



MNCA Website dcmicrominerals.org
The Mineral Mite



Vol. 48 – No. 9

Washington D.C. – A Journal for Micromineralogists November 2015

November 18 Time: 7:30 p.m. – 10 p.m.

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

**Program: Sugar Grove, Pendleton Co.,
West Virginia - Workshop**

By David Fryauff, Vice President



We will devote the bulk of our meeting searching through several kg of rough Sugar Grove basalt that we acquired from the freebie tables at the October, 2015 Desautels Conference . MNCA members are asked to bring in any additional rough Sugar Grove basalt they may have to share, as well as cracker tools and safety equipment. Please bring in and show off your personal best Sugar Grove micromounts and bring along your extra Sugar Grove specimens for trading. Sugar Grove history on page 3.

Photo of the Month



President's Message:

By: Dave MacLean



We have an opportunity to share our expertise in micromineralogy at the NVMC show Sat-Sun 21-22 November at GMU. Please sign up to demo micromounting.

We need a nominating committee to present candidates for 2016 officers. The list needs to be published in the December Mineral Mite.

At the October 2015 Baltimore Micro Conference Lou D'Alonzo gave us vignettes about "Micromounters I have Known". I did not recognize many of the names but I appreciated their contributions to micromineralogy. A common denominator was not only in collecting obtaining, identifying, preparing a large collection but sharing their expertise and knowledge with others both inside and outside of micromineralogy. There were some familiar names such as Neal Yedlin, Paul Seel, Paul Desautels, Lou Perloff, who showed us slides of 100+ micros on Saturday night at the University of Maryland, Herb Corbett, Randy Rothschild, and Bob Rosenberg. I am amazed at their accomplishments. BMS conference article pp 6-7.

Photo of the Month Aquamarine with tantalite inclusions on albite, Dassu, Haramosh Range, G.B. Pakistan.
Scott Braley specimen.

Micromineralogists of the National Capital Area, Inc.

Previous Meeting Minutes: 10/28/15

By: Dave MacLean, acting Secretary

President called the meeting to order at 19:45 at the Long Branch Nature Center, Arlington, VA. The minutes of the 23 September were accepted as published in the Mineral Mite.

There was no treasurer's report.

The president said 2016 dues (\$15.00 individual and \$20.00 family) are due. Dues may be paid at the next meetings or sent to the treasurer Michael Pabst, 270 Rachel Drive, Penn Laird, VA 22846.

The president asked for volunteers for the nominating committee. There were none. One person suggested nominating the incumbent president, vice president, secretary and treasurer. Per the bylaws a slate of candidates for 2016 must be announced at the November meeting and elected at the December meeting. The president circulated a sign-up sheet for demonstrating micromineralogy at the NVMC show Sat-Sun 21-22 November in the Hub at George Mason University.

MNCA will meet Wednesday 18 November to avoid meeting the evening before Thanksgiving. The date for the NVMC-MNCA Christmas party is Monday 14 December. Several persons said that the Gem Lapidary Mineralogical Society of Montgomery County GLMSMC Christmas party is that evening. GLMSMC invited a DC club. The president will contact Wayne Sukow president of NVMC about the conflict and invite NVMC to meet at the Long Branch Nature Center on Wednesday 16 December. The nature center is available evening 16 December.



Cynthia Payne, a founding member in 1967, celebrated her 95th birthday on October 21. Her room at the assisted living home was decorated with many birthday cards and cupcakes

Happy 95th Birthday Cynthia!



Cynthia welcomed visitors on her special day. If you forgot to send her a birthday card, mail it to:

Cynthia Payne
at Brighton Gardens #321
5550 Tuckerman Lane
North Bethesda, MD 20852

Photo includes Irene, and Cynthia's niece, Leslie.

The Midatlantic Micromounters Conference is scheduled for Friday evening and Saturday all day 11-12 March 2016 at the Hillside Marriott in Alexandria. The conference chairperson is looking for speakers including a person from the Smithsonian. One person said that the Bucks County PA club micro conference is always on a Saturday on the second weekend in March. That conference might take away New Jersey attendees from the MNCA conference. Alternative dates include, for example, Friday evening and Saturday all day 3-4 March depending on availability and cost of the hotel.

