Micromineralogists of the National Capital Area, Inc.

MNCA Website dcmicrominerals.org

The Mineral Mite

Vol. 50 – No. 9 **Washington D.C. – A Journal for Micromineralogists** **November 2017**

50 Years 1967 - 2017

November 15 Time: 7:30 p.m. – 10 p.m.

Long Branch Nature Center, 625 S. Carlin Springs Rd. Arlington, VA 22206

Program: Geology Collecting Journey - 8 Localities

By David Fryauff, Vice President

Dave will present his travelogues of field collecting from this past year. The quarries include:

1. Teeter's at Gettysburg, PA
2. Medford New Windsor, MD
3. Sterling Hill in Ogdensburg, NJ
4. National Limestone in Middleburg, VA
5. Vulcan, Manassas, VA
6. Vulcan Garrisonville in Stafford, VA
7. Lebanon, PA
8. Willis Mt. at Spruses Corner, VA

Bring Micros for Workshop

Photo of the Month

Barwoodite comes from the Big Rock Quarry or 3M Quarry (?), Little Rock, Arkansas

President's Message:

By: Dave MacLean

I invite you to help MSDC celebrate its 75th anniversary 1942-2017 and recognize our 50th anniversary 1967-2017. The banquet with Jeffrey Post as keynote speaker will be at Holiday Inn Saturday December 9. Let us all co-celebrate our anniversaries.

We have another opportunity to show off micro mineralogy at the NVMC show 10AM-6PM Saturday November 18, and 10AM-5PM Sunday November 19 at Dewberry Hall, Johnson Center GMU. We need volunteers to demo micro minerals from 1PM-5PM on Sunday afternoon. Please let me know that you can help.

I continue to be amazed and enjoy what one can see micro minerals with a ten or twenty power loupe especially in direct sunlight. I hope to see everyone at our meeting Wednesday November 15 at the Long Branch Nature Center.

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Barwoodite is a manganese niobium silicate, oxidized. Mn2+6Nb5+(SiO4)4(O,OH)6. It looks like Pyrophanite $Mn^{2+}TiO_3$ at first glance, but Bumpi saw that it was different, and sent samples to Anthony Kampf for analysis (Natural History Museum of Los Angeles). It is associated with a similar red mineral Eggletonite $(Na,K,Ca)_2(Mn,Fe)_8(Si,Al)_{12}O_{29}(OH)_7 \cdot 11H_2O$. It is an analog of Franciscanite $Mn^{2+}{}_6(V^{5+},\square)(SiO_4)_2(O,OH)_6$. Bumpi Died on September 9, 2016.

Previous Meeting Minutes: 10/25/17

By Secretary Bob Cooke

President Dave McLean called the meeting to order at 7:45 PM on October 25, 2017,
No past Presidents were present. Eight MNCA members were present. One guest, Dave Porlacher joined us and introduced himself. He is newly arrived from Salt Lake City. His primary mineral interest is in the lapidary arts. Michael Pabst introduced his son John who was present to help celebrate his parents' 49th wedding anniversary.
Planning details were discussed for the joint ceremony by Mineralogical Society of the District of Columbia (MSDC) and MNCA to celebrate their 75th and 50th anniversaries of their establishments. Dave Nanney of MSDC has the lead in organizing the event. Dinner and speakers are planned for December 9th at the Holiday Inn Alexandria - Carlyle at 2460 Eisenhower Ave, Alexandria. The guest speaker will be Dr. Jeffrey Post who is Department Chair, Geologist and Curator-in-Charge of the Mineral Collection for the Smithsonian Institution. Contributions by MNCA to subsidize the event are capped at $1000.

A sign-up sheet was circulated for volunteers to be at the MNCA demonstration table during the Northern Virginia Mineral Club's (NVMC) Mineral Show on November 18-19 at George Mason University. Additional loupes have been for procured for sale at the booth: current inventory is 37 of the 10X loupes and 44 of the 20X illuminated loupes. Michael Pabst presented a poster showing the wheel of color for minerals and asked that it be displayed at the MNCA booth.

Editor, Kathy Hrechka presented Michael Pabst with an award certificate from the American Federation of Mineralogical Societies (AFMS) Bulletin Editors Contest, for an article he wrote. Kathy also read the names who have been awarded EFMLS certificates for articles published in The Mineral Mite 2016. The list will be published in the November Mineral Mite. Kathy recently designed and acquired business cards for MNCA. These cards will be available at the MNCA demonstration table during the NVMC Mineral Show. The cards were handed out at the meeting. If anyone needs more, simply contact Kathy.

Erich Grundel shared a picture album he made of the January 1980 visit by MNCA members to the James Madison University Geology Department. This inspired a discussion of how to arrange future MNCA visits to JMU now that Professor Lance Kearns has retired. It was agreed to ask Tom Tucker for assistance in contacting the current JMU personnel.
The meeting adjourned at 8:40 PM.

Election of 2018 Officers

At the December 18 club meeting, we will elect club officers for 2018. We need candidates for president, vice-president, secretary, and treasurer. As chair of the nominating committee, I am asking club members to step forward to help. We need both long-term club members and newer members in officer positions for the leadership we will need in the future. Former club officers are willing to mentor new officers as needed. Self-nominations are welcome, as are nominations by friends! So please step up, folks!
Send all nominations to me at
rdotcooke@gmail.com

Membership Dues: 2017
Single = $15. Family = $20.
Payable to MNCA - Michael Pabst, Treasurer
270 Rachel Drive Penn Laird, VA 22846

Previous Program Reviewed: 10/25/17

By Bob Cooke

Club members viewed the Dvd of the PBS/NOVA documentary "Making North America, Origins." The program was hosted by Dr. Kirk Johnson, Sant director of the Museum of Natural History in DC.

