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## Bay Area Mineralogists October 2017

Meeting: Wednesday, Oct 11, 2017; 7 pm  
USGS, 345 Middlefield Road, Menlo Park  
Building 3, 2<sup>nd</sup> Floor, Rm 3-237

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### In this Issue:

- Program: Kawah Ijen, Java (Indonesia)
- Welcome New Members
- Upcoming Events

The Bay Area Mineralogists meet monthly during the school year, on the 2<sup>nd</sup> Wednesday, at the U.S. Geological Survey in Menlo Park, on the second floor of Building 3, where the campus map says "Rambo Auditorium."

(<http://online.wr.usgs.gov/calendar/map.html>)

The front doors will be locked so you'll have to come up the exterior stairs on the Middlefield Road side of the building. Parking is free.

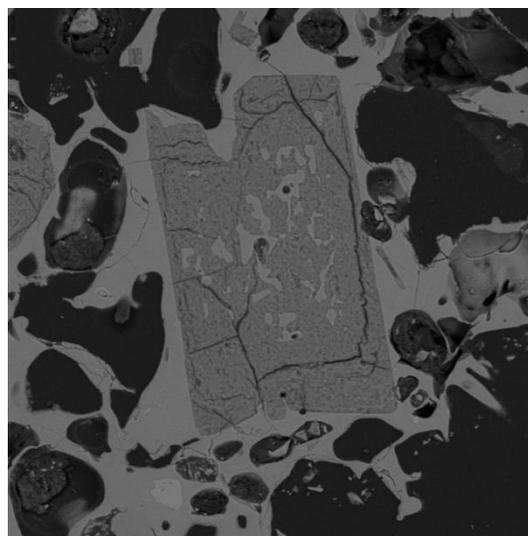
### October 11 Program: Replacement of plagioclase and pyroxene by amorphous opal under hyperacid conditions at Kawah Ijen, Java (Indonesia)

*By Dr Jake Lowenstern, Research Geologist,  
USGS Volcano Science Center*



Kawah Ijen (east Java) hosts a hyperacid crater lake with pH around 0. Sulfur mats float on the lake and a layer of molten sulfur likely resides

beneath it. High-temperature fumaroles are engineered to produce liquid sulfur that is collected by local miners. Acid-rock reaction causes intense silicification and replacement of volcanic minerals with high-sulfidation mineralogies including amorphous silica (opal). Pumices and lake sediments erupted in 1817 preserve remarkable replacement textures and indicate a wide variety of mechanisms for acid alteration. The talk will cover scenery, geologic history, and mineralogy of the local area.



*Backscatter electron image of the opal replacement; field of view is about 150  $\mu$ m.*



*Location of Kawah Ijen on Java in Indonesia.*

## About Our Speaker

Jake Lowenstern is a research geologist with the U.S. Geological Survey in Menlo Park, CA. To study the interaction of magmas and their overlying hydrothermal systems, he applies techniques ranging from gas and isotope geochemistry to igneous petrology to U-Th-Pb geochronology.

A 1986 graduate of Dartmouth College, he spent the following year on a Fulbright fellowship to Catania Sicily (Italy). He later earned an M.S. and Ph.D. at Stanford University, finishing in 1992. He spent a year as a researcher at the Geological Survey of Japan (Tsukuba) in 1993. Since then, he has worked for the USGS in Menlo Park, CA. He is currently Scientist-in-Charge of the Yellowstone Volcano Observatory, and in 2018 will take over as Chief of the Volcano Disaster Assistance Program.

## Welcome New Members!

Roy Hollowell

Marty Krikorian

Monique Pflager

John Pflager



## Upcoming Shows

### October 14 - 15: Trona, CA

Searles Lake GMS Gem-O-Rama  
Gem Show Building, 13337 Main Street  
Hours: Sat 7:30 - 5; Sun 7:30 - 4

### October 21 - 22: Placerville, CA

El Dorado County MGS Show  
El Dorado County Fairgrounds,  
100 Placerville Drive  
Hours: 10 - 5 daily

### October 21 - 22: Santa Rosa, CA

Santa Rosa Mineral & Gem Society Show  
Veterans Memorial, 1351 Maple Ave  
Hours: Sat 10 - 6; Sun 10 - 5

### November 4 - 5: Concord, CA

Contra Costa Mineral & Gem Society  
Centre Concord, 5298 Clayton Road  
Hours: 10 - 5 daily

### Nov 18-19, Livermore CA

Livermore Lithophiles Annual Show  
The Barn, 3131 Pacific Ave,  
Hours: 10 - 5 daily

### November 18 - 19: Santa Cruz, CA

Santa Cruz Mineral & Gem Society  
Santa Cruz Live Oak Grange  
1900 17th Avenue  
Hours: 10 - 5 daily

## Sweet Home Again?

Reliable sources have reported that operations are underway by Bryan Lees and Collectors Edge to reopen the Sweet Home Mine in Colorado. An area between previously productive zones is being explored. This type of work is expensive, which will no doubt be reflected by the price of newly discovered (we hope) specimens.