waiver of Liability form must be signed upon arriving at the campsite.

TRIP LOCATION: The Wiley Well District is 10 miles southwest of Blythe, CA and is one of the most popular collecting areas on the Colorado Desert.

WHEN: Thanksgiving Weekend, November 25-28, 2010. There will be folks camping all week.

SPONSORS: CFMS Field Trip South Co-Chairs, and OBMS.

LEADERS: Adam Dean and Robert Sankovich Please notify us, if you plan on attending. Feel free to email or call us if you have any questions or need more information:

Adam: Ph: (909) 489-4899 e-mail: theagatehunter@verizon.net

Robert Sankovich Ph:(805) 494-7734 e-mail: rmsorca@adelphia.net

DIRECTIONS TO CAMPSITE: From the 10 Freeway, exit on Wiley Well Road and turn south from the freeway, 14 miles to camp. Around a mile or two down the road, the pavement will turn towards the right. Don't follow that road; stay straight onto the dirt road. Stay on this dirt road past Fire Agate Mine and the Coon Hollow Rd. You will see a sign for the Imperial County Line. The camp will be just past this sign on the right-hand side. I will have OBMS (Orange Belt Mineralogical Society) Field Trip signs along the way to the camp ground. If you get lost, call Adam at (909) 489-4899.

COLLECTING TRIPS: November 25th, 26th, and 27th. Open to all CFMS affiliated society members and their guests.

Each day we will leave camp at 8:00 am and return in the late afternoon except on Thanksgiving Day when we will be back in time for our Feast at 2:00 pm. Be sure to carry your lunch and water when we go to the collecting sites, we will not come back to camp during the day.

25th – Petrified Bay Laurel-Iron Wood by Colorado River, AZ

26th – Fire Agate/Chalcedony. Pebble Terrace, Paisley Agates

27th – Geode and Nodules Beds

VEHICLES: On the 26th, a 4-wheel drive vehicle “is” necessary to get to Fire Agate. We will make arrangements for those without a 4-wheel drive to ride with those who do. On the 27th trip, a 4-wheel drive vehicle is not a “must” for this trip,

but is highly recommended. No low clearance vehicles advised. These sites are remote, so bring food, water and all required supplies. The nearest stores are in Blythe, California.

CAMPGROUNDS & FACILITIES: This is a dry camping area, no water, no services, no hookups, no toilets. There is a dump station at the rest stop at the Wiley Well exit off I-10; however, there is no potable water. Blythe has a free dump station and good water 2-blocks south of I-10 at the Lovkin Ave. exit. Blythe is also good place to get food, supplies, ice and gasoline. It is approximately 25 miles from Blythe to the campsite. There are numerous good motels in Blythe with a wide range of rates. The closest town to the campsite is Palo Verde, approximately 16 miles through Coon Hollow and over the Mule Mtns. There is a convenience store (food, etc.), gasoline, a couple of restaurants and rock shop in Palo Verde, the road is okay for 4-wheel drive vehicles but not 2-wheel drive vehicle.

SAFETY CONCERNS: Do not lick the rocks, use sun screen, when needed, stay away from rattlesnakes, use bug spray, be aware of flash floods, be extra careful, team up with a buddy and don't get lost.

CLIMATE & WEATHER: We are planning on nice weather—sunny days; cool, clear, star filled nights. But remember it can rain this time of year so be prepared and plan ahead.

MATERIAL TO COLLECT: Fire agate, geodes and a large variety of miscellaneous fossils, limestone, jasper, petrified wood, agates and very old Stromatolites. Also, we plan to search for the Paisley Agate Beds, Geodes and nodules.

COLLECTING MATERIALS: There will be surface collecting and the use of sturdy bags will be all you need. However, if you plan on digging fire agates, you need hard rock tools, safety glasses, and a hand sledge and gloves. It may be wise to carry a first aid kit. If you plan on digging for geodes, you need hard rock tools, as well as, picks, shovels, and I recommend a dust mask, as the volcanic ash may irritate your lungs.

TOOLS: Sturdy bags, hard rock tools, safety glasses and gloves. It may be wise to carry a first-aid kit. I also recommend a dust mask as the volcanic ash may irritate your lungs.

CLOTHING: Wear clothing in layers as it can be very warm during the day and extremely cold at night. Bring extra jackets and blankets.

DINNER: Thanksgiving - 3:00 pm; O.B.M.S. and C.F.M.S. will host a potluck dinner for all those willing to contribute. Please bring your own plates, utensils, drinks and chair. We welcome everyone. If you plan to join us for dinner, here is the guideline to follow:

- If your last name starts with A, E, I, M, Q or - please bring a main dish.
- If your last name starts with B, F, J, N, R or V - please bring a starch.

- If your last name starts with C, G, K, O, S, W or X - please bring a vegetable or salad.
- If your last name starts with D, H, L, P, T, Y or Z - please bring a dessert.

REMINDER: Please help preserve our deserts and pack out what you pack in. Let's leave it clean for future Rockhounds.

All those attending the collecting trips will be required to fill out a Liability Waiver form.

Happy Thanksgiving

2010 Calendar of Events

November 6-7 2010, Concord, CA Contra Costa Mineral & Gem Society Centre concord (in clayton Fair Shopping Center) 5298 clayton Rd. (near Ygnacio Valley Rd.) Hours: 10-5 both days

November 6-7 2010, Landcaster, CA Palmdale Gem & Mineral Club Antelope Valley Fairgrounds 2551 West Ave. H & Hwy 14 Hours: 9-5 both days

November 6-7 2010, Ridgecrest, CA Indian Wells Gem & Mineral Society Desert Empire Fairgrounds 520 south Richmond Road Hours: 9-5 both days

November 6-7 2010, Anaheim, CA American Opal Society, White House/West Wing Event Center, 12398 S. Beach Blvd., Hours: Sat. 10-6, Sun. 10-5

November 12, 13, 14 2010, Sacramento, CA Sacramento Mineral Society Scottish Rite Center 6151 H Street Hours: Fri & Sat 10-6; Sun 10-5

November 13-14 2010, Yuba City, CA Sutter Buttes Gem & Mineral Society Yuba-Sutter Fairgrounds (Franklin Hall) 442 Franklin Ave. Hours: Sat 9-5; Sun 9-4

November 20-21 2010, Oxnard, CA Oxnard Gem & Mineral Society Oxnard Performing Arts Center 800 Hobson Way Hours: Sat. 9-5 Sun. 10-5

