
Bay Area Mineralogists December 2017

Meeting: Wednesday, Dec 13, 2017; 7 pm
USGS, 345 Middlefield Road, Menlo Park
Building 3, 2nd Floor, Rm 3-237

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In this Issue:

- Program: Minerals on the Rim of Fire
- About our Speaker
- Holiday Party
- Donate to mindat
- Sagenite & Sagenitic Quartz
- Contributions Appreciated!

The Bay Area Mineralogists meet monthly during the school year, on the 2nd 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.

December 13 Program: Minerals and Mineral Deposits on the Rim of Fire

By Joseph Ogierman

Indonesia lies at one of the most tectonically "interesting" places on earth where three major and several minor tectonic plates meet and are jostling for position. This results in an incredibly tectonically active environment where earthquakes and volcanic eruptions are common place. It is also a very fertile setting for the formation of economic mineralisation which, according to the Fraser Institute, makes Indonesia one of the most prospective countries in the world for discovering new ore deposits.

I have spent nearly 15 years as a geologist exploring for mineral deposits in Indonesia and

my talk will focus mainly on the Moluccas Islands in the east of the country, otherwise known as the fabled "spice islands." I will recount how this group of tiny islands has had a disproportionate influence on world history, which touches each of our lives even today. I will describe what life is like exploring on islands where volcanoes are erupting in the background,



Active Mt Dukono on Halmahera Island. (J.O. photo)

where walking on the beach can be hazardous because of boiling hot water springs just below the sand, where a trip to the "office" can take 3 days and where a geologist can have adventure and live out their dreams of finding rich ore veins in the jungle.

I will also describe some of the deposits we have found and are developing into mines (hopefully!) and finally I will talk about some of the interesting minerals I have found during my work and travels.

Hope to see you all there!
Joseph

About our Speaker

Joseph Ogierman is a geologist from Adelaide, Australia. He obtained his Honours degree from the University of Adelaide with a thesis on the remobilisation of massive sulphides during metamorphism in the world-class Broken Hill deposit. He has worked as an exploration geologist for 30 years on four continents but has spent about half that time in Indonesia. He has explored for gold, diamonds, base metals and iron and been instrumental in bringing several deposits from exploration prospects into production. He doesn't trumpet the fact that he is a co-discoverer of the Busang prospect in Indonesia but left 3 years before Bre-X turned it into the greatest fraud in mining history (it even has its own Hollywood movie!). He started in geology as a natural progression from his childhood mineral collecting hobby, unfortunately at Uni he discovered women and beer and the passion for collecting was forgotten until it resurfaced in the early 2000s. He is now trying to compile a significant collection of Indonesian minerals.



Conical calcite and hemimorphite from the Moluccas Islands. (J Ogierman photo)

Show & Tell

Let's focus on Indonesian minerals, if you have any, and also species from the Rim of Fire (i.e., along or within the perimeter of the Pacific Ocean). (Or anything you've collected recently.)

Crystal Gazers Holiday Party Dec. 9

Don't forget the Crystal Gazers Christmas Party on Saturday, December 9 – you received an email invitation last weekend. On your way to the party, be sure to stop by the annual mini-show in Emeryville, also mentioned in the email.

Donate to mindat

Our friends and colleagues at mindat are constantly working to improve and update the various listings and categories of information on the web site, as well as upgrading the system whenever possible. All of this costs money, of course, and donations are happily accepted by mindat. A mere \$50 allows you to sponsor a mineral or locality for a year, if you are so inclined. Many of the obvious choices are spoken for but plenty of others lack a sponsor. To donate, visit the sponsorship page at www.mindat.org, or you can add any amount to your BAM dues for our club's annual donation.

Sagenite & Sagenitic Quartz

By Herwig Pelckmans

[Earlier this year] we went on a family holiday to Spain, and since I knew I would have some time to read, I decided to print the *Mineral Mites* of 2016 and 2017 and take them along. FYI, the *Mineral Mite* is the Journal of the Micromineralogists of the National Capital Area, a small but very active club located near Washington DC. Kathy Hrechka (the editor) and I had recently gotten in touch, and she had invited me to have a look at "her babies" and so I did. I honestly have to say I was impressed, and that is even an understatement. I almost immediately fell in love with the very interesting articles, the great photos and the nice layout.

I guess many of us are in this hobby because it not only gives you the thrill of making your own discoveries, but it also provides you constantly with learning opportunities. The *Mineral Mite* brings something new each month, and before I knew it I was hooked. One of the topics I first learned about when paging through the *Mineral Mites*, is the GeoWord of the day. As I was reading more and more newsletters, I started to enjoy them and kind of took the definitions of those GeoWords for granted. It was only when I saw the below definition (mentioned in the September *Mineral Mite*), that I realized I should mention a word of caution. The definition read:

sagenitic quartz (sag-e-nit'-ic) Transparent quartz, colorless to nearly colorless, containing needleshaped crystals of rutile, tourmaline, goethite, actinolite, or other minerals. See also: rutilated quartz.

Of course, the key word here is "sagenitic", derived from the word sagenite. It was Horace-Bénédict de Saussure, a Swiss geologist, who first used this word in his books "*Voyages dans les Alpes*" (= Travels in the Alps), printed in 1779–1796. Horace-Bénédict de Saussure was a true naturalist, who besides geology, was also very knowledgeable in physics, meteorology and mountaineering, to name a few. Due to his observations and experiments, written down in his *Voyages dans les Alpes*, he is considered to be the father of both alpinism (= mountaineering) and modern meteorology.

Horace-Bénédict de Saussure used the word sagenite for complex reticulated, twinned intergrowths of acicular rutile crystals, based on the Greek word *σαγηνη* for "a drag net, a fishing net". Note that this definition specifies we are dealing with intergrowths of acicular rutile crystals that are twinned. As such, the resulting net-like structures have a very typical look. It is clear that, due to the twinning, all those rutile needles are nicely oriented in 3 distinct directions, at a 60-degree angle to each other. Nice photos of rutile variety sagenite can be found on Mindat in the gallery <https://www.mindat.org/gm/8578> (below).



Since the word sagenite obviously refers to a specific net-like structure, it should not be used for "simple" prismatic rutile crystals nor their inclusions in transparent quartz. So even though the definition given to sagenitic quartz is correct (because it was used to describe such items), we should not stimulate the use of these words as defined above.

Instead, **sagenitic quartz** should be restricted to **inclusions of rutile variety sagenite in quartz**,

like this one (<https://www.mindat.org/photo-718048.html>):



And when in doubt, just call it rutilated quartz (assuming the included mineral is indeed rutile, of course).

Cheers, Herwig

Contributions Appreciated!

I'm always pleased to receive contributed articles from our members. If you're not inclined to write but you've been somewhere interesting, then just send me a couple of photographs to include in the newsletter. I'll start:



I went on the New Mexico Mineral Symposium field trip to Bursum (US 60) Mine, Socorro NM,

11/10/17, where we found goethite in many interesting forms (pieces are 2 to 5 cm):

