

Mineralogical Society of the District of Columbia

MINERAL MINUTES



Vol. 69, No. 3

Founded 1942

March 2010

Club Meeting: Wednesday, March 3, 7:45 PM

The regular monthly meeting of the MSDC will take place as noted above. We meet at 7:45 PM in the lobby of the Smithsonian Natural History Museum, and will be escorted by security personnel to a special meeting room for this month. Since we are not sure where this room will be and there may be special security considerations, it is imperative that everyone attending be in the lobby prior to 7:45, or they may not be allowed access to this special meeting room. **BE ON TIME !**

Speaker: Since we didn't get to hear the presentation in February due to inclement weather, we will try again. The program will be a presentation on the **Aris, Namibia, Phonolite** and it's very special minerals. It was prepared by **Mr. William Lechner**, President of the Canadian Micro Mineral Association, living in Scarborough, Ontario. Bill has sent me a digital copy of his program which covers in detail the unusual locality at a road metal quarry in Namibia - the same nation which has given us Tsumeb (a World famous copper mine). The phonolite, an igneous rock with a high proportion of alkaline metals - sodium and potassium in particular - has numerous small vesicles or vugs which are filled with a plethora of mineral crystals, some of them new to science. At present approximately 70 different mineral species have been found in these vugs, including at least four new to science, with a significant number more still being studied and described by researchers scattered around the world.

Similar alkaline rocks are found in many other localities including world famous Mount St. Hilaire, Quebec, and here in Virginia, at Buck Hill, in Augusta County. As we go through the program I will note some of the similarities and differences of Aris and these other localities. The program includes numerous pictures Bill and others have taken of these interesting and sometimes rare micro-minerals.

If you happen to have specimens from these or similar alkaline intrusive localities please bring them for "show and tell". See you there, 7:45, Wednesday.

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Place: 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 7:45 PM to meet our guard who will escort us to the meeting room. **BE SURE TO CHECK SIGNS TO DETERMINE THE STATUS OF STREET PARKING. WE ARE TOLD THERE WILL BE CHARGES SOON!**

Dinner: Some of us will meet for dinner at the Pier 7 Restaurant at 6:00 PM for dinner before the club meeting. Give President Andy a call at (301) 270-6790 so he can make reservations if you wish to attend.

The Prez Says - A Word From the President **- Andy Thompson**

Rockhounds Happiest When Minerals Abound?

Recently I had the pleasure of a new literary experience. I was reading grandchildren a story that tickled my imagination. It book was entitled *Cloudy With A Chance of Meatballs* by Judi Barrett (illustrated by Ron Barrett). It told the story of what happened when various foods regularly fell from the sky and triggered amusing reactions from the townspeople.

That literary experience, seen through the eyes of preschool children, naturally invited my own fantasies of what would happen to the residents of 'Rockhoundville' if the weather blanketed collectors with showers and blizzards of minerals. What joy there could be in Rockhoundville. Imagine a day which began with gusting southwest winds of sulfur, followed by a dusting of iron filings and then a downpour of tiny pyrite crystals? Can you picture such a landscape and the subsequent delight of collectors gathering the minerals into cardboard flats and

sharing with and showing one another their larger specimens?

Imagine further, some days when the weather might bring a sprinkling of deep purple fluorite crystals or even a very rare shower of gorgeous green diopside.

Play with this idea for a moment. What it would be like for you if minerals occasionally began falling from the sky? It has happened in the past, of course, in events that are both rare and common. The dinosaurs could testify to the rare very-bad-hair days when iridium rained down across the entire globe. What a difference that weather front made in the course of the earth's history.

More commonly, we just had a monumental weather event that covered the nation's capitol area with several feet of minerals. How so, you ask? Is snow a mineral? The National Snow and Ice Data Center at the University of Colorado at Boulder affirms that snow, as crystals of frozen water, fulfills the definition for a mineral, namely, "a naturally occurring homogeneous solid, inorganically formed, with a definite chemical composition and an ordered atomic arrangement." <http://nsidc.org/snow/faq.html>

Of course, there are many alternative definitions of minerals, as Erich Grundel's careful study clearly explained in an earlier *Mineral Minutes* article. The following site gives further evidence of this diversity: http://www.webmineral.com/Mineral_Definition.shtml.

