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## Bay Area Mineralogists October 2014

Meeting: October 8, 2014, 7:00 pm  
USGS, 345 Middlefield Rd, Menlo Park  
Building 3, Room 3-237

<http://www.baymin.org>



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The Bay Area Mineralogists meet on the second Wednesday of every month during the school year, at the USGS in Menlo Park. The campus map (<http://online.wr.usgs.gov/kiosk/mparea3.html>) shows our room in Building 3 on the second floor, where the map says "Conference Room." Note that the front doors are locked and you will have to come up the stairs on the Middlefield Road side of the building. Parking is free.

### OCTOBER PROGRAM: TABLET APP FOR MAPPING WHILE FIELD COLLECTING

By Alex Cooper, BAM member

A few years ago Alex realized that GPS enabled smartphones and tablets could be used to help map out mineral deposits and help keep track of field collecting activities. A quick look around revealed that none of the existing (free) mapping solutions really met his needs. So he developed an Android app based on Google Maps to do just this. He has been using it for the past 2 years to plan and direct his field collecting as well as record where he went and what he found. One of the key features of the app is the capability to store map data (including topo maps) on the

device for offline use. A variety of GPS location data including points, tracks, areas and point clouds can all be used to map out regions of interest. The presentation will show the app's features and have a live demonstration illustrating the typical usage.

Alex does not currently have the app on the Google Play store although he has been thinking about publishing it. He is happy to share it with any BAM members who are interested in trying it out, but it has not been tested extensively on hardware other than Google Nexus 7 tablets and a few smart phones.

Alex says: "As for myself... I've been a mineral collector for many years, on and off. I used to collect all kinds of minerals, with a main interest in things that are nice to display on a shelf like quartz crystals. Recently I have switched almost exclusively to agates but I will also go after nice crystals given the chance. What I enjoy most is the hunt. If I didn't find it, it doesn't count! Below is a picture of me at work in the field."



Alex's real-life job is mechanical engineering. He's a project manager with Nikon R&D in Belmont. He's not sure when he joined BAM but thinks it was 2011 or early 2012.

## Clear Creek Field Trip Oct 25

Leza Junnila will lead a field trip into the Clear Creek Management Area (CCMA) on Oct 25. The cost is \$50 per person, and you need to obtain an individual CCMA entry permit from the BLM prior to the field trip date. Materials to be collected include demantoid garnet, water-clear thomsonite crystals, kammererite on chromite, and massive uvarovite garnet; some uphill hiking and a bit of hard-rock extraction will be required. [The flyer is attached to this newsletter.](#) There may be a discussion at the October meeting about BAM-ers attending this trip.

## In Memoriam

Some of you have heard of the recent death of North Carolina emerald collector, and Paul Geffner's collecting partner, Terry Ledford in September. He was mining for emeralds in Hiddenite NC, alone, when the hole he was digging collapsed on him. Terry is best known for unearthing the largest emerald ever found in North America, the 310- carat (rough) Carolina Emperor, in 2009. BAM extends our sympathy to his friends and family.

Last October we also lost long-time collector Bill Lawrence (formerly of Rocksmiths) when the bank of an Arizona river bed collapsed on him, and I'm sure we can all think of other such occurrences. These men met with unfortunate accidents while pursuing their passion. One way to honor their memory may be to step back and take an extra look around us for safety when we are field collecting.

## Rocks in the News

**Death Valley** – Racetrack Playa, in a relatively remote area of Death Valley National Park, is home to the famous sliding rocks. Boulders of various sizes have fallen from a nearby hill onto the playa and subsequently left synchronous tracks



nps.gov

with seemingly random paths on the playa surface. Endless speculation and theories abounded for many years about the mechanism behind the tracks, usually thought to be some combination of wind, water and/or ice. Now the mystery appears to have been solved using high-tech monitoring.

In 2011, a team of researchers set out 15 rocks (the National Park Service would not let them disturb the native rocks) with GPS loggers, a weather station, and some time-lapse cameras. Magnetic triggers were buried beneath the rocks so that the loggers would start recording when they began to move, and the team prepared for a long wait. As it turned out, the researchers were present at the playa on a day when the rocks moved, last winter, and they have video and GPS data to back up their story.

On that day, the playa was covered by a few centimeters of water with a few millimeters of ice on top. The rocks were not frozen into the ice but when the wind began to blow, the rocks started to move, at rates up to 6 meters per minute. The story can be found online from various sources (for example: <http://tinyurl.com/lnqr3x6>).



*December 20, 2013 at 3:15 pm: A steady, light wind has blown water to the northeast exposing newly formed rock trails / 2014 Norris et al., photo from iflscience article in link provided above.*

If you haven't visited Racetrack Playa yet, you should. It's a long, washboard drive and you most likely won't observe any rocks actually sliding, but it's pretty cool all the same.

## Rocks in the News, continued

**Tuolumne County** – An internet video making the rounds recently shows the surface of a large granite outcrop popping and breaking, and even cracking beneath the feet of the excited photographer. The video can be seen here (among others): <http://tinyurl.com/k82q6tv>.

