MICROMOUNTERS OF NEW ENGLAND
NEWSLETTER

The MMNE was organized on November 8, 1966 for the purpose of promoting the study of minerals that require a microscope

No. 294 February, 2009

Current Meeting
Saturday, Feb. 21 2009
Trinity Lutheran Church
Chelmsford, MA
Doors open at 9 am

Next Meeting
Saturday, Mar 21, 2009
Trinity Lutheran Church
Chelmsford, MA

Map and driving directions are on last page

For information regarding **MEETING CANCELLATION** due to inclement weather,
Joseph Mulvey
(603) 880-4018
bassmeister_2000
@yahoo.com

Next Meeting: Saturday, February 21, 2009. Trinity Lutheran Church Chelmsford, MA.

It is time to renew your membership for the year 2009. Please send your dues and any changes in address, phone or e-mail to the treasurer: Anna Wilken, 79 Meadow Lane, Campton, NH 03223. Dues for individual members are $ 12 and $ 15 for family membership. We will create a new login for 2009 for member area access starting on March 1, so renew before you miss the cutoff date! Attendees to the February meeting will be able to voice their opinion on what the password should be (however, you must be a member and use a computer to voice that opinion).

February Agenda:

1. Micromount competition – February – Wulfenite. Specimen-specific, not locality-specific. Bring in your favorite wulfenite micro for February! (For March it will be Titanium Oxide TiO_2. Bring your favorite Anatase, Brookite or Rutile for our friendly competition.)

2. I have 2 more MSH videos. I am happy to say that lately the meetings have been so chock full of adventure, competitions and demonstrations, there is just no time to sit in front of the TV for an hour. If anybody would like to borrow a DVD please contact me (Joe Mulvey).

3. Club by-laws have been updated but are not yet finished. Everyone has a copy in the January newsletter. Ratification of all changes is scheduled for the brief business meeting at the symposium. If you have thoughts, recommendations or changes, please get them to Joe Mulvey before the April meeting.

4. The May Symposium (05/16/2009) will be in Auburn, MA at the Chester Tuttle American Legion Post. Please start considering what items you could donate to the sales and auction table. Pat Barker wins the Early Bird award because she has already donated 3 flats of super specimens for the sales table. Bill Henderson, through Michael Swanson has donated about 2 dozen specimens, mostly from Italy to the giveaway table. I feel that since they are so nice, we should take half of these and put them on the sales table as well.

5. If any member or members would like to host the Horvath's during their stay in New England, please let me know asap. If any members would consider going out to dinner with the Horvath's on Friday or Saturday night, please let me know about that as well.

6. If you know dealers who may be interested in donating a specimen in exchange for publicity, please contact them. Since last year we have had links for the 2007 businesses who donated to the club. I think it is a fair trade. ***– continued pg 2***

The ***Newsletter*** is the official publication of the Micromounters of New England (MMNE). The last by-laws revision was April 19, 2003. The MMNE is a member of the Eastern Federation of Mineralogical and Lapidary Societies (EFMLS) (http://www.amfed.org/efmls) and the American Federation of Mineralogical Societies (AFMS) (http://www.amfed.org). Material from the *Newsletter* may be copied in other rock and mineral publications if credit is given to the author and the *Newsletter* and permission has been obtained from the author. If there are questions regarding copying contact the editor. The club address is c/o the Secretary. Meetings are held monthly, September through May, except for December, and usually on an informal basis in July. Meeting sites may change and will be posted in the *Newsletter* as far in advance as possible. Visitors are welcome to attend all meetings. Bring a microscope and light source if you have one.

DUES are $12/year for a single person and $15/year for a family membership, levied on a calendar basis. The family membership includes two adults and all children under 18 living at the same address. One copy of the *Newsletter* will be sent on a family membership.

