



MNCA Website dcmicrominerals.org
The Mineral Mite



Vol. 48 – No. 6

Washington D.C. – A Journal for Micromineralogists

June 2015

June 24 Time: 7:30 p.m. – 10 p.m.

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

Program: Micromount Workshop

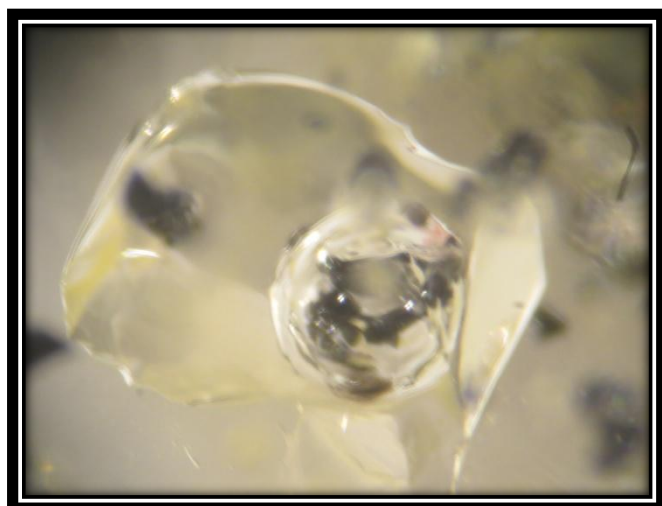
By David Fryauff, Vice President

We will spend the entire time studying, evaluating, and purchasing specimens from the remaining Cynthia Payne micromount collection. I'm not sure how many micromounts remain after the collection was taken up to the Rochester Mineralogical Symposium, but I believe there are still quite a few, along with additional boxes & egg crates of rough material brought to last month's meeting that several of us have not had a chance to check out.



I will be bringing several boxes of giveaway rocks from Tip Top Mine (SD), Maid of Sunshine Mine (AZ), Mineral Hill Mine (MD).

Photo of the Month



President's Message:

By: Dave MacLean

The first things I think about in summer today are travel, rock hunting, and hungry school children.



First I am aware that for many poor school children breakfast and lunch at school are the big meals of the day. On weekends and summer they too often do not get much to eat. The summer feeding programs help. the food banks help, but we need to do more including yours truly.

Hopefully we are aware of the safety rules; do not climb walls, go out with a buddy, stay wake while driving, avoid ticks and Lyme disease, sunstroke, heat exhaustion, dehydration, lightning etc. No need to rehash safety again, but I would love to see all of us whole in September. ENJOY the summer

We meet 1945 Wednesday 24 June. and again 23 September at the Long Branch Nature Center. I look forward to seeing in September all the interesting minerals from the summer trips

Herkimer Quartz showing a moving bubble inclusion, along with carbon inclusions. Self collected by Scott Braley, Herkimer, New York
Photomicrographer, Kathy Hrechka

Feature article on page 4-5 by Scott Braley

Previous Meeting Minutes: 5/27/15

By: George Reimherr, Secretary

President Dave MacLean opened the meeting at 7:59 p.m. Eight members and one guest were present. The minutes for the previous month's meeting were approved, as published in the Mineral Mite. The treasurer was not present at the meeting; however, the club president had a copy of the treasurer's report, which he read aloud to the members.



Old business -- Kathy Hrechka, Conference Chair, presented the final income/expense report for the recently concluded Atlantic Micromounters Conference. There were about 30 attendees, and the club made a profit of \$699.68. Kathy is continuing discussions with the hotel management, to pin down their rates for the 2016 conference. The members mentioned several names as possible speakers for the 2016 conference.

New business -- There are items left from the Cynthia Payne collection to sell off -- including several hundred micromount specimens, a micromount cabinet (asking \$500), and a microscope (asking \$200). The club members considered whether to purchase the microscope for club use, but there are problems, such as where should it be stored, and who is responsible for it. The decision to purchase or not, was postponed until the next meeting.

