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Message from the President

Aloha! I just returned from a week-long trip to the “Big Island” and am having flashbacks of 80-degree weather, beautiful Pacific Ocean waves, tropical forests, a green beach with olivine-rich sand, and hiking on a landmass created entirely by volcanic eruptions. The return to 30-degree weather and work was a harsh reality.



I hope you all are doing well and enjoying the oncoming spring weather. And, in a few months we will celebrate our 69th Gem and Mineral Show. As always it will be an exciting event. In addition to the Gem and Mineral Show we are also offering scholarships for people to take classes at the Show and at the Club. Read below for more information.



2023 Gem and Mineral Show!

Cindy Pugsley is organizing the 2023 Gem Show. If you can contribute to the organization and planning for the Show, please contact Cindy at cindypugsley@sbcglobal.net. Also, we are always accepting donations for the Silent Auction. So, if you want to donate a useable piece of lapidary equipment, an art piece, rocks and minerals or something else, please contact Cindy.

Scholarship Assistance Program for Gem Club Classes

Jama Crawford was recently awarded funds from the City of Durango Lodgers Tax Fund for a scholarship assistance program to help regional residents take lapidary and metalsmith classes during the Gem and Mineral Show (July 7-9, 2023) and on weekends from April through November, 2023. The target audience for these scholarships are people are interested in taking classes but unable to cover the full costs. If you or someone you know are interested then please go to <https://www.durangorocks.org/classsscholarship.html/> for information on how to apply.

Upcoming Classes in April

There are wire wrapping and cabochon classes being offered in April. You can check on upcoming classes, open shop times, and events at the [Four Corners Gem and Mineral Club Events Calendar - Four Corners Gem & Mineral Club \(durangorocks.org\)](#)

Reminders

Recently, issues about the use of equipment and tools at the Club were brought to my attention, as well as conflicts amongst Club users. You may recall the statement made by Spock on Star Trek: **“Logic clearly dictates that the needs of the many outweigh the needs of the few.”** This thought is also a good guide for our clubhouse and its equipment. We have a wonderful and well-equipped

shop for all users. But it is also important that all of us make efforts to keep the space friendly and well maintained. Some reminders:

1. If you are a new user at the clubhouse, take some time to chat with a Steward to learn the guidelines and good practices.
2. If you have never used a piece of equipment at the Shop, then ask for instructions and guidance from a Steward or experienced user.
3. Consider taking a class to learn about the proper use of equipment.
4. If a repair is needed, then let a Steward know so it can be addressed in a timely fashion.
5. Please respect the Stewards and other users when they try to give good advice.
6. Be respectful of other users and share the space and equipment.
7. Clean up after yourself and try to leave the space in better condition than you found it.

Occasionally, and unfortunately, conflicts do arise between users of the Club. I encourage people to try and resolve these conflicts by good communication and civility. In some cases, however, persistent and egregious issues may have to be addressed by the Board. If you feel that an issue needs to be taken to this level, we have a form that can be completed to document the incident. I encourage you to contact myself or Jama Crawford to obtain a copy of this form, complete it, and then return it directly to me so I can present it to the Board. There is a tendency for people to just move on without addressing the problem, but the Board is dedicated to making the Shop a safe space so please make us aware of issues that need to be addressed. The Shop Stewards can also help.



Open Shop Hours

Tuesday 1-4 pm

Tuesday 6:30-9 pm

Wednesday 9am-noon

Wednesday 1-4 pm

Thursday 1-4 pm

Thursday 6:30-9 pm

First & Third Saturdays 10am-2pm

Hot Work trainings: see [calendar](#)

Open Shop Punch Card

If you like using open shop, remember we have a punch card for multiple use. [Prepurchase](#) 10 visits for \$45 - a \$5 savings - and don't worry about having your "shop fee" when you come in!

Rock On: **Reticulite**, A Natural “Bubbly” Wonder

Have you ever heard of the term reticulate? Merriam Webster dictionary defines it as “resembling a net or network *especially*: having veins, fibers, or lines crossing”. You might wonder what this has to do with geology.

On my recent visit to Hawaii, we completed a 13-mile hike across the eastern rift zone of Kilauea volcano. We were marching along and viewing all of the amazing wonders preserved in the black rocks when my son Alexander discovered a relatively rare and fascinating eruptive product known as **reticulite**. As you might conclude the term reticulite implies that the rock is composed of a matrix of fibers. And in this case, it is a mass of glassy threads.



My son, Alexander, holding a piece of reticulite.

Many of you are probably familiar with the term “pumice.” This rock forms by ejection of gas-charged magma (usually rhyolitic) from stratovolcanoes and calderas that solidifies upon eruption and captures the cavities created by the escaping gas. These vesicles give pumice a low density, so it floats on water. Because pumice is made of glass and is abrasive, it is used in soaps (e.g., Lava soap) and for exfoliation, polishing teeth, and other applications where a gentle abrasive is required.

On first glance, reticulite appears similar to pumice but there are distinct differences. Even though reticulite has a low density and can easily be carried in the wind, it typically sinks when placed in water because it lacks large, isolated vesicles. Reticulite is also a common product in the eruption of gas-charged mafic

magmas (i.e., basaltic) like those that dominate Hawaiian eruptions rather than felsic lavas.