So is there any particular insight which readers of this Word from the President are supposed to garner? Not really. Rather, it's an invitation to reframe our shared experience of all our snow within a broader metaphoric framework. We are immersed in a world of minerals which typically "rain upward" rather than downward, emerging from beneath our feet rather than from overhead. There may be some glimmer of joy and a sense of living with abundance, in which even our recent troublesome snowstorms can be a pleasant reminder. Enjoy the weather and I look forward to seeing you on 3 March when we share our experiences of minerals.

MSDC Minutes – January 6, 2010

- Betty Thompson - Secretary

Editor's Note: Weather conditions caused the cancelation of the February 3, 2010, meeting. The minutes for the January meeting are contained in the February edition of the Mineral Minutes.

A Mineralogist, Almost

By Erich Grundel

March is Women's History Month. To celebrate this, here is a story of a Washingtonian who almost became a mineralogist.

Matilda Coxe Evans Stevenson was born around 1850 in San Augustine, Texas. While still a baby her parents moved to Washington, DC. With the Civil War raging all around the Capital, Tilly, as she was known, went with her parents to Philadelphia and there attended one of the cities most prestigious female academies; Miss Anable's English, French and German school. Anna Anable had progressive ideas about what a young girl should be taught. She wanted her students to be exposed to subjects that went beyond those that prepared them to be wives and mothers. These ideas included training in the sciences.

In 1868 the family returned to Washington. As was traditional in those days, Tilly continued her education by studying with her father who was a lawyer. Her father knew some important people in Washington, one of whom was Joseph Henry, the Secretary of the Smithsonian Institution. Henry was a mentor to a young man named William M. Mew. Henry gave Mew chemical training at the museum. Tilly's parents always encouraged their daughter. Her father, through Henry, saw that his daughter would continue her education by working in Mew's laboratory which was located in Ford's Theater.

Bright and ambitious Tilly now set her sights on a career. She wanted to become a mineralogist. As so often happens in life, plans alter. Not infrequently the agent of alteration is love. Tilly met James Stevenson. Stevenson was the Executive Officer of Ferdinand V. Hayden's Geological Survey of the Territories. He was a self educated geologist and a competent ethnologist. The couple was probably introduced by a mutual friend, Congressman John A. Logan, one of Hayden's staunchest supporters in Congress. On April 18, 1872 they married.

In those days the story would have ended with Tilly assuming a women's traditional role and indeed she did. But she was also set on pursuing her scientific interests. She did so in an unconventional way; she went with her husband on some of the explorations of the West. She was not the first woman to do so but there was a difference with Tilly. She was an active participant in the scientific investigations. Her interests shifted. She became an anthropologist and ethnologist and soon began a lifelong investigation of the lives and culture of the Zuñi Indians. She also began to work at the Smithsonian Institution. Her publication on the religious life of Zuñi children is considered a unique and important work.

Tilly died in 1915. She was a founder of the Women's Anthropological Society of Washington and belonged to many other scientific societies.



Matilda Coxe Evans Stevenson as a young woman and later as a scientist

References:

Stevenson, M.C.E., *The Religious Life of the Zuñi Child*, (Fifth Annual Report of the Bureau of Ethnology...1883-84, 1887).

Miller, Darlis, *Matilda Coxe Stevenson: Pioneering Anthropologist*, University of Oklahoma Press, 2007.

Thoughts on a Snowy Day – February 6, 2010

- Dave Nanney

What do you do when you are in the middle of a record-breaking snowstorm and you just received your *Mineralogical Record* – January-February, 2010. The answer is you read it. But when you are the “kids” on the mineralogical scene, there are a lot of terms you are not sure of. Below are a number of terms from this edition of the magazine. I looked them up on various internet sites, sometimes several, if the meaning could not be understood, and our *Geology 101* textbook. The references are too many to list so I will simply refer to the wisdom of the internet as the source of the definitions.