BEAC - EFMLS Congratulations!

The following club members were honored at the Editor's Breakfast in Rochester, NY on Oct 22
Their articles appeared in *The Mineral Mite* 2016
Thank you, Kathy Hrechka, Editor

Webmaster Contest Results
*Second Place Award - **Julia Hrechka**
www.dcmicrominerals.org
Original Educational Articles
*Second Place Award - **Michael Pabst**
Stichtite
*Fifth Place Award - **Michael Pabst**
Crocoite
*Eighth Place Award - **David MacLean**
How New Minerals are Discovered and Named
Non-Technical Articles
*Tenth Place Award - **Michael Pabst**
A New Lens for Photomicrography:
Mitutoyo 10X Infinity Focus Objective
*Honorable Mention - **David Fryauff**
The Unsolved Mystery of "Pharmacolite" From Pinto, Maryland
*Honorable Mention - **Kathy Hrechka**
2016 NFMS/AFMS Show, Treasures of the NW
Written Features
*Fifth Place Award - **Kathy Hrechka**
Snowstorm Olympia Delivers Snow Crystals for Photomicrography
*Seventh Place Award - **Dave Hennessey** Micro-mounters Anonymous
The Decade Club: Kathy Hrechka, Editor of *The Mineral Mite*; Micromineralogists of the National Capital Area, Inc. The decade club, founded in 1991, is an elite group of bulletin editors who have served their clubs for ten years or more. Over the sixteen years since its inception, other fine editors have been added to the rolls of the Decade Club. We gratefully acknowledge the invaluable contributions of all the members to their clubs and to the EFMLS.

Poster designed by Michel Pabst

50th Anniversary: Part III of III
Personal Origins of Micromounters

Donald J. McAlarnen, E. Norriton, Pennsylvania
*Your profession / retired – Still working for Hewlett-Packard Co for 40 years in Computer Support.
* Year you began micromounting - 2008
* Who inspired you? John Ferrante, secretary for Leidy Microscopic Society, Philadelphia, PA.
* Why you are a micromounter? - The smaller nature makes minerals, the more beautiful they become, an "inner universe".
* Something unique about you! – Also, an Amateur Astronomer in optical and radio astronomy and treasurer for the Leidy Microscopic Society, Philadelphia, Pennsylvania

Scott Duresky, Charlottesville, Virginia
During the 1990's and early to mid-2000's, I was a fairly active member of the Northern Virginia Mineral Club, and at one point (very briefly), was its President. This period covered the heyday of collecting at Meckley's Quarry in Lancaster Co., Pennsylvania, which until it was closed, was a nationally-known collecting locality for Celestine and Strontianite. During that time, I was fortunate enough to have a friend in the Lancaster area who was a professional collector with access to many closed localities, and it was during that time that I collected a number of fine specimens of various Pennsylvania minerals.

In 2007, my wife and I moved to Charlottesville in order to be closer to my aging parents in Richmond, and as my visits to Richmond increased, I gradually found out about Betsy Martin's Rock Rappers group, which specialized in micros, and had been meeting at her house for many years, even though Betsy herself was in declining health. It was Betsy, an extraordinarily kind and generous woman and a retired teacher who got me started with a number of micros. It was, and remains to this day, her enthusiasm and the knowledge she has so freely shared over the years which have inspired me in countless ways.

Although I'm not able to mount my own specimens because of a medical condition, I became something of a species collector, even as a new project loomed on the horizon. I had always been fascinated with the minerals of the Rutherford Mine, and over the last five-seven years, through a combination of unique opportunities, was able to acquire a very large amount of material from a pegmatite that had been permanently closed since 1998. The rest, as they say, is history.

Besides mineralogy, I am the Director of Special Events for the Charlottesville Astronomical Society, and am currently in the process of putting together the second annual Highland County Star Party on the Virginia/West Virginia border. Other than that, I am truly a "late bloomer", with an outlook on the life that lies ahead of me as positive as anyone I know, with all of that due to the loving grace of a Creator who governs the Universe, in all of its immensities.

Barbara Sky, Ballwin, Missouri
I could not be said to have a 'profession' because I left my work for the Department of Agriculture (Home Economics Division) before my first child was born, and didn't work outside the home again. I joined the NVMC in 1990 (or so the 30-year history book says). I became interested because several of my friends were micromounters, and being part of the Northern Virginia Mineral Club and Atlantic Micromounters Conference gave me a chance to spend more time with them. (I'm afraid it wasn't the minerals that first attracted me). I guess you would say I was inspired by Jennie and Paul Smith (my first teachers), Ruth Cole Wertz and Roger Barnett who suggested I attend my first AMC. Uniqueness is something I never think about, so I can supply no way in which I am unique!

Robert Rothenberg, Oneonta, New York
I have been a collector for many years. It began with stamps, and went on too many other things. I believe this is a genetic characteristic (perhaps a flaw in part of my DNA), as my mother was also a collector. My earliest memories of collecting minerals are, as a child, going to Long Beach, Long Island, with my parents. Many of the breakers there were transported from New York City when they dug the subway tunnels. I would bring a hammer and screwdrivers (to be used as chisels) and extract garnets from the schist. Some were close to an inch across, and many were in reasonably good shape. Subsequently, I would travel (by subway and bus) to Franklin NJ (Buckwheat dump) with a friend. We collected lots of stuff in the

beginning, though after I discovered micros, I concentrated on the limestone vugs.

