

# The Mineral Minutes

## Announcement

There will be no regular club meetings in May and June of 2020 due to coronavirus. Since the club typically has no meetings in July and August, the next in-person meeting is scheduled for September 2, 2020.

The Board is working on alternative means of staying connected, and all ideas and suggestions are welcome.

Additionally, we welcome contributions of articles for the next newsletter.

## Unusual Newsletter for Unusual Times

In view of the cancellation of our in-person April meeting, this issue of the newsletter does not include a report on the Business Meeting and the synopsis of the Program.

Instead, we are falling back on the rich collection of mineralogical articles published in these pages over the years. We hope you enjoy this blast from the past, including “5 Years Ago” description of the presentation by Tom Tucker, and “10 Years Ago” article by Susan Fisher.

We are also happy to report that we received one response to a request for help in identifying a mineral with a lost label. Please see that response from Peter Chin on Page 5.

## Museums - Virtual Tours

Smithsonian [Natural History Museum](#) virtual tour, including the Hall of Geology, Gems, and Minerals. The resolution is amazing as you zoom in. On the Smithsonian Natural History Museum map, on the upper right, choose the second floor. Then choose one of the 25 well-placed viewpoint dots on the brown side (on the right). Each dot gives a 360-degree view with zoom-in options. For (dozens? hundreds?) more perfect close-ups, visit the museum's [GeoGallery](#).

[David Friend Hall](#) virtual tour, at the Yale Peabody Museum of Natural History: Enjoy a 6-minute up-close video of some of the Hall's spectacular specimens.

[Geology Museum](#) virtual tour at the South Dakota School of Mines & Technology, O'Harra Building. Explore the exhibits in the museum. Watch a cool fast-motion 1 minute 20 second video about [putting together a Mosasaur skeleton](#) together. And tour the rest of the [campus](#).

James Madison University's Mineral Museum has posted [wonderful images](#) of important samples in its collection.

Please send us your favorite links to be included in the next newsletter.



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May 2020

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## Prez Says...

by Dave Hennessey, MSDC President

Another month of house arrest has passed.

I hope everyone is staying safe and healthy. It is fortunate for all of us that we have a hobby that is engaging and intellectually stimulating. I feel very sorry for the poor folks who have no hobbies. The internet abounds with sites where we mineral collectors can virtually pursue our hobby. YouTube can literally provide days of entertainment with just the searches “Mineral Collecting” and “Mineral Collections”.

(Cont. on p. 2)

(Prez Says... continued)

Using that latter search, one of the first videos I ran into was a Jeff Post video called "Organizing the Smithsonian's Mineral Collection". Another Jeff Post video titled "Gems and Minerals at the Smithsonian" includes a little footage of the Blue Room, which we will hopefully still get to visit some day in the future. So although we didn't get to hear Jeff live and in person at our (canceled) April meeting, we can still give him a listen on our laptops, etc. Other videos I have been watching include one on the JMU Mineral Collection and several on collecting in Virginia. There are still many more videos awaiting my attention.

I have taken some of the time during the last month to re-read old issues of the Mineralogical Record, Rocks and Minerals, and The Lapidary Journal. The Lapidary Journal was the first magazine I subscribed to as a young mineral collector. My collection of magazines goes back to 1966 when I was in 8<sup>th</sup> grade. Back then, the Lapidary Journal covered mineral collecting, fossils, and all aspects of lapidary and jewelry making. I was never enamored with the lapidary and jewelry making, but the articles on minerals and collecting were great. The last of the Lapidary Journals I own is from the year 2000. By then, the magazine had become what its title suggested - a true Lapidary Journal with all the articles focused on things like faceting, cutting cabochons, silversmithing, etc. and no mineral and fossil collecting articles any more. The magazine is still published today with the focus ever more on jewelry making and beads, etc. A fine hobby, but not my hobby.

I got a call today from Leslie Nanney, who was calling because I had asked her to contact me in an email. Except that I didn't. It is one of a number of emails that have gone out, allegedly from me, asking various club officers and members to send gift cards to provide support to veterans or COVID-19 sufferers, etc. These emails that use my name do not come from me, as anyone can tell if they look at the address initiating the email. I suspect our names are being harvested from our website or from AFMS/EFMLS websites. So my friends, beware of the scammers out there. They too are stuck at home with lots of time on their hands and they are busy trying to fool you and get you to send them money.