Reticulite is one of the most fragile and elusive of Nature's products. It is not as durable as pumice and even when a piece is gently held it can disintegrate into dust. Most geologists never encounter reticulite except in locations where unique conditions are met. As a geologist, I understood that reticulite forms from the eruption of gas-charged basaltic magma, but in writing this essay I learned some new information about its origin.

According to the United States Geological Survey, reticulite forms when all of the bubbles in the lava burst before the rock solidifies. It is analogous to the bubbly foam of a beer that starts to degas and deflate. The exsolution of gas happens when the gas pressure in the lava exceeds the surrounding atmospheric pressure. This causes the glassy lava to collapse forming an interconnected nest of glass threads. This does not happen with any gas-charged eruption, but apparently requires the ejection of lava in fountains (lava erupted from cracks or fissures) that are over 1,000 feet in height. Imagine a curtain of incandescent and hot lava ejected into the air to this height! The recipe for reticulite is thus rapid eruption of gas-charged basaltic lava to heights where the gas escapes quickly. This creates a reticular network of glass fibers (often iridescent) that occupied spaces between bubbles. This rare and fascinating volcanic rock is just another treat from the magma kitchen of Mother Nature.



Light-brown pieces of reticulite resting on vesicular basalt near Maunaulu lava shield and Makaopuhi crater, eastern rift zone of Kīlauea, Hawaii. The pieces range from an inch to four inches in length. Photograph taken by D. Gonzales.

Sources of information:

<https://www.usgs.gov/observatories/hvo/news/volcano-watch-almost-nothing-enough-reticulite-helps-measure-depth-kilaueas>

<https://epod.usra.edu/blog/2010/06/reticulite.html>

Naughty Minerals?

Recently, I was searching for several minerals and mineral names and came upon a list with seemingly risqué names. Since minerals are generally named for people or places, it was probably not the intention of the naming committee to give suggestive names. But the rest is history and the reader can only imagine how people respond to these names. In writing about a few of these minerals I could only shake my head and wonder how much scorn or laughter these names have incited. And, of course, it is not the mineral name that is to blame but the creative (?) minds of the readers. So, in the spirit of mistaken impressions, I offer you the

following:

Carnallite: Named in honor of Rudolf von Carnall this mineral has a chemical formula of $\text{KMgCl}_3 \cdot 6\text{H}_2\text{O}$ and forms in marine evaporate deposits. Carnallite is a mineral that is often used in fertilizers. It is a significant source of potash.



Carnallite from the Merkers mine, Krayenberggemeinde, Wartburg District, Thuringia, Germany. Photograph from [Carnallite: Mineral information, data and localities. \(mindat.org\)](https://www.mindat.org).

Fornacite: According to Mindat, fornacite was named in 1916 from the Latin *for*nax "the furnace" in honor of geographer and French colonial governor of Middle Congo (1911-16), Lucien Louis Fourneau. This mineral has a chemical formula of $\text{Pb}_2\text{Cu}(\text{CrO}_4)(\text{AsO}_4)(\text{OH})$ and forms in the oxidized zones of polymetallic deposits.



Fornacite from the Renéville Mine, Renéville, Kindanba District, Pool Department, Republic of the Congo. Photograph from <https://www.mindat.org/photo-997142.html>.

Fukalite: Fukalite was named by Chiyoko Henmi, Isao Kusachi, Akira Kawahara, and Kitinosuke Henmi in 1997 after the type locality of Fuka Mine, Japan. It has a chemical formula of $\text{Ca}_4[\text{Si}_2\text{O}_6] [\text{CO}_3] (\text{OH})_2$ and is a common alteration product of spurrite. FYI, it is pronounced 'foo' kō lite,' or 'few' kō lite.'



Fukalite from the Mihara mine, Higashi-Mihara, Ibara City, Okayama Prefecture, Japan. Photograph from <https://www.mindat.org/gallery.php?min=1619>.

Cummingtonite: Oh, yes, I always get a response from this name when I discuss it in my classes. Cummingtonite was originally named in 1824 by Chester Dewey for the type locality in Cummington, Massachusetts. It is an amphibole with a chemical formula of $\{Mg_2\} \{Mg_5\} (Si_8O_{22}) (OH)_2$ that is found in metamorphic rocks and some igneous rocks. Cummingtonite is an important indicator of metamorphic compositions and conditions.



Cummingtonite from the Birkeland mines (Sauda mines), Sauda, Rogaland, Norway. Photograph from <https://www.mindat.org/photo-447316.html>.

And, finally, a mineral name whose connotation can only be left to the imagination of the reader.

Dickite: This clay mineral was named after Allan Brugh Dick, a Scottish metallurgical chemist, who first described it. It has a chemical formula of $\text{Al}_2(\text{Si}_2\text{O}_5)(\text{OH})_4$ and is a common product of hydrothermal alteration aluminosilicate minerals.



Dickite from Mas Lavayre, Le Bosc, Lodève, Hérault, Occitanie, France. Photograph from <https://www.mindat.org/photo-654020.html>.

Sources of Information

[Nine Ridiculously Named Minerals and Rocks \(businessinsider.com\)](https://www.businessinsider.com/nine-ridiculously-named-minerals-and-rocks)

<https://www.mindat.org/>



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