In the mid 1960's I was a member of a NYC mineral club. They were the host club for an Eastern Federation show at the relatively new center at Columbus Circle. As I wandered around I noticed an exhibit by the Leidy Microscopical Society. It featured stereo views of micro minerals. My first view was a dioptase spray from Tiger, Arizona. I was hooked. I cannot remember any of the other images, or even if I looked at any other images.

I spent several years as a micromounter before I had a microscope. I even attended one or several meetings of the BMS before I had a scope. I would use a magnifying glass made for stamp collectors and make micromounts. Once I got the scope, I rarely used the magnifying glass again. I also attended a meeting of MNCA back when they were held at a large hotel. I like micromounts because I find the specimens strikingly beautiful (although not all of them). Because so many of the crystals are found in vugs, they have not been subjected to the weathering that so many larger crystals have been. I also like photographing them.

I was a lawyer and CPA in my professional life, as well as a college teacher. The latter was by far my favorite kind of work. I cannot think of anything unique or unusual about me. I am weird (as my kids always used to tell me), but do not think this is unique, especially among micromounters.

Mike Seeds, Lancaster, Pennsylvania

I taught astronomy at Franklin & Marshall College from 1970 to 2002. I started writing textbooks about 1973, and have published 8 or 9, I think. Depends on how you count. Counting all the books, and all the editions, I'm now finishing the 60th edition. I have a coauthor now who does most of the work, and I'm the grey beard advisor in the background.

I started micromounting in 1999. I admired micromounts at rock shows for a number of years, and one Saturday, I fell into conversation with Carolyn and Steve Weinberger at their micromount table at the Lebanon mineral show. They both encouraged me, and Steve said, "You can start with a loupe, but eventually, you need to buy a microscope." So, I went home and ordered one in near total ignorance. Luckily, I got a good one.

The Weinberger's gave me Cal Pierson's number, and I called him about the Desautels Symposium. He made it seem so interesting, I overcame my natural shyness and walked in the front door of the Maryland Hospital Association on a Friday evening with my 'scope in a cardboard box. The Weinberger's were there and showed me around and introduced me to people. On Saturday morning, I set up my scope, and the woman sitting in front of me turned around and said, "Hi, I'm Betsy Martin." When she found out how little I knew about micromounting, she turned her chair around, produced photocopies of her micromounting notes, and spent over an hour showing me how to make micromounts. I shopped with the dealers and bought specimens and boxes and corks and liners, and by the time I left on Sunday afternoon, I knew what to do.

I think I have a fascination with seeing hidden things. Since childhood, I've liked secret codes and puzzles and hidden images. I also like looking through things to see what I can't otherwise see. As I child, I liked my Dad's binoculars and watched squirrels and birds. My Grandma had a cardboard-tube telescope in her dresser that she used to check out deliveries being made to neighbors, but I liked to borrow it and look at the moon. So, I became an astronomer to puzzle out what I can see through telescopes, and I later discovered I can see beautiful minerals through a microscope.

I love to hike but can't go far. Five or six miles is my absolute limit these days on good tread. We go to the Grand Canyon as often as possible and hike the rim trails. I can't go down anymore; it's too hard to get back up. I love to read about thru hikers, and when I grow up, I'm going to hike all 2,650 miles of the Pacific Crest Trail from Mexico to Canada. Then I'll become a park ranger.

Mark Kucera, Yonkers, New York

Recently retired engineer. Started micromounting in 2016. Inspired by the mineral collectors that could talk about species I'd never seen on a macro crystal/specimen level. Since that seems to be a majority of minerals, how can you not want to eventually 'graduate' to micromounting? The more I learn, the more I find out how little I do know.

Review of the 2017 Collecting Season Part II of II

By David Fryauff, Vice President

Vulcan Material Quarry, Manassas, VA: On May 27th we gathered at the Vulcan Materials Quarry, 8537 Vulcan Lane, Manassas, VA. Our excellent host, KT Odum gave us a safety brief and logged us all in. We were informed that rock had been piling up in the quarry and near the crusher for some time and we headed in diverse directions. I was pleasantly surprised to see new rock on the 4th or 5th bench, piled up along the road and easily accessible to rock hounds. Closer examination showed it to be surprisingly vuggy, with vents and vugs ranging from 1 to 10 cm. This rock was mostly boulders ranging in size from bowling balls to pickup trucks. The 10 and 12-pound sledge hammer was the ideal tool to break down these boulders and I got an incredibly good workout on this day. I was very surprised to see water pour out of the newly opened vugs, and I wondered whether this was ancient or recently derived. It seemed quite unlikely that such hard rock, and a at such a deep level in the quarry could have been recent.