{Editor's Note: I just can't leave good things alone so I decided to turn Dave's great information into a quiz. I have taken Dave's terms and definitions and mixed them. Can you match the terms with their definition. Just to challenge Dave a little, I have added a few more terms. Answers are at the end of this newsletter.}

- | | |
|-------------------------|----------------|
| a. Gwindels | m. Fluorite |
| b. Boudins | n. Batholith |
| c. Orthogneiss | o. Lenses |
| d. Flos Ferri | p. Paragenesis |
| e. Two causes of color | q. Orogeny |
| f. Foliated | r. Feldspar |
| g. Strahler | s. Cleft |
| h. Paragneiss | t. Schist |
| i. Metamorphic | u. Gangue |
| j. Horizon of evaporate | v. Massif |
| k. Nappes | w. Gneiss |
| l. Hydrothermal | |

__1. Body of rock, which is thick in middle and thin at the edges, resembling convex lens.

__2. CaF_2

__3. Crystalline minerals, framework silicate, most common are plagioclase (tends to be white, gray or blue) and orthoclase (tends to be pink)

__4. Space made by splitting of rock formation

__5. Separable into layers, repetition of layers in metamorphic rock

__6. Structures caused by extension where rigid body is stretched like sausage

__7. Material left after removal of valuable material. Trash minerals where one man's trash might become another man's treasure.

__8. Aragonite

__9. “Twisted quartz” (ger), the crystal appears to have grown sideways, slightly twisted with bent crystal faces.

__10. Gneiss from sedimentary rock

__11. Skilled mountain climber and collector of minerals

- __12. Soil is made of layers called horizons. Evaporate horizon would be repeated layers of evaporated minerals.
- __13. Block of earth crust displaced as a unit without internal changes
- __14. Large mass thrust over other rocks
- __15. Change in constitution of rock affected by heat, pressure, water yielding compact crystalline condition. Because this is not a cause of melting, this is considered a solid state transformation.
- __16. Mass of intruded igneous rock that stopped its rise considerable distance before the surface.
- __17. Process of mountain formation
- __18. Metamorphic crystalline rock which has closely foliated structures and can be split along parallel planes. Medium to coarse grained metamorphic rock containing foliation.
- __19. Mechanical Inclusion, and Substitution
- __20. Gneiss from igneous rock
- __21. Sequence of time in which a mineral crystallizes with respect to other minerals. Important with what it tells about the time and influences of minerals
- __22. Foliated metamorphic rock, granite. Compositionally layered metamorphic rock, typically composed of alternating dark-colored and light-colored layers or lenses.
- __23. Deposits formed from hot fluids.

Snow Mining Blues

by Susan Fisher

Sometimes even a die-hard mineral collector can get too much of a good thing and that describes my current situation. I have just about had my fill of this crystallized dihydrogen monoxide. Yes snow is a real mineral (actually a variety of ice). Mindat lists the following data for ice:

System: Hexagonal

Color: Colorless to white, pale blue to greenish blue in thick layers

Hardness: 1 1/2

Name: . From Old English is, from Proto-Germanic *isa-.

Luster: Vitreous

Diaphaneity (Transparency): Transparent, translucent

Streak: White

Tenacity: Brittle

Fracture: Conchoidal

Density: 0.9167 g/cm³

Formula: H₂O

Morphology: Usually as snow crystals, in complex six-rayed stellate forms of great variety, flattened {0001}. Delicate skeletal forms or hopper-shaped prisms as hoar frost. Lathlike crystals, greatly elongated at times, by crystallization on the surface of water.

Twinning: Twin plane (a): {0001}, and (b): {0001⁻ }.

This is all nice, but it doesn't even start to describe the multiple, multiple inches of tenacious, white stuff that coated my yard, roof, deck, shrubbery, and woods. The whole situation took on many aspects of a large scale mining operation. When the first few inches accumulated, my husband Ed attacked it with a mini-tunnel boring machine (in the local parlance, a snow blower). As with many lower echelon laborers, I was relegated to a shovel. After a few hours of labor involving us and another boring machine owner, the walk, drive, and pipe-stem drive were cleared. So far, so good, but the tenacious mineral just continued to precipitate. (When I am collecting in the field, I am used to digging down to the crystalline layer and then putting away the big tools in favor of more precise instruments. This was definitely not the case here. The more we dug, the bigger tools we needed.) When we finally got down to bed rock - in this case, asphalt - we applied an environmentally friendly, harmless-to-critters-and-lawn, decrystallization agent just to keep the stuff from sneaking back in the more insidious form, black ice. (I didn't notice that in the Mindat description!)