Table of Contents

February Agenda *continued from page 1*

7. Club brochures are being printed as needed. If you need some, please let me know and I will get them to you.

Great news from member Nate Martin:

"I have recently learned that mindat has been authorized by Rudy Tschernich to distribute a scanned version of his book, **Zeolites of the World** for free. The mindat url with the explanation and download link is at http://www.mindat.org/article.php/507/Mindat%27s+15th+Birthday+and+a+present+for+everyone
Note that it is a large file so you may not want to try to download it if you are on a dialup connection."
Thanks, Nate! By the way, Joe Mulvey will bring the file to the next MMNE meeting. If you'd like a copy, bring a blank CD and get a copy for yourself!

The 8th Winter Gathering of Micromounters will be Feb. 27th and 28th, 2009 in Florida. It is beginning to look like they will have a record turnout too. For more information go here:
http://www.earlrock .us/wintermicro/ index.html

Winter Field Trip: The Annual **Palermo Mine Winter Hike** is Sunday, March 1. All who are interested in seeing the ice formations should meet at the gate at 9am on Sunday March 1. With any luck, the road will be plowed and 4wd vehicles will be able to drive to the top. Bring appropriate cold weather wear, food and water, and any type of crampons or footwear that enables icy traverse. Thank you to Bob Whitmore for opening the doors to this spectacular scenery. There is no mineral collecting, unless you want some ice & snow.

MMNE SECRETARIAL REPORT FOR JANUARY 17, 2009

President Joe Mulvey brought the January 2009 meeting to order at Trinity Lutheran Church in Chelmsford, MA. .

Pat Barker questioned the members present if anyone knew who had the club's stereo-opticon. The club had purchased if from Ward's Scientific. No one was able supply any leads but the President said that he would put "a call for club equipment" in the February newsletter.

Joe reminded members that he had included the proposed club by-laws as well as changes to them in the January newsletter. He asked all to review them and to e-mail to him any corrections or suggestions for changes. Gene Bearss commented that he was convinced that changes had been made and voted upon at club meetings in recent years but that they had never been incorporated into the by-law document. Hence, record of them was lost. He posited the thought that one would have to go through all the old meeting minutes in past newsletters. Mike Swanson was of the opinion that any by-law updates should first be included in the club's newsletter and then voted upon at the May meeting. He said some kind of regular process was needed. Joe said that this process is already outlined in the current club by-laws. He indicated that it just hasn't been done. Joe said that the current proposed by-laws document would likely be put to a vote at the 2009 May meeting.

As an offshoot of the by-laws discussion Norm Biggart indicated that he had been going through many old newsletters but that he was probably missing some issues. Gordon Jackson said that he has a complete set of past MMNE newsletters. But, he said, a couple of issue numbers were skipped and actually never published.

Joe said that he had been in contact with Laszlo Horvath regarding his presenter stipend and expense expectations. He also commented that he would update the club's on-line "brochure" on the club website. He said this would serve to publicize the May presentation by Mr. Horvath. Gene Bearss said he would bring printed copies of the brochure to the Rochester Symposium.

A brief discussion ensued regarding the merits of Helicon stacking software versus CombineZ. The latter was said to take much longer to process stacked photos.

The President thanked Gene Bearss for bring coffee and goodies to the meeting. He also thanked Pat Barker for being the first person to make donations for the May meeting.

Joe thanked Anna Wilken for forwarding EFMLS information to him regarding that organization's website competition. He said the club website already lived up to practically all of the EFMLS standards. He stated that he had filled out the required forms and submitted them.

Joe announced that the new club camera was available for monthly loan to members. He said that as of now it was booked for a month's period following the January, February and May meetings. After a brief discussion, members concluded that wulfenite would be the meeting topic for February and anatine for the March meeting.

Respectfully submitted,
Bob Wilken
Secretary

February Micro Competition: Wulfenite - Joe Mulvey, Tom Mortimer

Wulfenite 1 mm crystal.
Locality: Mineral Hill, Wakefield, NH.
Field collected by Gene Bearss, 2008. Tom Mortimer specimen and photo.
This photo taken with Canon G9 12 mpixel camera using Meiji EMZ-5TR scope, and Helicon stacking software, (stack size = 4).
The color in this photo is correct.
(This photo also appeared in the January, 2009 MMNE newsletter.)