Announcement -- The mineral show at the Ruhl Armory will occur on Saturday, May 30, 2015. Admission and parking are free. The business meeting concluded at 8:39 p.m.

Previous Program Reviewed 5/27/15

By: George Reimherr, Secretary

As scheduled, Vice president David Fryauff discussed the Black Hills region of South Dakota, including its history and geography. The particular interest there, is the Tip Top Mine. Pictures of many phosphate minerals found in that mine were shown.

The Tip Top Mine, Custer Co., Black Hills, South Dakota

By David Fryauff from program
Historical Significance

The Black Hills: A small (5000 mi²) isolated mountain range rising out of the Great Plains of South Dakota & Wyoming.

Native American transition: Arikara (1500 AD), followed by Cheyenne, Crow, Kiowa, Pawnee, finally taken over in 1776 by the conquering Lakota (Sioux). Black Hills considered the sacred center of the world for Cheyenne & Lakota.

The name "Black Hills" is a translation of Lakota name "black mountains" because the hills are heavily forested with dark green conifers (Ponderosa Pine & Black Spruce dominant).

Laramie Treaty of 1868 exempted the Black Hills from white settlement "forever"

George Armstrong Custer: 1874 military expedition, discovery & announcement of gold resulted in a gold rush, violation of the treaty, a brutal Indian war & forced movement of the Lakota to reservation lands. It was Ruled that Black Hills were illegally taken & awarded remuneration of 106M\$ to the Lakota nation. Lakota-Cheyenne-Arapaho confederation fought against the illegal land grab and against resettlement. The Sioux nation has refused the money and want the land returned (the award is held as a Federal interest accruing account and currently exceeds 780M\$).

Originally staked as a tin prospect in the 1880s.

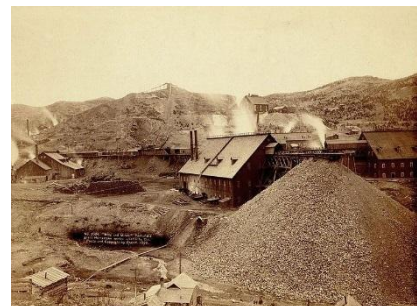
*Restaked in 1925 as a triphylite (Li) mine.

*Worked from 1934-1940s as a Feldspar mine.

*Leased & mined intermittently during 1950s - 1960s for feldspar, beryl (Be), montebasite (Li), spodumene (Li), and columbine-tantalite (Nb, Ta).

*During the 1980s operated for beryl, feldspar, mica, & columbite-tantalite.

*Currently owned by professional geologist, Tom Loomis (Dakota Matrix) & operated as a "specimen mine" for rare phosphate minerals.



Tiptop Mine by Custer, South Dakota

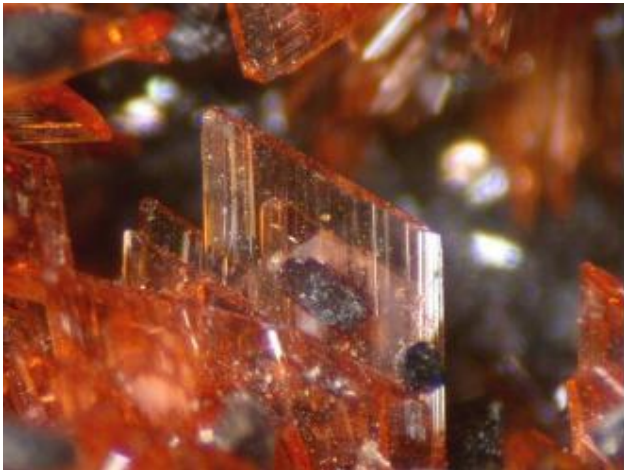
Microminerals



Tiptopite (1mm spray)



Fairfieldite (white plates)



Montgomeryite



Tiptopite



Jahnsite

Micro photos are taken from the internet.