In at least 5 earlier trips to the Manassas quarry I had never seen such a thing and it seemed quite remarkable. I shot a few photos of vugs recently broken open and showing wetness, but photos just do not capture this phenomenon. Later examination of these vugs by 20X microscopy showed them to be unusually scoured of what seemed to be a layer of prehnite. Unexpectedly, the much softer secondary minerals such as calcite, 'stilbite', 'chabazite', chalcopyrite, 'pumpellyite' and 'apatite' remained as fully intact and very sharp microcrystals. It was surprising to see that the calcite remained untouched by the same water that bathed abundant pyrite and chalcopyrite. But there was no evidence of oxidation of these sulfide minerals, and presumably no acidity to work upon the calcite This was the first time that I had found 'pumpellyite' or apatite in the Manassas quarry, and I was excited to think that I had a new mineral species record for the site, but no, Mindat had them both listed among the 34 valid minerals. Some lucky collectors found very nice mint-green prehnite specimens. Several of the largest boulders we had access to hosted vugs with beige-white 1-2 cm balls of a very soft zeolite-type mineral that I suspect may be mordenite. The soft nature of this mineral made its collection difficult and raps with the hammer frequently caused the balls to pop right out, leaving a more attractive bed of pale butterscotch-colored chabazite and calcite. Mindat does not list mordenite for the Manassas quarry (but does list it for the nearby Centreville quarry). I saved some of the isolated balls of 'mordenite' that popped out for future analysis. To my thinking, it was one of the best collecting trips we have had in many years of collecting at this great quarry.

Vulcan quarry, Manassas 4th bench where mordenite & water-filled vugs were found

Vulcan quarry, Manassas - A better shot

Vulcan quarry, Manassas - Dave Hennessey found this big prehnite with apophyllite.... his best ever from Manassas

Vulcan quarry, Manassas, VA Cotton mordenite on chabazite.... first time to find mordenite here

Vulcan quarry, Manassas Close-up of traprock vug filled with Calcite, heulandte, pyrite, chabazite, pyrite, chalcopyrite, bornite, apatite, epidote, pumpellyite, sometimes stilbite

Strontianite pseudomorphs after celestine

Vulcan quarry, Manassas, VA Close up of newly opened vug, still wet

Traprock vugs newly cracked open, and still wet from the water they held

Vulcan Garrisonville Quarry, Stafford, VA On June 17th we gathered at the Vulcan Garrisonville Quarry, 1012 Garrisonville Road, Stafford, VA anticipating the collection of some nice zeolite specimens. Mindat labels photos of this place as the Vulcan Garrisonville quarry but gives other names for it such as Austin Run Mine, Fer-Sul, Garrisonville, and Old Dominion. Strangely, Mindat does not verify it as a Vulcan Inc. operation but posts four site

photos taken in 1994 that are labelled as Vulcan Quarry, Garrisonville, VA. To make matters even stranger, Mindat lists only six valid mineral species, not one of which is a zeolite. Google Earth satellite photos of the area show just one big gray hole in the ground in Garrisonville and label it the Vulcan Materials Inc. quarry. My first visit to this quarry was in the summer of 2016, and most of us collected some excellent stilbite specimens. One of these stilbites was remarkable in being a bright golden yellow, and

I had my eyes "peeled". But on this day in June 2017, stilbite was found in only scant amounts, and of a quality best left on the quarry floor. I wandered over to the south side of the quarry where there was telltale evidence of a white mineral, and in a very short time collected some very nice, and large, specimens of opaque, pale pink laumontite. Individual crystals of this zeolite mineral were 2-3 cm long, with sharp beveled termini, and often bi-terminated. Some of the best were combinations of laumontite, calcite, and feldspar. The calcite would later demonstrate nice yellow short-wave UV fluorescence. There were enough good laumontite specimens for everyone, and I later sent word around advising my fellow rock hounds how to use a 10% Elmer's glue mix in water to seal their laumontite against dehydration and crumbling. Laumontite is a fairly common, and often overlooked zeolite species that is best appreciated by 20-40X microscopy as white or glassy divergent prismatic crystals, often associated with prehnite, stilbite, and apophyllite. I never expected to see it crystallize so large, or to have it become one of the largest (15 x 34 cm) specimens in my collection. But I'm totally OK with that and happy that I made a really good find.

Vulcan quarry Garrisonville, VA

Laumontite crystals
big cabinet specimen of laumontite

Vulcan quarry, Garrisonville; Nice yellow stilbite from a site where Mindat lists no zeolite mineral species.

Vulcan Quarry, Garrisonville, VA; nice stilbite find.... wish it was mine.

Gem Miner's Jubilee at the Lebanon Expo Lebanon, PA: I took off the entire month of July (to celebrate the weddings of two of my children and to host family and guests from all over), but in mid-August I drove up to Lebanon, PA to browse the Gem Miner's Jubilee at the Lebanon Expo Center, and spent the afternoon exploring some of the many rock

dumps that make up the three old iron mines at Cornwall, PA. These mines started in 1732 and closed in 1972 due to flooding of the mine shafts by hurricane Agnes. During this long period of production iron, copper, cobalt, nickel, gold and silver were found in recoverable quantities and Mindat lists 68 mineral species in this. I have been only three times to Cornwall, but each time to a different location, and I have always found something interesting and worth adding to my collection. However, these finds have always been thumbnail or micromount size.

This time was the first to find garnets--small 2-3 mm very black but sharp crystals associated with pyrite and calcite. I had a chance to explore the south bank of the lake formed by the flooded mine and look forward to getting back there again. The lake apparently has good fishing for smallmouth bass. Zeolites (analcime, heulandite, Laumontite, natrolite, stilbite, thomsonite) and their most common associates (apophyllite, datolite, prehnite) have been among the most commonly collected larger minerals from the Cornwall mine dumps, but a number of other secondary copper, cobalt, and sulfide minerals have been found.