When dealing with Mother Nature, never consider a battle won. The white bits just continued to fall! Several days and three "big digs" later, the crystalline material stopped falling from the sky and drifting in the wind. We were ready to venture out and compare our mining efforts with those less fortunate who didn't have their own boring machine or a couple of strong teenage kids to do the same thing. There was one minor problem. While our drive and pipe stem were pristine, the street was not. The only solution was four wheel drive and some liver-relocating bumps to make it to a major highway. This problem was finally solved several days later when the county came in with a front-end loader and several large dump trucks. (We were back to mining techniques!!)

Over two weeks later and we are still not out of the woods. We are still dealing with a pesky hanging wall of ice that used to be our gutter system, fractured timbers (trees that just couldn't take the weight), circulation and ventilation issues (keeping the down spouts clear), labor negotiations ("You want how much to take down that tree?!????!!!!") and government regulations ("And just how are we supposed to get over two feet of snow cleared from the drive and walk within 12 hours to meet the home owners' association guidelines??") In other words, we are just like the management of many small scale mining operations.

The snow is beautiful and it is restful to sit by the fireplace with a mug of hot tea and watch it fall. It is also great to be surrounded by mountains of lovely minerals, but my bad back is telling me it is time to head for a Southern coast. Oops - They also got a big snow there and they never heard of mini-tunnel borers!

Upcoming Events:

Mar 5-7: Stanton, DE - Annual Gem & Mineral Show and **61th Annual EFMLS Convention** hosted by the Delaware Mineralogical Society. 47th Annual Earth Science Gem and Mineral Show, Celebrating the Club's 50th Anniversary and Hosting the 2010 EFMLS Annual Convention. EFMLS Annual Meeting Friday, March 5. Saturday, March 6, 2010 - 10 A.M. to 6 P.M., Sunday, March 7, 2010 - 11 A.M. to 5 P.M., Delaware Technical and Community College @ I-95 Exit 4B, Churchmans Road (Rt 58) Newark (Stanton), DE 19713. Adults \$6.00, Seniors \$5.00, Juniors \$4.00, and children under 12 free with Adult. Interesting and educational exhibits of mineral, lapidary and fossil specimens, Displays from regional and university museums. Campus cafeteria open most of the day for food and snacks. For further information, contact: www.delminsociety.net, Wayne Urion (302) 998-0686 (E-Mail- wurion@aol.com) Info and Discount coupons at www.delminsociety.net

Mar 20 - 21: Hickory, NC - 40th Annual Unifour Gem, Mineral, Fossil & Jewelry Show sponsored by the Catawba Valley Gem & Mineral Club. Metro Convention Center, Hickory, NC.

Mar 20 - 21: Gaithersburg, MD - 40th annual Gem, Mineral, and Fossil Show sponsored by the Gem Lapidary & Mineral Society of Montgomery Co at the Montgomery County Fairgrounds, Gaithersburg, MD.

Mar 26-28: Elkridge, MD - 37th Annual Atlantic Micromounters Conference hosted by the Micromineralogists of the National Capital Area. MHA Conference Center, Elkridge, MD. Info: S. Weinberger, <cscrystals2@verizon.net>.

Mar 27-28: Sayre, PA - 41st Annual Che-Hanna Rock & Mineral Club Show sponsored by the Che-Hanna Rock & Mineral Club. Athens Twp. Volunteer Fire Hall, Sayre, PA

Mar 27-28: Plymouth Meeting, PA - Philadelphia Mineral Treasures and Fossil Fair sponsored by the Philadelphia Mineralogical Society. Lulu Temple, Plymouth Meeting, PA.

Mar 27-28: Chambersburg, PA - 32nd Annual Gem-Mineral & Jewelry Show sponsored by the Franklin County Rock & Mineral Club. Shalom Christian Academy, Chambersburg, PA.

Answers to the Quiz: (Don't look at these until you have tried to answer the quiz.)

1. - o 13. - v
2. - m 14. - k
3. - r 15. - i
4. - s 16. - n
5. - f 17. - q
6. - b 18. - t
7. - u 19. - e
8. - d 20. - c
9. - a 21. - p
10. - h 22. - w
11. - g 23. - l
12. - j

Joint Field Trip:

On the 20th of February several MSDC members joined folks from other area clubs and made a trip to James Madison University to visit with Dr Lance Kearns and tour the mineralogy museum and facilities at JMU. It was a really valuable learning experience and a number of us had the opportunity to get some of our unknown minerals identified and add some books and minerals to our collections. Thanks you Betty Thompson for some pictures of that trip.