Wulfenite 1 mm crystal. (same as photo, left)
Locality: Mineral Hill, Wakefield, NH.
Field collected by Gene Bearss, 2008. Tom Mortimer specimen and photo.
This photo taken with new MMNE club AmScope digital camera, with same scope and light source as photo on left. A single photo, no stacking software used. Sharpness is good, but color is too red, despite much "fiddling" with camera color settings.

Wulfenite is a secondary mineral formed in the oxidized zone of hydrothermal lead deposits. It is typically associated with cerussite, anglesite, smithsonite, hemimorphite, vanadinite, pyromorphite, mimetite, descloizite, plattnerite, Fe–Mn oxides. Named in honor of Franz Xavier Wulfen (1728–1805), Austrian–German Jesuit, who wrote a monograph on the lead ores of Bleiberg, Austria. Its type locality is Freiberg, Germany

Physical Properties: Cleavage: On {011}, distinct; on {001}, {013}, indistinct.
Fracture: Subconchoidal to uneven. Tenacity: Brittle. Hardness = 2.75–3 D(meas.) = 6.5–7.5 D(calc.) = 6.88–7.48 Individuals may be piezoelectric.

Optical Properties: Transparent to opaque. Color: Bright yellow, wax-yellow, yellow-orange, bright orange, red-orange, bright red; gray, grayish white, rarely white, colorless; siskin-green, olive-green, pale to dark blue, reddish brown, brown, black. Streak: White. Luster: Resinous, subadamantine to adamantine.

Distribution: in the USA, from Arizona, at the Red Cloud and nearby mines, Silver district, La Paz Co., in the Old Yuma mine, near Tucson, Pima Co., at the Mammoth-St. Anthony mine, Tiger, Pinal Co., large crystals from the Glove mine, near Amado, Tyndall district, Santa Cruz Co., at the Hilltop mine, Chiricahua Mountains, and in the Defiance mine, Gleeson, Cochise Co.; in New Mexico, at the Stevenson-Bennett mine, Organ Mountains, Do˜na Ana Co.; in the Lucin District, Elko Co., Nevada.

In Mexico, from the San Francisco mine, Cerro Prieta, Magdalena, Sonora; at Los Lamentos and Santa Eulalia, Chihuahua, at the Ojuela mine, Mapimi, Durango. Tsumeb, Namibia, Mfouati, Congo Republic, the Tchah Kharboze mine, Anarak district, Iran. The Touissit mine, near Oujda, Morocco.

Notes from MMNE president Joe Mulvey

Pat Barker has brought to our attention that there are many MMNE-owned pieces of equipment for which we cannot account. Among the items missing in action:

- ✓ Microscope donated courtesy of Steve Cares in March of 2000
- ✓ Stereoopticon
- ✓ Sound system courtesy of Jim Warner

If you have any of these or other items tucked away, please let me know. Even if you think they may be in the estate of a former member, just knowing where these items ended up would allow us to "close the book" on their history. Of course, the preferred outcome is that the items are returned to our working inventory and members can borrow them.

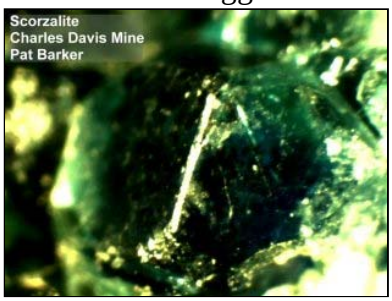
Speaking of borrowing, the new club camera is a hotly desired item! It is booked by the month from meeting to meeting. Jan-Feb is Tom Mortimer. Feb-Mar is Carlos Gristani. Joe Mulvey is Mar-Apr, Anna Wilkens is taking it at the May Symposium. Since I already had it, I am willing to surrender my reservation to somebody who has not had a chance at using it yet.