Minutes continued

The members surmised that the 3-4 March Delaware show would not take away attendees at the conference. The conference chairperson will consider alternative dates.

Announcements :Scott Braley invited members to an open house at his home probably in early December. The Friends of Mineralogy will hold a conference Saturday-Sunday 7-8 November Franklin and Marshall College in Lancaster, PA, website <http://www.raslot.com/FM>.

The November NoVa mini Maker Faire will be South Lakes High School/Hughes HS, Reston, VA Sunday 13 March 2016 <http://makerfaire.com/cfm>. Proposals are due 17 January 2016 contact@makerfairenova.com. Hobbyists of all kinds are invited to exhibit or demonstrate. MNCA may have a demo table there. By motion duly made and seconded the meeting was adjourned at 8:29 p.m.

Previous Program Reviewed 10/28/15

By: Dave MacLean, acting Secretary
The program included a short video on 20 carbonate minerals photographed and narrated by Jeffrey Scovil. A workshop followed the program.



Tantalite inclusions from the "Photo of Month" Aquamarine with tantalite inclusions on albite, Dassu, Haramosh Range, G.B. Pakistan.

Scott Braley specimen.

Sugar Grove, WV

Sugar Grove, in Pendleton, West Virginia is a small village in eastern West Virginia, about 5 miles west of the Virginia state border, almost at a latitude even with Mount Sidney, VA. The area is heavily forested and the roads are quiet, two-lane blacktop. Roughly 5 miles south of the village of Sugar Grove, on county road #21 is an exposure of igneous amygdaloidal basalt that forms a dike, or sill pushing up through much older Devonian age sedimentary rock.

This isolated basalt dike intruded into the Devonian rock during the Eocene period, 45 MYA, according to the Mindat page for this location. There are apparently few other "recent" igneous basalt intrusions in this part of eastern West Virginia & western Virginia but this is one of the few locations where gas bubbles formed numerous vents or pockets called amygdaloids. Meteoric water seeped down into these amygdaloids, taking with it dissolved silica, aluminum, sodium, and calcium from the overlying rock, and over time, under conditions of moderate temperature and pressure, a suite of diverse zeolite minerals were formed. Mindat lists 14 valid mineral species occurring in the Sugar Grove amygdaloids, of which the zeolite group silicates Analcime, Chabazite, Harmotome, Mesolite, Natrolite, and Thomsonite are dominant.

Other silicate minerals positively identified from these basalt vugs include Augite, Gypsum, Nontronite, and Quartz. The carbonate minerals Calcite, Aragonite, and Barite also occur. Pyrite is the only reported sulfide mineral occurring in the Sugar Grove basalt, and it is notable here for its filiform shapes, rods, bars, and sharp angles. This variation from the usual crystalline forms of Pyrite may be due to the role of certain dissolved zeolite minerals acting as catalysts during crystal formation. Mindat gives a qualified listing to several other additional mineral species: 'Albite-Anorthite series', 'Erionite', 'Phillipsite', 'Biotite', 'chlorite group', and 'smectite group'. The vugs and vents in this basalt seldom exceed an inch across, making all of these crystals quite small. However if the vugs were bigger, this pretty place would have lost its charm, a long time ago. Sugar Grove is clearly an interesting and important site that continues to captivate local micromineralogists with its suite of well-formed crystallized minerals .

Brackebuschite

By Michael Pabst

Last month we explored two lead copper vanadates: Mottramite, $\text{PbCu}(\text{VO}_4)(\text{OH})$, and Descloizite $\text{Pb}(\text{Zn,Cu})(\text{VO}_4)(\text{OH})$. If Cu^{2+} or Zn^{2+} fit in the structure for lead vanadates, then we should expect that other cations like Mn^{2+} or Mn^{3+} or Fe^{3+} might also fit. The table below gives the names, formulas, and links to a good picture in Mindat for three colorful red manganese or iron vanadates:



Pyrobelonite $\text{PbMn}^{2+}(\text{VO}_4)(\text{OH})$

www.mindat.org/photo-635538.html

Brackebuschite $\text{Pb}_2\text{Mn}^{3+}(\text{VO}_4)_2(\text{OH})$

www.mindat.org/photo-237966.html

Calderónite $\text{Pb}_2\text{Fe}^{3+}(\text{VO}_4)_2(\text{OH})$

www.mindat.org/photo-163938.html

(You should take the time to click on the Mindat photos referenced in this article, because they are awesome! Some are by Stephan Wolfsried and Christian Rewitzer, who are great photographers.)