The rock surface featured in the video is the south abutment of a dam that forms Twain Harte Lake in Tuolumne County, CA. On the morning of August 3, 2014, a loud boom was heard and dust was seen rising from the rock surface. Water was found leaking from a crack near the top of the dam, and a long crack was observed in the adjacent rock surface. As a precaution, water was released to lower the lake level by 10 feet.

The cause of the incident was found to be not mischief, but exfoliation in action. Some granite bodies form surface-parallel exfoliation joints as they weather. Moisture collects in the joints and causes their expansion through freezing or heating. After enough of this action, the outermost exfoliation sheet(s) come loose and slide, if they're on a slope. At the Twain Harte Lake location, it seems a thin exfoliation sheet on a relatively flat surface was rupturing due to expansion in the warm summer sun.



*Enchanted Rock, in the Texas hill country, is one of the best places in the world to see exfoliation in action, according to U-Texas. It's another place worth visiting.*

## Upcoming Shows

Oct 10-12, Kelso WA  
Pacific Northwest Friends of Mineralogy  
40<sup>th</sup> Annual Symposium – *Minerals of Colorado*  
Red Lion Motel, 510 Kelso Dr, Kelso WA  
Fri 5-10pm, Sat 8am-10pm, Sun 8-11:30am  
[www.pnwfm.org/pdf/Symp14RegForm.pdf](http://www.pnwfm.org/pdf/Symp14RegForm.pdf)  
(advance registration required)

Nov 1-2, Concord CA  
Contra Costa Mineral & Gem Society;  
Centre Concord, 5298 Clayton Rd, Concord  
(near Ygnacio Valley Rd)  
Sat 10am-5pm, Sun 10am-5pm  
[www.ccmgs.org/gem\\_show/](http://www.ccmgs.org/gem_show/)

Nov 22-23, Livermore CA  
Livermore Lithophiles *Lithorama 2014*  
The Barn. 3131 Pacific Ave, Livermore  
Sat 10am-5pm, Sun 10am-4pm  
<http://www.lithophiles.com/lithorama.html>

## And Finally...

Member contributions to each issue of this newsletter are always appreciated. Please send content, photos, or suggestions to me at [matz.barb@gmail.com](mailto:matz.barb@gmail.com) or hand me hard copy at a meeting.

# CLEAR CREEK FIELD TRIP

(Saturday, October 25<sup>th</sup>, 2014)

Leza Junnila is planning a guided field trip into the Clear Creek Management Area (CCMA) this fall. It will be much cooler at that time of year. The cost for this professionally guided field trip will be \$50.00 per person. If your group has three people, then one is free.

## Permits Required:

Over the Internet, at: ([www.blm.gov/ca/hollister](http://www.blm.gov/ca/hollister)), each person needs to obtain a free basic CCMA access permit from the BLM, for that day only. The basic signed permit must be carried by each individual at all times, while within the CCMA. For these permits, the BLM would like to have a 14 day, lead time. If you plan to drive your own car, you will need to purchase a \$5.00 vehicle pass at the entrance gate. Because this is federal land, if the driver is a senior citizen, and has a federally issued "Golden Age Passport," the vehicle pass is free. In either case, the stub must be placed on the dash of each vehicle.

We will be able to drive our cars to parking areas along the Clear Creek road. From there, we will walk about 1000 ft. uphill, to the collecting areas. There are three locations within walking distance of our parked cars. The first two localities are hard rock mining and the last will be digging in colluvium for material from a blanket deposit.

## Suggested tools needed, are:

1. Standard rock hammer and light various chisels
2. Eye protection, hat, gloves and knee pads
3. 5 gal. bucket or backpack with something soft to wrap minerals in
4. 3-5lb sledge hammer and various heavy duty chisels
5. 6ft pry bar
6. Small entrenching tool and/or pick
7. Food and plenty of water

## Minerals to be collected are:

1. The first locality is for **Dematoid Garnet**, this is a large **Rodingite** body with multiple veins and other possibilities.
2. The second locality is for water clear **Thomsonite** crystals plus two un-known minerals. This was identified for me by Stanford University, back in the late 1970's
3. The third locality is for **Kammererite** on **Chromite** plus some massive **Uvarovite Garnet**.

## It's a 3.5 hr drive from the bay area, and we're planning an early start, here are a number of camping options:

1. Leza will let people camp overnight at her place. She is planning to have a potluck dinner that evening. Her place is about 1 mile south of the Clear Creek turn off, on the Coalinga Road.
2. There are two additional BLM dry camping areas close to the Clear Creek turn off. They are the Sweetwater and Laguna Mtn. Campgrounds, both on the flanks of Laguna Mountain, with picnic tables, and restrooms, no water.
3. If you really want to go primitive, there are the Oak Flat and Jade Mill Campgrounds in the Clear Creek Canyon, both are dry, and no restrooms. They are just off the main Clear Creek road (R001) near the locked entrance gate.

If you're seriously interested, please contact Leza Junnila, Mining Consultant, at: [xlminer@yahoo.com](mailto:xlminer@yahoo.com), to make reservations. If not enough people sign up, the trip will be canceled, and moneys returned.