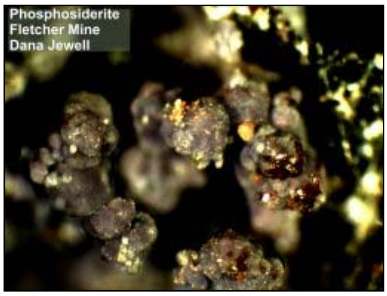
The January first ever specimen competition was a big hit and a great success. Five entries of non-Palermo phosphates made it to the table for evaluation. There was no laughing.

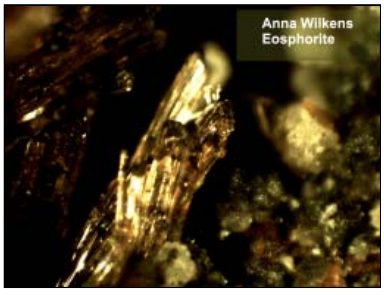
1.	Gene Bearss –	Pyromorphite	Mineral Hill, Wakefield, NH
2.	Ingeborg Burggraf -	Goyazite	Keyes Mine, Orange, NH
3.	Dana M Jewell -	Phosfosiderite & Bermenite	Fletcher Min, N. Groton, NH
	Anna Wilkens	Apatite	Chickering Mine, Walpole, NH
4.	Pat Barker -	Scorzalite	Charles Davis Mine, N. Groton, NH

I tried to photograph the entries with the new club camera, but with time being of the essence, less than splendid results ensued. While the computer monitor fairly well duplicates what we see through the microscope, I was not prepared for the level of color distortion that occurs between the laptop and the projector. I think I will have to try to run a white balance test on the two devices and see if there is anyway I can enhance the group display. Small examples are posted here. Full size versions are on the MMNE website.

In this newsletter please enjoy the submission from long distance member Steve Bonney on Micro Collecting in the Western Kentucky Fluorspar District. Also please note that Steve has sent us a very nice package of giveaway material from the Hickory Cane Mine in Frances, KY. The pieces I looked at as I placed them into egg cartons were packed with hemimorphite. Thank you, Steve!







Micro Collecting in the Western Kentucky Fluorspar District

by Steve Bonney

Productive and hassle free mineral collecting locations seem to be getting more difficult to locate these days. One area which currently offers an abundance of diverse collecting opportunities is the Western Kentucky Fluorspar District. Mining in the District was associated with a fault zone characterized by numerous mineralized faults, fractures, and joints, some possessing what were once commercially viable deposits of fluorite, zinc, and lead. Calcite, fluorite, galena, quartz, and sphalerite are the primary minerals associated with this vein mineralization. Oxidation and minor secondary minerals include bitumen, cerussite, greenockite, hemimorphite, hydrozincite, pyromorphite, and smithsonite.

Ben E. Clement (1891-1980) was a significant player in the Western Fluorspar District, both as a mine owner and mineral collector, and amassed an incredible collection of specimens and archival material during his lifetime, including one of the finest fluorite collections in the world. Most mines in the District have been closed for many years, but the Ben E. Clement Mineral Museum, located in the heart of the District in Marion, Kentucky coordinates a variety of collecting opportunities at historic District Mines. Collecting opportunities associated with the museum include regularly scheduled collecting dates, night-time fluorescent trips, and custom designed group trips. Collecting opportunities are especially abundant during the Museum's annual show, generally held during the first weekend of June. The mines available for collecting may change periodically because of various ownership and access issues, but overall the minerals available across the District are relatively consistent and offer plenty for the mineral collector, especially those who appreciate small specimens.

Specimens of interest to the mineral collector originate in a variety of settings in the vein mineralization characteristic of the District. Bedding replacement is where the minerals permeate the country rock and cavities in the bedrock provide a setting for nicely crystallized specimens. Fortunately for the micro collector small crystals in these cavities often survive the mining processes and can be found in the mine tailings relatively intact. Fault breccia is common along the fault lines where mining was focused and spaces between the angular rock fragments produce another ideal setting for the micro-collector to find nicely crystallized specimens. Lastly, fault gouge, finely crushed mineral and clay like masses, often associated with these fault lines, may provide an environment for locating nicely crystallized secondary minerals such as hemimorphite.