**Englishite (white balls)
Montgomeryite (clear latts)
Roscherite (dark green)**

Crystal Grove Diamond Mine and Ace of Diamonds Mine, Herkimer, NY

By Scott Braley

For Memorial Day weekend, 2015, my friend Nicole and I decided we'd go to the Herkimer County region of upstate New York to do some digging. After poking around on the web, I decided to go with a day at Crystal Grove Diamond Mine and a day at the Ace of Diamonds Mine. More specifically, we decided to spring for a pocket at the Ace of Diamonds – prepaying to have the dirt overburden and the less-interesting layers of limestone removed for us, then using heavy equipment to expose a pocket.

On Friday the 22nd we got to Crystal Grove at about 9:30 AM, with good weather and only a few others in the digging area. Crystal Grove is hard work, the success we had was based on peeling back the silicated limestone along existing seams. I broke two chisels and a small sledgehammer in the process. Crystal Grove yields good crystals of Quartz, Dolomite, and some Calcite. It's hard to judge your own specimens, but in ~6 hours we got about 25 good loose quartz crystals (out of about 100 collected) and a half-dozen really nice matrix pieces (out of about 30 collected). Typically, I'll bring home anything that looks like it might be interesting, on the theory that I can clean it and trim it at home, then throw it out if it isn't worth keeping – it doesn't work the other way!

On Saturday we arrived at Ace of Diamonds around 9 AM. It was very crowded in the “regular” collecting area – since we had paid for a pocket we got the velvet rope VIP treatment! We ended up working a few hundred yards away, a bit further into the property. At the Ace of Diamonds, the current working zone cut into a hillside. The road is immediately next to the digging area and the road surface is actually at the level of the interesting pockets. The limestone has been cleared back about ten feet from the road, leaving a ledge about two feet tall. Once we arrived and set up, our guide began drilling into the ledge looking for a pocket in the limestone. The key indicator of a pocket is when the drill drops through the top of the pocket.

On only the second hole, our guide hit a pocket. He then used a hydraulic splitter (see fig. 1)) to crack the stone around the hole, then we peeled and pried away the “rubble” to expose the pocket (see fig. 2). The first pocket we opened was fairly small, about the size of a flattened football. The pocket was dry and dusty, and contained very clear quartz crystals, and a lot of pieces of Pyrobitumin (also called Anthraxolite). If I understand correctly, sometime after limestone formed, some petroleum moved through the formation, leaving a residue (a lot like bakelite). When the silica-rich fluid moved through, forming quartz crystals, it picked up the bits of the pyrobitumin as inclusions. All in all we pulled about 100 sizable crystals, including clusters from this pocket.

Since the first pocket was small, we got to open a second. This pocket was filled with an iron-rich clay and was very wet. It was also completely packed with crystals – I estimate upwards of 400 over half an inch long. Many excellent, large crystals; moving bubbles, pyrite and pyrobitumin inclusions, overgrowths of an earlier generation of quartz crystals; a treasure trove for both macro- and micro collectors. After cleaning out this pocket, we stopped for the day. Elapsed time: three hours(!).



Diamond Mines continued

Contrasting Crystal Grove against Ace of Diamonds specimens: Ace of Diamonds was almost exclusively loose specimens, I think the matrix is a bit more crumbly there. I did not see any calcite crystals at Ace of Diamonds, while Crystal Grove had nice, disc-shaped calcites up to about an inch. A lot more inclusions at Ace of Diamonds. Crystal Grove had some crystals (not the traditional Herkimer Diamond shape) with quartz-on-quartz overgrowths, that looked smoky but in fact a trapped residue of petroleum on the first-generation crystals. Dolomite at Crystal Grove was finer and either almost-black or very white; at Ace of Diamonds it was larger crystals and more tan/gray than white.

I can highly, highly recommend both locations for collecting, especially if you can swing a pocket at Ace of Diamonds.