Among the most surprising mineral discovery from Cornwall is Ruizite, a rare calcium manganese silicate found in only five places in the world, and clinoenstatite, a magnesium silicate that is most commonly found in meteorites. Cornwall PA is a drive of 124 miles--about 2.5 hours, but one of the more famous mineral dumps in our region.

Willis Mountain Mine at Sprouses Corner, VA: September 23, 2017 marked the once-yearly date at which the Virginia Kyanite Co., Inc. opens its Willis Mountain Mine at Sprouses Corner, VA to rock hounds. The Lynchburg Mineral and Lapidary Society was the host for this event and had to limit admission to just 150 attendees. A handful of Maryland collectors made the 3.5-hour drive and joined the large group that gathers for this yearly event.

This one mine supplies 80% of the world's supply of kyanite used in the production of high temperature ceramics and refractory materials. Mindat lists 27 valid mineral species for this open pit mine situated on a monadnoc--a tough quartz-quartzite "mountain" that resisted weathering while all the softer rock around it was leveled. Beautiful, and large specimens of kyanite are abundant and several collectors heaved boulder-sized yard rocks into their trucks. Willis Mountain is also well known for its iridescent hematite/goethite or 'turgite' that can take on the brilliant rainbow colors of peacock feathers.

I was most interested in trying to find some of the rare phosphate minerals that are known to occur here: fluorapatite, goyazite, crandallite, lazulite, variscite, and woodhouseite. I am very pleased to report that I can add strengite--sparkling pink balls of 2 mm associated with quartz and crandallite--to the list, although this probably comes as no surprise to phosphate collectors.

Willis Mountain Mine, VA

Kyanite from Willis Mountain Mine, VA

Paul Desautels Micromount Symposium Baltimore, MD Oct 13-15

By David Fryauff, Vice President

Betsy Martin was inducted into the Paul Desautels Symposium Micromounter's Hall of Fame for her contributions over 40 years to Gem and Mineral Societies (MNCA, EFMLS, others), to education-as a teacher, and to her 25 years of study of the Morefield Pegmatite Mine, Winterham, Amelia Co., VA.

Betsy's presentation, entitled "Then and Now at the Morefield Mine" recounted the beginnings of this mine in 1929 under Silas Morefield, to WWII when the mine was leased to the U.S. Bureau of Mines for its strategic reserves of mica, beryl, and tantalum. In 1985 Bill Baltzley purchased the mine from the Morefield estate and began developing it for commercial and recreational purposes.

Sam and Sharon Dunaway assumed ownership of the Morefield mine in 1996 and have expanded the commercial operation to include an expanded educational and research focus. What originally started s a feldspar-mica-beryl, and tantalum mine has now become a fascinating underground mine with a safety record of 48 years without a single lost time accident and a pegmatite deposit with a growing list of rare and unusual mineral species.

Betsy's presentation took her audience on a highly informative, and visual tour that charted both the chronological development of the mine, and most interestingly, the more recently discovered mineral species found at different levels of the mine. For example, workings at the 45-foot level revealed the presence of a host of aluminofluoride minerals such as chiolite, elpasolite, microlite, and gearksutite.

Significant new finds made in pegmatite at the 132-164-foot level included native lead, native bismuth, bismutite, clinobisvanite, plumbogummite, and a suite of unusual oxalate minerals (lindbergite, wedellite, and humboldtine).

During 2004 to 2005 an underground shaft at 32 feet into the pegmatite-diabase contact zone revealed the presence of hollandite, microlite, cassiterite, masutomilite, serrabrancaite, and sussexite. The Morefield mine discovery of serrabrancaite was the first U.S. occurrence of this manganophosphate mineral and the finding of masutomilite, a Li-, Rb- and F- containing mica species was the 2nd occurrence of this rare mineral in the U.S. Deeper penetration of this shaft, to the 60-foot level discovered vugs with excellent crystals of topaz and fluorapatite.

Prof. Lance Kearns of James Madison University and Dr. Michael Wise of the Smithsonian Institute have great interest in the geology and mineralogy of the Morefield Mine, and have been responsible for confirmatory analyses and new mineral discovery. The Smithsonian Institute devoted an entire exhibit to the underground workings of the Morefield mine and The James Madison University Museum of Minerals displays some of the more spectacular mineral finds that have been made.

Betsy described how many of the Morefield mine minerals can be discovered by carefully washing and screening bucket loads of rock brought up from the tunnels. This type of work is ideally suited to the keen eyes of micromineralogists, but Sam Dunaway has opened his mine to children, adults, and collectors of all ages and experience. The sluice he has constructed provides an ideal way to make these finds, especially the green microcline feldspar var. amazonite. Sam has "salted" his mine dump piles to ensure that his paying customers always come away with some good finds.

Currently the 15-acre Morefield specimen Mine is in "discussion" with the much larger, and directly adjacent Martin Marietta quarry that operates a large crushing operation to produce road rock and aggregate. These negotiations have put a temporary halt to public access to the Morefield Mine for collecting and educational purposes. We are very hopeful that the Morefield Mine will reopen for mine tours and collecting in 2018.

Betsy Martin inducted HOF by Steve Weinberger

Hall of Fame plaque reads….