## **Blast From the Past: 5 Years Ago** **"Yellowstone – With Rocks in Mind"** **Presentation by Tom Tucker**

**(first published in the February 2015 issue of The Mineral Minutes)**

"Yellowstone – With Rocks in Mind" Geologist and former MSDC President Tom Tucker treated attendees to an up-close-and-personal overview of the geologic and animal habitat of Yellowstone. As someone who for decades lived just one mile outside of the nation's first National Park and as a geology instructor for Elderhostel and other groups during that time, Tom introduced visitors to the Park's 4 billion year geologic history, with a few modern wildlife pictures added for entertainment.

### **Yellowstone's Geologic Formation:**

The appeal of Yellowstone is in large part its unusual geothermal geysers, hot springs, mud pots and fumarole, along with spectacular vista, and abundant accessible wildlife. The most common explanation of the geothermal phenomenon's origin is the theory of "hot spots" within the earth's crust. In this case, beneath the Yellowstone region is a gigantic lava chamber which is above the mantle and within the crust. Its heat fuels the geothermal activity on the surface. The theory is that, similar to the origin of the Hawaiian Islands, as the continental crustal plates slowly move to the west, over a "mantle plume", there are episodes of volcanic activity. In Hawaii, they resulted in the creation of a string of basaltic islands, with the most recent volcanic activity at the east end. In Idaho and Wyoming, over a period of approximately 17 million years there has been a series of about seven volcanic episodes from within the crust, as the continental plate passes to the west, over another mantle plume. The earliest activity along this tract is the McDermitt, Nevada volcanic field. Not all geologists accept the theory of mantle plumes and hot spots, and there remains much research to be done. (World-wide, mantle plumes remain theoretical, with numerous competing theories, so much so that there is even a "Mantle PlumeSkeptics" website. (added by Tom)) Tom elaborated further that in the most recent volcanic activity, there have been three gigantic explosive eruptions roughly every 600,000 years with the most recent being 640,000 years ago. Small earthquakes, below the 3.0 level intensity are quite common and may indicate ongoing movement of lava within the "hot spot". In November of 2014 alone, for example, over a three day period, there were eleven quakes, all near the 2.0 Richter Scale level. In addition, Tom said since the 1920s, scientists have carefully tracked the rise and fall of the Yellowstone dome, a very large crustal bulge, and found that over time it rises and falls about 5 centimeters, perhaps in response to migrating magma.

**Diverse Minerals:**

Discussion brought out that the mineral composition of Yellowstone is somewhat unique given it is the only hot spot beneath continental crust. All the other mantle plumes are beneath oceanic crust and have resulted in the formation of islands such as Iceland and Seychelles. The islands tend to be composed largely of basaltic rock whereas the continental based Yellowstone volcanic province typically contains rhyolitic rocks, formed from more viscous magma rich in silica. Yellowstone rock formations contain both basalt and rhyolite. Most of the present thermal features are in areas of rhyolite, but there are several significant basaltic lava flows, some less than 100,000 years old. Much of the countryside outside of the Park to the north and east is underlain by extrusive andesitic rocks, of Eocene age, about 43 million years old. These rocks predate the Yellowstone phenomena, and just happen to be where they are, unrelated to the Yellowstone volcanic processes. Andesite is an extrusive volcanic rock, similar to basalt, but lighter in color, with more silica. That rock's name is derived from the Andes Mountains in South America where andesite was first described.

**Yellowstone's Topographic Features:**

Yellowstone has everything from mountains in the East, North and South, a high Central Plateau and several river valleys and canyons. Tom explained that these land formations came about in the following manner. He said that much of Yellowstone's basement rock is up to 3.5 billion years old metamorphic granite gneiss, which originated as sediments or igneous rocks which were changed by heat and pressure to the rocks we see today. An igneous granite rock is composed of quartz, feldspar and mica, and granite gneiss is a metamorphic rock with a similar composition. These basement rocks were covered by three thousand or more feet of Paleozoic and Mesozoic sediments prior to the origin of the "hot spot" or "mantel plume" which underlies the region today. Much of this sedimentary cover was eroded away before explosive volcanic activity began in the present Park area about two million years ago. Hundreds to thousands of feet of rhyolitic volcanic rock were deposited as a result of three major caldera events. Continuing hydrothermal activity has altered some of these rocks, changing feldspar minerals to soft easily eroded clay minerals, allowing the primary drainage in the area, the Yellowstone River, to carve a canyon over 1500 feet deep. The colorful, weathered rocks in this canyon led to the naming of the river, the Yellowstone.