Crystal Grove Diamond Mine & Campground, St. Johnsville, NY
crystalgrove.com/
Ace of Diamonds Mine and Campground, Middleville, NY
www.herkimerdiamonds.com/

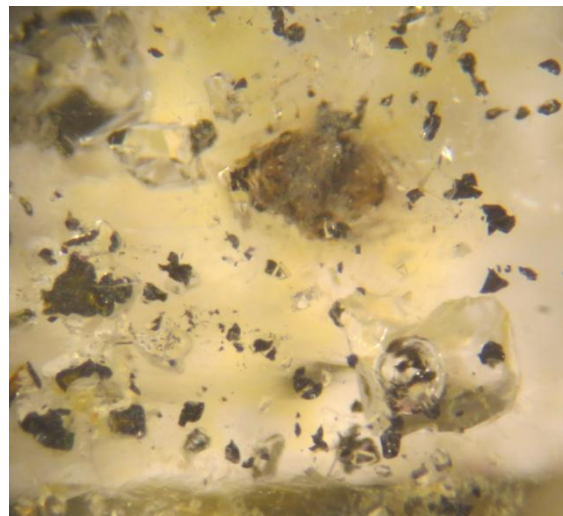


Scott Braley striking it rich!

Herkimer Quartz: Photomicrograph on right shows carbon inclusions along with a bubble (lower right) containing fluid. Magnified photo of bubble is on the front page of *The Mineral Mite*. Kathy Hrechka took the photo at our May meeting while Scott presented some of his Herkimer treasures.



Blasting preparations



Strange Vanadium Minerals - An Update

By Michael Pabst, Treasurer

In response to my last article titled "Strange Vanadium Minerals" in the May issue of *The Mineral Mite*, I received an email letter from our colleague, Patrick Haynes, with some interesting information about Volborthite and related minerals. (If you missed or misplaced this issue, you can fish it out of your email or download it at dcmicrominerals.org.) Here is Patrick's letter: "May 15 Hi Mike. I hope that all is well with you. You have been putting out some good articles in the Mineral Mite!



I have some comments regarding the current issue. The Former Monument #1 Mine (apparently the mining company opened a second mine/prospect so the old mine got "Former" added to it) was a great place to collect. There is both tangeite (formerly calcivolborthite) and volborthite there. The tangeite is soft and the crystals form irregular wafers and aggregates. It is a pleasing apple-green color, yellowish-green. The volborthite from there is not as common and its aggregates are a darker more olive-green color. It is also more durable than tangeite. I have sold many flats of this mine's tangeite. I had tests done. The images in your article appear to be tangeite. Your vesignieite from the UK is also suspect. Gilbert Gauthier supplied me with a specimen of vesignieite from Africa and it has very dark brown micro crystals associated with malachite. He explained to me that the vesignieite is always dark-colored, although he may have only seen the African material. I occasionally see images of Arizona tangeite labeled as volborthite. It is a very common mistake.

Best wishes, Patrick"

After lapping up Patrick's kind words, I decided to bring all my Volborthite specimens out into some indirect sunlight to compare colors. The first picture of Volborthite in my article (with FOV 3 mm), showing an apple green or yellow-green color, appears accurate in color compared with the actual specimen in indirect sunlight. According to Patrick's advice, this sample might actually be Tangeite, $\text{CaCu}(\text{VO}_4)(\text{OH})$ rather than Volborthite, $\text{Cu}_3(\text{V}_2\text{O}_7)(\text{OH})_2 \cdot 2\text{H}_2\text{O}$.

The second picture of Volborthite in my article (with FOV 4 mm) appears darker in real life than in the picture. The intense halogen illumination required to take the magnified picture tended to emphasize the yellow tone, whereas in indirect sunlight the less magnified entire specimen appears to be more olive green in color. I also might have artificially lightened the picture for printing, because I thought that it looked too dark (not a smart move!). The crystals also appear sturdier than those in the specimen we are now calling Tangeite. I took a new picture in the indirect sunlight with less magnification, and sent the picture to Patrick. He agrees that this sample might actually be Volborthite. See the new picture here:



Volborthite from Monument #1 mine, Monument Valley, Navajo County, AZ. Field of view 18 mm. (This is a snapshot of the entire specimen, taken in indirect sunlight, rather than a proper photomicrograph, but the color is accurate, even though the resolution could be better.)