Betsy Martin: An art teacher by profession, Betsy Martin has also been a micromounter and mineral researcher for more than 30 years. During that time, she has not only contributed award-winning articles to many publications with both hobby and professional status, but also co-founded a special interest group that meets monthly for the study of microminerals. Her efforts in that regard, which include provision of the meeting venue, tools, supplies, micromount material, and personal instruction, have brought many newcomers into the hobby. A life member of the Richmond Gem and Mineral Society, in which she has held several executive positions, Betsy is also a long-time member of the Micromounters of the National Capital Area and the Virginia Independent Prospectors. Her work for others in those organizations has run the gamut from digitizing club archives to working on program preparation and providing photomicrographic services. She has also acted as Safety Chairman for the Eastern Federation of Mineralogical and Lapidary Societies. She has been indefatigable in her labors, not the least of which has been more than ten years as a micromount dealer, acquiring, refurbishing, and redistributing old collections to provide specimens to aid others in developing their own collections. Perhaps her most intense work, occupying more than 25 years, has been her research into the mineralogy and development of the Morefield mine, Amelia County, Virginia. She has published detailed descriptions of the mine and its minerals, spent many hours in sample preparation and documentation for testing, and carried out the photomicrography and digitizing work required in maintaining the historical record. Her efforts have earned her co-authorship in publications in a number of professional journals. In doing so much for others over the years, Betsy Martin has clearly established her right to a place in the Micromounters' Hall of Fame.

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Dr. Henry (Bumpi) Barwood was posthumously inducted into the Micromounter's Hall of Fame for his lifetime accomplishments as an educator, researcher, and passionate collector of rocks and minerals. His son, Adam Barwood presented: "Curiosity, Life, and Times of Dr. Henry Barwood." This was a highly visual, wide-ranging, fascinating, and humorous tribute to his father.

Henry Barwood was born in Alameda California in 1947 and He had a BSc in Music Education and a BSc in Geology, both from Auburn University, and a PhD in Geology from Virginia Tech. He was quick to grasp and apply new technologies and was an early pioneer in developing the 405-nm laser format and spectroscopy. Since he was a young child, he loved to tinker and invent things. In 2002 he joined the staff of Troy University, Troy, Alabama where he served as professor of Geology and Earth Sciences until his death on Sept. 9th, 2017. He certainly touched and enriched the lives of many young minds. He was a skillful and dedicated photographer of microminerals and leaves us a wonderful legacy of some of nature's most beautiful, and hidden images. As a primary author and coauthor, he also published numerous scholarly papers in peer-reviewed international scientific journals.

He loved Arkansas, and the minerals that came from the Granite Mountain syenite quarries in Little Rock; notably, the 3M Big Rock quarry, and Granite Mountain quarries #1, #2, and #3. Mindat currently lists 92 valid mineral species for the Granite Mountain syenite quarries, including the type locality (TL) mineral eggletonite
$(Na,K,Ca)_2(Mn,Fe)_8(Si,Al)_{12}O_{29}(OH)_7 \cdot 11H_2O$.

Bumpi will be honored in having a second TL mineral from these quarries named after him: Barwoodite $Mn^{2+}_6Nb^{5+}(SiO_4)_2O_3(OH)_3$

Unfortunately, the incredible images of this mineral that he captured have not yet been included. (The 3M Big Rock quarry is a place that is a place of more than passing interest to me because for a while, early in my father's career with the 3M Industrial Minerals Division, he – our family—was assigned to the company's "Little Rock quarry" and there in Little Rock was where I first started to collect rocks).

Dr. Henry Barwood also loved the famous phosphate minerals of Alabama that came from Indian Mountain, Augusta Ridge, and the Red Ball Mine. These strike me as some of the most beautiful and interesting minerals in our earthly kingdom. A quick glance at the respective pages for these sites in Mindat shows us that Henry Barwood was responsible for many of the best photos of their minerals.

I never had the pleasure of meeting Dr. Bumpi Barwood, but in my short acquaintance with microminerals, and some of the great people who are passionate collectors of "micros" I learned that Bumpi was a giant in the field. I know that Don Smoley and Rob Rothenberg will cherish the great times they had collecting with Bumpi in the Granite Mountain Quarries.

Adam Barwood inducted on behalf of his late father, Dr. Barwood by Steve Weinberger

Hall of Fame plaque reads…
Henry "Bumpi" Barwood 1947 – 2016

Dr. Henry Barwood, affectionately known as "Bumpi", was a professional mineralogist and teacher, who turned his skills in both fields towards helping amateur mineralogists, particularly micromounters, in every possible way. With an insatiable thirst for knowledge, he gained his doctorate at Virginia tech, then went on to expand his capabilities, working with phosphates in Florida, syenites in Arkansas, and clay minerals for ceramics in PA.

By the time he became a professor at Troy University in Alabama, he was widely experienced in laboratory and fieldwork, and he settled in to use both in support of micromounters. Bumpi found the world of microminerals in the nineteen sixties, and never left. He would identify specimens for micromounters, bring huge buckets of material to give away at micromount symposia, and hand out mounted, identified specimens of rare minerals to anyone at a microscope. He organized and led field trips to mines and quarries, travelled widely to give talks from Canada to California, and with an inventive mind, began to develop his own laboratory instrumentation at home, using spare and inexpensive parts.

He shared those developments widely, encouraging others to follow his lead. In particular, he delved deeply into the field of photomicrography, again experimenting with lenses, and producing better and better pictures that he shared with micromounters around the globe. A gregarious, cheerful, and friendly man, he loved to give talks and explain things.