The Mammoth Hot Springs area represents a different type of hydrothermal deposits. Hot water, about 180 degrees F., rises through hundreds of feet of Paleozoic limestone and dolomite, becoming super saturated with calcium carbonate. Upon reaching the surface, with lower temperatures and pressures, the water loses most of the dissolved carbon dioxide, depositing calcium carbonate in the form of large terraces of travertine. Geologically, the rate of deposition of this travertine is very rapid. In the early days of the Park, tourists could place items in the water of the terraces, and in a day or two the souvenir would be encrusted with calcite. The highest travertine terrace levels were deposited about 200, 000 years ago, but the large active area, including the large Liberty Cap formation now popular with tourists, was deposited after the last glaciers were in the area, less than 15,000 years ago. Most other thermal areas in the Park are depositing siliceous minerals, including quartz and opal. The water in these areas can be boiling, resulting in geysers, mud pots, boiling springs, and fumaroles. Tom's favorite geyser? He said he most enjoyed the Echinus Geyser in the Norris Geyser Basin which used to be very regular in its eruptions, and was easily accessible. It used to erupt every hour or so, and spewed boiling water 40 to 60 feet in the air. But all of the thermal features are ephemeral, and Echinus has become much reduced and irregular. The very nature of thermal springs, rapidly precipitating their mineral content, results in frequent changes in their discharge patterns.

**Conclusion:**

Tom presented beautiful slides of everything from grizzly bears to big horn sheep, wolves and neighborhood bison, not to mention tales of a dinosaur fossil discovery. But perhaps the most intriguing aspect of his presentations were the puzzling anomalies which lie just east of the Park, the Heart Mountain "problem". These consisted of rock formations and discontinuities which baffled the viewer. Specifically giant rock formations up to "mountain" sized, moved from their original position up to 26 miles from their initial setting. The question is what forces made such changes happen. Clearly the earthquakes would be a contributing factor, but given the complexities of the terrain, even that theory strains the imagination and continues to challenge visitors and geological scholars as well.

## Blast From the Past: 10 Years Ago

### “One of My Favorite Things - Fluorite from the Blanchard Mine, Socorro County, New Mexico”

by Susan Fisher

(first published in the April 2010 issue of *The Mineral Minutes*)

As anyone who knows me understands, I am a mineral fanatic. That usually becomes evident in the first five minutes of conversation. My collection contains minerals from all over the world. Each mineral I buy has some special appeal for me, but I have a strong affinity for a few very special minerals and a few very special sites. I am totally enamored with the beautiful minerals from some Bulgarian sites, almost any mineral from Tsumeb, the fantastic minerals from Dal'negorsk, and FLUORITE - any size, shape, or color of fluorite! This love of the well crystallized  $\text{CaF}_2$  has caused me to overload my basement with pieces from numerous locations including several from the well known Blanchard Mine group. That location has produced a rather astounding array of colors and crystal forms. The variety present causes me to reflect on the surprises nature has to offer.

As a bit of background, the Blanchard Mine group, owned by the Portalas Mining Co., is a cluster of tunnels, pits, and prospect holes in a remote area of the northern Oscura Mountains of eastern Socorro County near Bingham, New Mexico. The lead and silver ore that is produced comes from the Council Springs Limestone member of the Pennsylvanian Madera Limestone. According to Mindat, there are at least 48 valid minerals found there, including Scrutinyite (alpha -  $\text{PbO}_2$ ), for which this is the type locality. The property has been sometimes known as Hansonburg Lead mine and McCarthy Lead mine.

Although mining activity for lead has existed in the Hansonburg mining district, which includes the Blanchard mine, since about 1872, the earliest reference to fluorite in the area seems to be in an 1892 issue of a mining, gazette published in El Paso, Texas (*The Bullion* 1892). Post-World War II mining activities have brought the fluorites to greater attention in the mineral collecting community. There is a great article on the mines in the November / December 2003 edition of *Rocks and Minerals* magazine.