Regarding the Vésigniéite, $\text{BaCu}_3(\text{VO}_4)_2(\text{OH})_2$, from Stanton-under-Bardon, England, which was also pictured in my earlier article: The pictures in Mindat for this locality are all under the Vésigniéite name. Although Volborthite is also listed as a mineral there, there are no pictures of Volborthite *per se*. Perhaps this is just "follow-the-leader". I don't know the scientific evidence for the identification of Vésigniéite at this locality, but Vésigniéite was on the label of my specimen.

Continued on page 7

Strange Vanadium Minerals continued

On another topic, also referring to my previous article on "Strange Vanadium Minerals", I know that many of you were moved by my sad story of not having a specimen of Chervetite, a rare lead pyrovanadate. Well, you will be relieved to know that at our recent Atlantic Micromounters Conference, I purchased from Keith Williams a specimen of Chervetite, $Pb_2(V_2O_7)$, on Francevillite, $(Ba,Pb)(UO_2)_2(VO_4)_2 \cdot 5H_2O$, from Mounana, Gabon. My specimen and photo are not in the same league as those of Nelly Bariand shown in the previous article, but I think that mine is a good representative specimen (and better than I deserve!).



Chervetite (gray) on **Francevillite** (orange) from Mounana, Gabon. Field of view 2 mm. Stacked 7 shots.

CYNTHIA PAYNE'S MICROSCOPE AND DENTAL CABINET FOR SALE

By Tom Tucker

Cynthia

Cynthia Payne would like to sell the dental cabinet that she stored her micromount collection in, and her Bausch and Lomb stereo zoom microscope. The dental cabinet is about four feet tall, by three and a half feet wide, made of wood, with black enamel paint and lots of small drawers. It has inserts to hold the micro-boxes, and will store about 2000 specimens. She'd like to sell it for \$ 500.00.



The microscope is a Bausch and Lomb stereo zoom, with a zoom range of 0.7 to 3, including two pair of eye-pieces, 10 X and 20 X, you can reach a maximum of 60 X. The 'scope works well, appears to be well collimated, and comes in a B&L wooden carrying case - so the buyer won't have an excuse for not bringing a 'scope to our meetings.

Cynthia would like to receive \$ 200 for the microscope. The dental cabinet is at Cynthia's apartment, and can be seen by appointment. The microscope is in Centreville, at Susan Fisher's. To view either item, you can make arrangements with **Susan, phone: 703-830-9733.**

Please contact Susan Fisher, novaya2@cox.net



Measurements: Overall: 43 (H) x 32 (W) x 12 ½ (D) inches 20 Total Drawers

Morefield Mine, Amelia Virginia

By Kathy Hrechka, Editor

I recently had the adventure of descending, down many ladders to a depth of 75' at the Morefield Mine on May 30. As a micromounter, I could not relate to this pegmatite, containing enormous size crystals of amazonite and mica underground. I didn't need my microscope. My geologist friend, Laura Dwyer accompanied me. We enjoyed meeting Sam and Sharon Dunaway, the current mine owners, who are enjoying retirement.



Kathy & Laura standing in front of amazonite



Selfie of Kathy posing in the tunnel of amazonite



Laura breaking open rocks

Micromineralogists of the National Capital Area, Inc.



American Federation of
Mineralogical Societies

AFMS)
www.amfed.org

American Federation Mineralogical Societies Show October 23-25, 2015 Austin, Texas

Purpose of the AFMS: To promote popular interest and education in the various Earth Sciences, and in particular the subjects of Geology, Mineralogy, Paleontology, Lapidary and other related subjects, and to sponsor and provide means of coordinating the work and efforts of all persons and groups interested therein; to sponsor and encourage the formation and international development of Societies and Regional Federations and by and through such means to strive toward greater international good will and fellowship.