Of the three closely related minerals in the table above, I have one in my collection that I can photograph, thanks to Tony Nikischer of Excalibur Minerals in Charlottesville. My specimen below shows Brackebuschite on Descloizite from the Venus Mine, Venus Pb-Zn deposit, El Guaico district, Sierra de Córdoba, Punilla Department, Córdoba, Argentina.

The combination of orange-red from V^{5+} and purple-red from Mn^{3+} gives the dark red-brown color of the Brackebuschite. Brackebuschite is monoclinic prismatic ($2/m$), with $\beta = 111.5^\circ$. The specimen shows the usual crystal form from this locality, which is acicular and lathlike. The Descloizite on this specimen is also well-crystallized. The light color of the Descloizite suggests that it is low in Cu^{2+} .



Two photomicrographs of one specimen of **Brackebuschite** (dark brown blades) on **Descloizite** (orange) from the Venus Mine, El Guaico district, Córdoba, Argentina. Field of view 2 mm for both.



Brackebuschite was named for Ludwig Brackebusch (1849-1906), a German mineralogist and geologist, who was Professor of Mineralogy at the University of Córdoba in Argentina from 1875 to 1888. Brackebuschite forms a series with Calderónite, based on their similar crystal class (they are isostructural), and the ability of Fe^{3+} to substitute for Mn^{3+} . See: González del Tánago J, La Iglesia Á, Rius J, Fernández Santín S (2003) Calderónite, a new lead-iron-vanadate of the brackebuschite group, *American Mineralogist*, 88, 1703-1708.

Continued on page 5

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I cannot resist one last photomicrograph of some other Descloizite crystals on backside of the Brackebuschite specimen. After all, there was only one specimen of Descloizite in the Descloizite article from last month, so I am compensating here.



Descloizite crystals from the **Brackebuschite** specimen. Field of view 2 mm

Although Brackebuschite might not be the most photogenic of the vanadates, it is at the head of the Brackebuschite Group of minerals, which includes, besides Brackebuschite and Calderónite, the following rather pretty minerals:

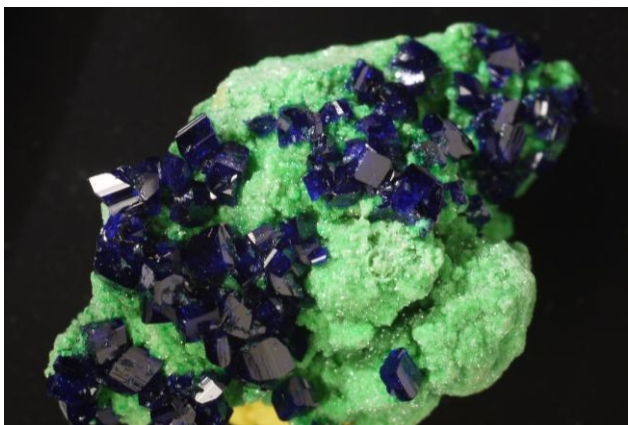
Arsenbrackebuschite $\text{Pb}_2\text{Fe}^{3+}(\text{AsO}_4)_2(\text{OH})$
www.mindat.org/photo-400398.html

Arsentsumbite with Azurite
 $\text{Pb}_2\text{Cu}(\text{AsO}_4)(\text{SO}_4)(\text{OH})$
www.mindat.org/photo-273860.html

Tsumebite $\text{Pb}_2\text{Cu}(\text{PO}_4)(\text{SO}_4)(\text{OH})$
www.mindat.org/photo-499713.html

The Mindat photo of Arsentsumbite with Azurite, cited above, is similar to my specimen below.

Azurite (blue) on Arsentsumbite from Tsumeb. Fov 25 mm.