OK, what is so special about fluorite and in particular, the fluorites from the Blanchard Mine group? Fluorite is a common gangue mineral in hydrothermal veins, especially those containing lead and zinc minerals. That means it is found in literally thousands of locations world-wide. Its crystal form is pretty simple - isometric - and its chemical constituents are just calcium and fluorine. It is too soft for jewelry (hardness = 4), plus it has a truly well-defined cleavage plane that makes any sharp smack a potential crystal cleaver. (That cleavage plane can cause real damage if the crystals are subjected to thermal shock such as the one generated if a sun-warmed crystal is suddenly submerged in cold water “just to give it a little bath!”) Given these facts, what is all the fuss about?

My answer to the question of what is so special is that fluorite has something for almost every mineral collector. It is beautiful and intriguing, the crystals are many times well defined with interesting variations and twinning, and there are numerous associations with other minerals. Good examples are not expensive and are available at any rock shop, on the internet or at mineral shows (although great pieces from desirable locations can be extremely pricey!!) Along with numerous other sites, the Blanchard Mine group produces fine pieces.

The first striking thing about fluorite from the Blanchard Mine is the range of color. The best known color is the intense teal “Blanchard Blue.” There are other crystals that are a paler sky blue that seem to almost glow with the clarity of the color. Rarely the crystals are zoned in shades of purple that rival those from Illinois. There are also lovely greens. In my collection, I also have a completely colorless cube, some pieces that are combinations of green and blue and some that show beautiful zoning. As a word of warning, some of the intense blue crystals from the Blanchard mine area will fade quickly if exposed to any light



source with a UV component, so it is best to keep them out of sun light and limit exposure to UV lamps. The other colors seem less prone to fading.

The second intriguing factor is the variety of crystal forms. The vast majority of the Blanchard Mine pieces are simple cubes, but rarely there are some crystals that exhibit octahedral, hexoctahedral or dodecahedral variants. Many of the more complex crystals show stepped development.

The pieces from the Blanchard Mine seem to be arranged by nature to be attractive. Many have pale white quartz matrixes that accent the vivid fluorite colors. There are associations with galena and other sulfides to add interest and the clarity of some of the crystals is outstanding. If beautiful fluorites with interesting forms and associations appeal to you, I would recommend that you check out those from the Blanchard Mine.

## Mystery Mineral from March 2020 Show and Tell

In the April issue, we included a photo of a mystery mineral (reproduced below). Its label was lost, and the owner was looking for help in identifying the mineral.

We received a response from Peter Chin:

Aloha Mes Amis!

With all this time on my hands courtesy of COVID-19, I note the mystery rock presented at the end of the April newsletter. Without the pleasure of seeing the specimen in person, I would like venture an additional guess as to its identity. Long prismatic Natrolite crystals with colorless apophyllite crystals. Such an assemblage can be found from NJ traprock quarries like Millington.



Thank you Peter! Any comments or other suggestions from our readers?

## MSDC Club Information

Meetings are the First Wednesday of the Month (Jan-Jun and Sep-Dec). We meet in the Constitution Avenue lobby of the Smithsonian National Museum of Natural History at 7:30 pm.

Website <http://mineralogicalsocietyofdc.org/>

Facebook [www.facebook.com/Mineralogical-SocietyOfTheDistrictOfColumbia](http://www.facebook.com/Mineralogical-SocietyOfTheDistrictOfColumbia)