When invited to speak at a club or symposium, he often declined honoraria or speaker's fees, and when finished with his invited presentation, would happily volunteer to deliver a second or third talk. If anyone asked permission to use Bumpi's photographs in illustrating his own talk, his invariable response was "Of course!" Dr. Henry (Bumpi) Barwood built an enviable reputation among micromounters over a fifty-year span. He has a secure place in the Micromounters' Hall of Fame.

Curiosity: The Life and Times of Dr. Henry L. Barwood

By Michael Pabst PhD, Treasurer

The title above comes from a talk given by Dr. Henry Barwood's son, Adam Barwood, that was one of the highlights of the recent Paul Desautels Micromount Conference in Baltimore. From childhood, Dr. Henry L. Barwood's nickname was "Bumpi". He was a professor of geology at Troy University in Alabama, and a pioneer of micro mineral photography. Dr. Barwood died unexpectedly on September 9, 2016. An article about Dr. Barwood appeared in the Tropolitan newspaper: http://tropnews.com/12827.

The talk described Dr. Barwood's life, and provided a preview of a new mineral that was named for Dr. Barwood: Barwoodite. Barwoodite comes from the Big Rock Quarry (aka 3M Quarry) near Little Rock, AK. It is a manganese niobium silicate, with the following formula: $Mn^{2+}_6Nb^{5+}(SiO_4)_2O_3(OH)_3$. It has recently been entered into Mindat: https://www.mindat.org/min-52148.html. Barwoodite looks like Pyrophanite $Mn^{2+}TiO_3$ at first glance (for pyrophanite see www.mindat.org/min-3322.html), but Dr. Barwood saw that it looked different, and sent samples for analysis to Anthony Kampf of Natural History Museum of Los Angeles. Barwoodite is associated with Pyrophanite, and with a similar reddish mineral, Eggletonite $(Na,K,Ca)_2(Mn,Fe)_8(Si,Al)_{12}O_{29}(OH)_7\cdot 11H_2O$, see www.mindat.org/min-1356.html. Barwoodite is an analog of Franciscanite $Mn^{2+}_6(V^{5+},\square)(SiO_4)_2(O,OH)_6$, see www.mindat.org/min-1590.html and Welinite $Mn^{2+}_6(W^{6+},Mg)_2(SiO_4)_2(O,OH)_6$, see www.mindat.org/min-4264.html. Barwoodite forms thin reddish brown hexagonal plates (it belongs to the trigonal crystal system). The picture below shows one of the finest known examples of Barwoodite.

Symposium photos courtesy of Kathy Hrechka

Photo on left
Barwoodite, 3M Mine, Little Rock, Arkansas.
Photo reproduced from the Tropolitan newspaper article cited above.

Dr. Michael Pabst presented "British Minerals: Close-up photos from the Natural History Museum in London

By Michael Pabst PhD

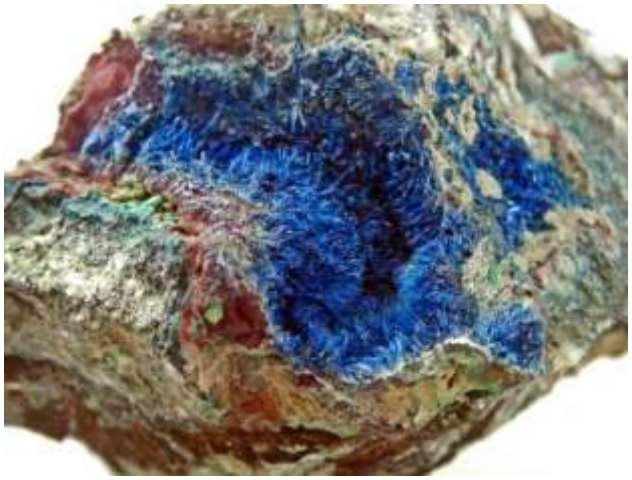
At the recent Paul Desautels Micromount Symposium in Baltimore, I presented a program titled: "British Minerals: A Close-up Look at Minerals in the Natural History Museum London". I recounted my attempts, with four cameras and an assistant, to photograph some of the mineral specimens on display that are harder for a casual viewer to see clearly and to appreciate. Of course, for the casual visitor, there are many impressive specimens that can be easily viewed. But for a connoisseur of the minerals of Britain, many species are too small to see properly as they sit in their cases.

The vast and historic mineral display is preserved as it was in 1881. Overall, the old oak cases work well, keeping out dust, and allowing a close look at the minerals. But for the smaller minerals, a close-up photo, with a little magic from Photoshop, allows a much better view of these splendid specimens. Here are a few of my enhanced photos of British minerals from the museum. I am unable to provide a reliable estimate of the field-of-view of these photos, which would require another visit to the museum, perhaps sponsored by MNCA? However, I would describe these specimens below as small cabinet or miniatures.

Imagine! What are Karen and Michael plotting?

Liroconite from Wheal Gorland in Cornwall

Gold from Hope's Nose, Torquay, Devon



Connellite from Wheal Muttral, Gwennap, Cornwall

Greenockite, Bishopton, Strathclyde, Scotland

Turquoise, West Phoenix Mine, Linkinhorne, Cornwall

In my talk, I added some close-up photos of British minerals from my micromount collection. This allowed a level of detail not possible with photos taken in the museum. For example:

Pharmacosiderite from Wheal Gorland, St. Day, Cornwall. FOV 2 mm.

Overall, I was pleased at how well the enhanced photos allowed me to see, and to share, the details of the minerals on display at the Natural History Museum. End.