My specimen of Azurite with either Arsentsumbite or Tsumebite. Arsentsumbite is more common at Tsumeb

And there are other photogenic minerals with chemical compositions related to Brackebuschite, like:

Ferrilotharmeyerite $\text{Ca}(\text{Fe}^{3+}, \text{Zn})(\text{AsO}_4)_2(\text{OH})_2$
www.mindat.org/photo-671584.html

Tsumcorite $\text{PbZn}_2(\text{AsO}_4)_2 \cdot 2\text{H}_2\text{O}$
www.mindat.org/photo-339164.html

Tsumcorite (w Zincolivenite, $\text{CuZn}(\text{AsO}_4)(\text{OH})$)
www.mindat.org/photo-599669.html

The Mindat photo of Tsumcorite with Zincolivenite in Mindat is similar to my specimen below:



Tsumcorite (yellow) with **Cuprian Adamite** (green) from Tsumeb. Field of view 2 mm.

My specimen was labeled “Cuproadamite”, but it might be Zincolivenite, for the green mineral. The yellow mineral is either Arsenbrackebuschite, Ferrilotharmeyerite, or Tsumcorite. I am guessing Tsumcorite, because the yellow mineral shows good small crystals, not just powder or crust. I have strayed a bit from the vanadate theme, but who can resist an occasional look at the treasures of Tsumeb?

Photomicrography by Michael Pabst

**Baltimore Mineral Symposium 2015:
Lou D'Alonzo and Dr. Donald Howard
Induction into the Micromounter's Hall
of Fame on October 11, 2015**

By Dave MacLean



Lou D'Alonzo and Dr. Don Howard, were inducted into the Micromounter's Hall of Fame at the Baltimore Mineral Society BMS 59th Annual Paul Desautels Micromount Symposium at the Friends School Baltimore, MD on 9-11 October 2015. The master of ceremonies, Quintin Wight said that Hall of Fame Members are recognized for their contributions to the field of micromounting in many ways. Lou's plaque reads...

Louis (Lou) D'Alonzo began his career as a micromounter at a time when the "greats" of the hobby, such as Neal Yedlin, Paul Seel, and Lou Perloff were still with us, and became his friends. He was among those in the small group that gathered for the first micromount symposium in Paul Desautels' Laboratory in Towson MD in the 1950's, and has attended every session since. In the intervening 50-odd years Lou's contributions to micromounting have taken him outside the usual pattern for those elected to the Micromounters' Hall of Fame. While most inductees have worked on lectures or articles directed at established micromounters, Lou has concentrated on introducing others to the hobby. He has held micromounting classes for many years, often together with the late Will Shulman, another Hall of Fame member, and still spends a great deal of time visiting schools and groups to lecture to children and show them the wonders seen through the microscope.

In his micromounting activities Lou has become known for his generous attitude towards his fellows, and willingness to help and share whenever possible. His collection includes many samples of the work and collecting activity of those who have gone before, and Lou does not hesitate to share them with others where he sees the need. With his depth of experience in the hobby, years of working to bring micromounting to the attention of other collectors and the public, and proven generosity, LouD'Alonzo has earned his place in the Micromounters' Hall of Fame."



Photo: L-R Louis D'Alonzo, MC Dr. Quintin Wight, and Dr. Donald Howard

Lou D'Alonzo talked about "Micromounters I have Known". He described vignettes about the lives and accomplishments of micromounters from the 1930's to near the present. Some familiar names include Paul Desautels, former curator of mineralogy of the Smithsonian, Lou Perloff with a collection of 27,000 micros, who in the 1980's showed micro slides of 100+ micros on Saturday evenings of the Midatlantic Micromounters Conference, Neal Yedlin, Herb Corbett, Paul Seel, authority on diamonds and quartz, Randy Rothschild, Bill Yost, maker of the Yost trimmer, Bill Kasminski, maker of cabinets for micros, and John Ebner, collector of antique micros.

Lou D'alonzo spoke at schools. He would bring two bags of euxelite and rock candy. He asked the students to write essays, give first, second and third prizes and a pyrite to every essay writer. The teachers told Lou that when he came the students could touch minerals and fossils including a dinosaur leg.