AFMS Club Library by John Washburn

We have 3 DVD presentations by notable scholars for a mere \$20 dollar donation for each to go to the MWF Endowment Fund. The three presentations were given at the 2012 Geo-fair in Cincinnati, Ohio. Not only are the scholar's great speaker's they are also nationally known.

Jeff Scovil for his photography and a collector of minerals.

Dr. Carl Francis, Harvard Museum's former mineral curator.

Dale Gnidovec, well known Ohio paleontologist.

All the titles of these DVD's are as follows:
"The Beauty of Carbonates" by Jeff Scovil
"Teeth Jaws and Claws" by Dale Gnidovec
"Collectable Carbonates" by Dr. Carl Francis.

Send your request to:

MWF Endowment Fund Treasurer, Alan Hukill
15785 Park Lake Road, East Lansing MI 48823

Please make the check payable to 03903074MWF Endowment Fund. Please enclose an additional \$3.00 for postage for each.



Eastern Federation of
Mineralogical and
Lapidary Societies

(EFMLS)
www.amfed.org/efmls

Communication and Involvement
Are the Keys to Our Success!

Geology Events:

June

22: Northern Virginia Mineral Club meeting

Long Branch Nature Center 7:45 - 10pm

24: MNCA Micromount Workshop

Long Branch Nature Center 7:45 - 10pm

August

24-30: Wildacres; 2015 EFMLS Workshops

Denise Nelson, jewelry appraiser and designer will be the fall speaker. Check EFMLS website; Tab Wildacres for complete details. Little Switzerland, NC; Cost \$390 plus supplies. Steve Weinberger, Wildacres Committee Chair.



September:

26-27: 59th Annual Franklin-Sterling Gem & Mineral Show; Franklin Mineral Museum; Franklin School, 50 Washington Ave, Franklin, NJ; Sat 9-5, Sun 10-4; Outdoor Swap: Sat 7:30-6, Sun 10-5; adults \$7, children 6-16 \$4

26-27: 51st Annual Gem, Mineral & Jewelry Show; Gem Cutters Guild of Baltimore; Howard Co. Fairgrounds West Friendship, Maryland

*MNCA Editor & Webmaster 2001; Blue Room
Smithsonian Museum of Natural History*



Micromineralogists of the National Capital Area, Inc.



GeoWord of the Day and its definition:

statute mile (stat'-ute) A measure of distance used on land, equal to 5,280 ft, 1,760 yd, 1,609.35 m, 1.61 km, 880 fathoms, 80 chains, 320 rods, or 8,000 links, and roughly equivalent to 0.87 international nautical miles. It is usually referred to as *mile*.

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

Micromount Trading Opportunity

By George Reimherr.

I have been contacted, via e-mail, by a couple of Belgian mineral collectors who would like to trade micromount specimens for their microspecimens, which are from European localities. I did do a trade - - Belgian miniature calcites for a Medford miniature calcite, 2 stellerites, etc. But their main interest is micromount specimens. They came last September, and hit some of the commercial, etc sites, such as the Morefield mine.

Any person interested may contact the following:

Rene Allegaert
Rene Declercq, 10
8530 Harelbeke, Belgium
e-mail address: Allegaert.rene@pandora.be

Lens Turns Smartphone into a Microscope: Costs only 3 cents

Submitted by Erich Grundel



Follow
Link

<http://www.sciencedaily.com/releases/2015/05/150504113004.htm>

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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(AFMS) www.amfed.org Affiliation

Dues: MNCA Membership Dues for 2015
\$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 10th of each month.
The Mineral Mite will be emailed on 15th.
No newsletter July/August



AFMS Editor's Award First Place 2011 - Mini Bulletins

June Inputs:

*Dave Fryauff
*Scott Braley
*Kathy Hrechka
*Michael Pabst
*Erich Grundel
*George Reimherr