## 2020 Officers and Directors

**President** - Dave Hennessey | davidhennessey@comcast.net

**Vice President** - Yury Kalish | yury.kalish@gmail.com

**Secretary** - Andy Thompson | thompson01@starpower.net

**Treasurer** - John Weidner  
mail: 7099 Game Lord Dr, Springfield, VA 22153-1312

### Directors

Ken Reynolds | KennyReynolds62@gmail.com

Dan Teich | danteichdvm@yahoo.com

Leslie Nanney | DNanney@cox.net

### Webmasters

Betty Thompson | bdthompson01@yahoo.com

Casper Voogt | casper.voogt@gmail.com

## THE MINERAL MINUTES




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NEWSLETTER OF THE MINERALOGICAL SOCIETY OF THE DISTRICT OF COLUMBIA

Mineralogical Society of DC  
Time Sensitive Dated Material  
First-Class Mail

Useful Mineral Links

	<p>American Federation of Mineralogical Societies (AFMS)</p>	<p><a href="http://www.amfed.org">www.amfed.org</a></p>
	<p>Eastern Federation of Mineralogical and Lapidary Societies (EFMLS)</p>	<p><a href="http://www.efmls.org">www.efmls.org</a></p>
 <p><a href="http://mindat.org">mindat.org</a></p>	<p>MINDAT</p>	<p><a href="http://www.mindat.org">www.mindat.org</a></p>
	<p>Mineralogical Society of America (MSA)</p>	<p><a href="http://www.minoscam.org">www.minoscam.org</a></p>
	<p>Friends of Mineralogy</p>	<p><a href="http://www.friendsofmineralogy.org">www.friendsofmineralogy.org</a></p>
	<p>WebMineral</p>	<p><a href="http://webmineral.com">webmineral.com</a></p>
 <p>THE GEOLOGICAL SOCIETY OF AMERICA</p>	<p>The Geological Society of America (GSA)</p>	<p><a href="http://www.geosociety.org">www.geosociety.org</a></p>
	<p>Jeff Scovil Mineral Photography (not advertising - just great photos)</p>	<p><a href="http://scovilphotography.com">scovilphotography.com</a></p>
	<p>United States Geological Survey (USGS)</p>	<p><a href="http://www.usgs.gov">www.usgs.gov</a></p>
	<p>The Geological Society of Washington (GSW)</p>	<p><a href="http://www.gswweb.org">www.gswweb.org</a></p>



## AFMS Code of Ethics



- I will respect both private and public property and will do no collecting on privately owned land without the owner's permission.
- I will keep informed on all laws, regulations of rules governing collecting on public lands and will observe them.
- I will to the best of my ability, ascertain the boundary lines of property on which I plan to collect.
- I will use no firearms or blasting material in collecting areas.
- I will cause no willful damage to property of any kind – fences, signs, and buildings.
- I will leave all gates as found.
- I will build fires in designated or safe places only and will be certain they are completely extinguished before leaving the area.
- I will discard no burning material – matches, cigarettes, etc.
- I will fill all excavation holes which may be dangerous to livestock. [Editor's Note/Observation: I would also include wildlife as well as livestock.]
- I will not contaminate wells, creeks or other water supply.
- I will cause no willful damage to collecting material and will take home only what I can reasonably use.
- I will practice conservation and undertake to utilize fully and well the materials I have collected and will recycle my surplus for the pleasure and benefit of others.
- I will support the rockhound project H.E.L.P. (Help Eliminate Litter Please) and will leave all collecting areas devoid of litter, regardless of how found.
- I will cooperate with field trip leaders and the se in designated authority in all collecting areas.
- I will report to my club or Federation officers, Bureau of Land management or other authorities, any deposit of petrified wood or other materials on public lands which should be protected for the enjoyment of future generations for public educational and scientific purposes.
- I will appreciate and protect our heritage of natural resources.
- I will observe the "Golden Rule", will use "Good Outdoor Manners" and will at all times conduct myself in a manner which will add to the stature and Public "image" of rockhounds everywhere.

MEMBERSHIP APPLICATION OR RENEWAL  
THE MINERALOGICAL SOCIETY OF THE DISTRICT OF COLUMBIA (MSDC)

(\_\_\_) Family – \$25.00 per year. One address.

(\_\_\_) Individual – \$20.00 per year.

(\_\_\_) New \*      (\_\_\_) Renewal Dues are for Year \_\_\_\_\_\*

For new members who join in the last months of the year, membership will extend through the following year with no additional dues.

**ANNUAL DUES – PLEASE PAY YOUR DUES PROMPTLY.**

Pay at next meeting or mail to:

Mineralogical Society of DC  
c/o John Weidner  
7099 Game Lord Drive  
Springfield, VA 22153-1312

Name(s) (First and Last) \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip: \_\_\_\_\_

Phone(s): Home/Work/Mobile \_\_\_\_\_

Email(s): \_\_\_\_\_

OK TO INCLUDE YOU ON CLUB MEMBERSHIP LIST?

(    ) Yes – Include name, address, phone, email.

If you want any information omitted from the membership list, please note:

Omit my: (    ) Email; (    ) Home phone; (    ) Work phone; (    ) Mobile phone; (    ) Address; (    ) Name

SPECIAL CLUB-RELATED INTERESTS? \_\_\_\_\_

Meeting Dates, Time, and Location: The first Wednesday of each month. (No meeting in July and August.) The National Museum of Natural History, Smithsonian Institution, 10th Street and Constitution Ave, Washington D.C. We will gather at the Constitution Avenue entrance at 7:30 PM to meet our guard who will escort us to the Cathy Kerby Room.