Dr. Donald Howard's plaque reads.."Although he has been collecting minerals since the age of nine, Dr. Donald Howard's interest in micromounting did not develop until 1974, while he was teaching physics at Portland State University in Oregon. He joined the Northwest Micromineral Study Group (NWMMSG) in 1975, and became quickly immersed in their administration, serving as president for sixteen years and as editor of their newsletter, the *Microprobe*, from 1985 until the present.

Louis D'Alonzo and Dr. Donald Howard

As editor, he transformed the *Microprobe* into a publication that promoted educational articles and original research on micromounting and mineralogy (particularly the mineralogy of Pacific Northwest micromineral occurrences). His access to analytical equipment at the University has enabled him to investigate many minerals, particularly the zeolites of the Pacific Northwest, and he has published extensively on his results. In particular, he was instrumental in the discovery and description of the new mineral boggsite in 1990. He also worked on the description of tschernichite, published in 1991, and has authored a number of other formal mineralogy research publications. In recent years has focused his attention on studies of crystal habit and twinning. A member also of the Northern California Mineralogical Association (NCMA), Dr. Howard has spoken many times at their symposia, and has undertaken a regular yearly lecture as one of the features of the event. Dr. Howard has long served the micromineral collecting community as educator, researcher, and mentor, and his distinguished service has made him a welcome member of the Micromounters' Hall of Fame."

Dr. Donald Howard talked about "Filiform Crystals and Catalysis" Some minerals almost always those which form cubic, tetragonal, or hexagonal crystals are sometimes found as filiform crystals. Filiform crystals are crystals which grow in only one direction. Examples include cubic pyrite, cuprite, chalcotrichite, copper and hexagonal ilmenite, tridymite, cristobalite, enstatite, pseudobrookite, zircon, and titanite. There are examples of filiform minerals which grew in one direction or showed a 45 or 90 degree change in direction of growth. Some filiform mineral show a "screw dislocation"

Some of the MNCA members found filiform pyrite with 90 degree turns in the filiform crystal in vugs in the basalt intrusion at Sugar Grove WV. Zeolites are common in this basalt. How are filiform minerals formed? Experiments with growing Cadmium Sulfide CdS crystals on graphite from CdS vapor suggest a mechanism. CdS crystals formed on only graphite are blocky cubes. When a small amount of gold is present, the CdS crystals are filiform. The Mechanism may be that a tiny drop of molten gold

forms on the tip of the CdS crystal. The gold catalyzes the preferential addition of CdS to only the tip of the crystal. Growth of filiform minerals with 45 and 90 degree turns in crystal growth suggest that the catalyst on the tip of the crystal may sit 45 or 90 degrees to its axis. How are filiform minerals formed? Many filiform minerals are found in basalt in company with zeolites such as heulandite. Dr. Howard said that filiform crystal growth from a bulk solution is unlikely. Pyrite on heulandite in the talus from the basalt cliffs on the Clackamas River, Oregon shows filiform growth with 45 degree angles. Zeolites have a cage structure which can trap solutions. In this case the heulandite traps a solution with Fe+2 in it.

The small heulandite crystal sits on top of the pyrite and feeds the ions to the pyrite on which it sits. If the heulandite crystal moves off center from the axis of the pyrite filiform the direction of growth changes. Filiform crystals from the Eiffel region of Germany and millerite from Halls Gap, KY are helices which may arise from the movement of the zeolite "catalyst" around the tip of the forming crystal. Some minerals such as artificial silicon nitride Si₃N₄ with a Fe catalyst, and boron carbide B₄C artificial, tubalite, boulangerite, and fluorite form hollow nanotubes. Some oxides of manganese form tubes of linked octahedral of oxide ions with manganese +4 or +3 in the center which often contain barium, lead, potassium, sodium or water. It appears that the "catalyst" catalyzing the formation of a specific filiform mineral is no longer present and not known.

The 2016 BMS HOF inductees include, Randy Rothschild (deceased) and Bob Rothenberg.



Micromineralogists of the National Capital Area, Inc.