GeoWord of the Day and its definition:

vertumnite (ver-tum'-nite) A colorless monoclinic mineral related to strätlingite and hexagonal hydrated gehlenite, but with a Si:Al ratio double that of those phases: $Ca_4Al_4Si_4O_6(OH)_{24}•3H_2O$.

sérandite (ser-and'-ite) A rose-red triclinic mineral of the *wollastonite* group: $Na(Mn^{2+},Ca)_2Si_3O_8(OH)$. Cf: *pectolite.*

All terms and definitions come from the

Glossary of Geology, 5th Edition Revised.

GeoWord of the Day is brought to you by: Rayfract! Check them out at rayfract.com.

American Federation of Mineralogical Societies

(AFMS)
www.amfed.org

Eastern Federation of Mineralogical Societies

(EFMLS)
www.amfed.org/efmls

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, 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.

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 those 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.

Communication and Involvement
Are the Keys to Our Success!

Geology Events:

November

1: MSDC Meeting Natural History Museum7:45pm
8: **GLMSMC Meeting**
11-12: **Fall New York City Gem & Mineral Show** hosted by the New York Mineralogical Club. Watson Hotel (formerly Holiday Inn at 57th St), 440 West 57th Street, New York, NY. Contact: Tony Nikischer: www.excaliburmineral.com
11-13: **West Springfield, MA** Annual East Coast Gem & Mineral Show
15: MNCA Meeting – early due to Thanksgiving Long Branch Nature Center in Arlington, VA 7:45 – 10 pm
13: NVMC Meeting Long Branch Nature Center in Arlington, VA 7:45 – 10 pm
18-19: 26th Annual Gem, Mineral & Fossil Show sponsored by the Northern Virginia Mineral Club. NEW LOCATION: George Mason University Dewberry Hall, Johnson Center, Braddock Rd & Rt.123; Fairfax, VA. Contact: www.novamineralclub.org

December

Please join us celebrate! Dec 9

75/50 MSDC/MNCA Anniversary

6-9 PM at the Holiday Inn Carlyle
2460 Eisenhower Ave, Alexandria

Dr. Jeff Post of the Smithsonian will be our featured speaker talking about the relationship of the Smithsonian with our clubs, and on the Collection at the Natural History Museum. Tom Tucker will reflect on some of the early days of MSDC. MNCA will also have a brief presentation including legacy club members, with gratitude to the Smithsonian since 1967.

The $30. dinner will be a plated choice of three options. Free parking. Hotel room rate for out of town guests $99. Ticket details soon.

Atlantic Micromounters' Conference
April 6-7, 2018

Featured speaker; Herwig Pelckmans from Antwerp, Belgium

Herwig Pelckmans was born in the summer of '62 and grew up on the outskirts of Antwerp (not Antwerp, New York, but Antwerp in Belgium). When he was 10, his parents gave him a comic book, on the evolution of life on earth. One section dealt with paleontologists finding dinosaur remains in Mongolia. It did not take long for Herwig to find large bones and teeth himself. The fact that they later turned out to be whale bones and shark teeth, instead of dinosaur fossils, did not really turn him down; the collecting bug had already taken over.

Ever since, his travels and collecting trips have brought him and his family all over Europe and the United States, and even to some countries in Africa and Asia. Besides, he loves to write mineralogical articles and give talks for mineral clubs. Since last year, he is the president of the "MKA" (= the Mineralogical Society of Antwerp; one of the most vivid mineral clubs in the world). Herwig is also promoting the use of the polarizing microscope and the spindle stage as inexpensive and reliable tools for mineral collectors who want to identify their unknowns in a scientific way.

He retired from his job as an officer and a database administrator for the Belgian Army in 2013 and soon realized life is even more hectic when you are retired. He lives with his loving wife and three kids in the small town of Hasselt in Belgium.

Programs: 1. The Many Faces of Fluorite 2. Belgium and Mineralogy 3. Schoep, from Fred Flintstone to Bob the Builder

Location: Holiday Inn, Richmond Hwy, Alexandria, VA (same location as last year)

Micromineralogists of the National Capital Area
Meeting: The 4th Wed. of each month 7:30 -10 p.m.
Long Branch Nature Center, (Except Easter & Dec.)
625 S. Carlin Springs Road, Arlington VA 22204

MNCA Purpose: To promote, educate and encourage interest in geology, mineralogy, and related sciences.

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Vice Pres: David Fryauff, fryauffd@yahoo.com
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Conference: Kathy Hrechka, kshrechka@msn.com

The society is a member of:
* Eastern Federation of Mineralogical and Lapidary Societies (EFMLS) www.amfed.org/efmls
*American Federation of Mineralogical Societies (AFMS) www.amfed.org Affiliation

Dues: MNCA Membership Dues for 2016
$15 (single) or $20 (family)
Payable to MNCA - Michael Pabst, Treasurer
270 Rachel Drive
Penn Laird, VA 22846

Editor's Note: By Kathy Hrechka

Send your articles and photos to your editor.
Club Article Deadline is 5th of each month.
***The Mineral Mite* will be emailed on 10th.**
No newsletter July/August

EFMLS Editor's Trophy Award
First Place 2016 - Small Bulletins

* David Fryauff
* Dave MacLean
*Bob Cooke
* Michael Pabst
* Don McAlarnen
* Mark Kucera
*Barrbara Sky
* Scott Duresky
*Robert Rothenberg *Mike Seeds