American Federation of
Mineralogical Societies

AFMS)
www.amfed.org



Eastern Federation of
Mineralogical and
Lapidary Societies

(EFMLS)
www.amfed.org/efmls

**Communication and Involvement
Are the Keys to Our Success!**



Who Is This Guy? by Matt Charsky, President If you have attended one of the recent AFMS Conventions, you might have seen me in several Vice-President positions and in the President-Elect position. If not, you might be wondering who is the new AFMS President? Professionally, I am a geologist with a degree from the University of Rochester (NY). I did my field work at Boston University (MA). Right out of college, I worked for an oil service company, Core Laboratory, and traveled throughout the Gulf Coast and offshore. My job was to run a field lab during oil and gas exploration. Next, I joined the Federal Government and was employed by the Federal Energy Regulatory Commission implementing the Natural Gas Policy Act. I spent the remaining part of my Federal career with the U.S. Environmental Protection Agency implementing the Superfund Program. My focus was to protect human health and the environment, oversee the cleanup of groundwater resources, and draft policy.

http://www.amfed.org/news/n2015_11.pdf

Geology Events: November:

15: NVMC Meeting 7:45 p.m. Long Branch Nature Center, Arlington, VA 22206

18: MNCA Meeting - Sugar Grove, WV
7:45 p.m. Long Branch Nature Center, Arlington, VA 22206

21-22: NVMC Show George Mason University
Micromounters needed at Micromounting Table
24th Annual Gem, Mineral, and Fossil Show; cosponsors: Northern Virginia Mineral Club & George Mason University's Department of Atmospheric, Oceanic, and Earth Sciences; George Mason University, The Hub Ball-room, Rte 123 & Braddock Rd, Fairfax, VA; Sat 10-6, Sun 10-4; adults \$6, seniors \$4, teens (13-17) \$3, 12 and under free, Scouts in uniform & students w/ID free.

February:

13: Dr. Lance Kearns has again invited MNCA along with MSDC and NVMC, to visit the mineralogy labs at James Madison University, Saturday, February 13, 2016 - that's the Saturday of Lincoln's Birthday (President's Day) weekend. Details will be as usual. It's quite possible that this will be our last invitation to JMU, as Lance will be retiring this year. Hope his replacement on the faculty is as enthusiastic about mineral specimens as he is. I'll get some details for a note in the Mineral-Mite, in January. Tom Tucker

March:

11-12: Atlantic Micromounters' Conference
SpringHill Suites Alexandria, VA 6065 Richmond Highway Alexandria VA 22303. Speaker TBD

Micromineralogists of the National Capital Area, Inc.

Smithsonian Museum of Natural History: Sant Director, Dr. Kirk Johnson airs PBS special program on November 18



The director of the Natural History Museum, Dr. Kirk Johnson, recently completed filming a 3-part series about the history of North America – geology, paleontology and the age of humans. It's called Making North America, and it should be available to watch whenever over the internet.

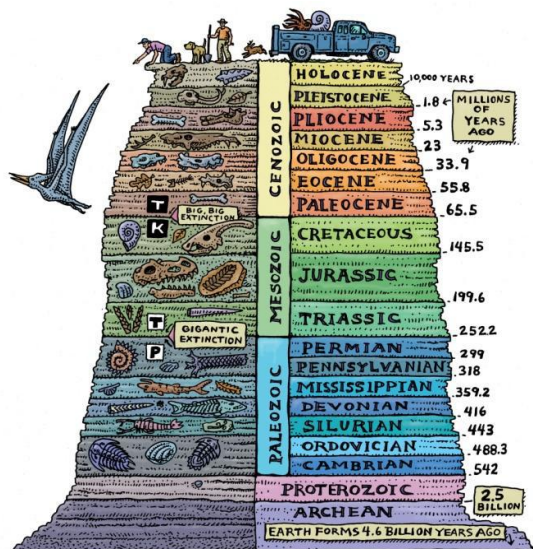
<http://www.pbs.org/wgbh/nova/earth/making-north-america.html>



GeoWord of the Day and its definition:

sand snow Cohesionless dry snow that has fallen at such cold temperatures (usually below -25°C) that intergranular adhesion is inhibited and surface friction is high. Its surface has the consistency of dry sand. Cf: *powder snow*.

All terms and definitions come from the [Glossary of Geology, 5th Edition Revised](#).



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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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

AFMS Editor's Award
First Place 2011 - Mini Bulletins

Member inputs:

- *Dave MacLean
- *Michael Pabst
- *David Fryauff