Collecting opportunities in the District are associated primarily with mine tailings. Mining in the District generally involved sinking vertical shafts with secondary horizontal shafts to access the vein mineralization. These shafts, sometimes hundreds of feet deep are off limits for obvious safety reasons.

Minerals found by the author and others include:

<u>Bitumen</u>

This solid black viscous hydrocarbon material looks like oil and ranges from what resembles scattered solidified droplets to uniform coatings over other minerals in cavities. Occasionally thin films of bitumen on fluorite will give the false impression of black fluorite. The Eureka Mine has proven to be an especially good location to find specimens of bitumen. Bitumen may not be real draw for collectors seeking attractive specimens, but the author has found it to be associated with some particularly attractive fluorite specimens.

<u>Calcite</u>

Calcite is a very common mineral in the District where it occurs in a variety of crystallized forms, including classic scalenohedrons. The author has found crystallized calcite at all of the mines he has been able to visit in the District to date. Particularly notable specimens include calcite crystals resting on dark purple fluorite cubes and purple fluorite crystals seemingly afloat in a sea of calcite crystals. Some collectors dissolve the calcite using dilute acid to fully expose the fluorite crystals underneath, but specimens illustrating the paragenisis of the deposits can be especially interesting.

continued next page

Micro Collecting in the Western Kentucky Fluorspar District - *continued*

Cerussite

Cerussite is associated with the secondary zone of lead ores. Cerussite occurs in a variety of crystal forms at District Mines and often fluoresces a pale orange in long wave ultraviolet light. The author has found elongated, striated prisms at the Columbia Mine. The Hickory Cane Mine has produced some nice pseudo hexagonal bipyramindal crystals.

Fluorite

It's safe to say that most mineral collectors visiting the area for the first time are in search of crystallized fluorite. Fluorite occurs in many colors in the district, including colorless, but various shades of purple are by far the most common. Large cubic crystal masses are sometimes found, but the crystals found in smaller protected cavities are generally the most sharply crystallized and flawless ones. The Eureka Mine in Crittenden County is a reliable producer of nice fluorite specimens. The Mary Belle Mines, located along the same fault line, seems to be another prime location. Especially attractive fluorite specimens include those with individual color zoned crystals and those setting amongst drusy quartz crystals. The author has also found attractive micro crystal specimens at the Columbia Mine, Babb-Barnes Mine and Mill Complex, and the Lafayette Mine.

Galena

Galena is relatively common in massive form at most of the mines in the District. Well formed cubic crystals seem to be particularly abundant at the Columbia and Eureka Mines. Occasionally, specimens will show slight modifications of the classic cubic form.

Greenockite

This mineral is easily overlooked, as it typically occurs as yellowish pollen-like coatings or dustings on or near sphalerite. The author has found this mineral at the Columbia Mine, Eureka Mine, and Hickory Cane Mines.

continued next page

Micro Collecting in the Western Kentucky Fluorspar District - *continued*

Hemimorphite

Hemimorphite is associated with the oxidized zone of zinc deposits and is found as flattened transparent to translucent prismatic crystals, sometimes in flower-like clusters. These crystals can be clear, yellow, or smoky colored. Beautiful greenish masses of transparent convexly crystallized specimens can be found at the Hickory Cane Mine. Lafayette Mine specimens often have massive purple fluorite associated with them, making for especially attractive matrix specimens. The author has also found nice micro specimens at the Babb-Barnes Mine and Mill Complex.

Hydrozincite

Hydrozincite is found in the secondary zone of zinc ores and occurs most often in the District as snowy lichen-like crusts and coatings. Hydrozincite will fluoresce a blue-white in short wave ultraviolet light and may be the reason for the fluorescence sometimes observed in small smoky quartz crystals from the District. The Columbia Mine is a prolific source of hydrozincite, which is the site of the Clement Museum's fluorescent collecting trips. The Hickory Cane Mine is also a source of hydrozincite.

Pyromorphite

Although the author has found this mineral to be quite elusive to date, radiating green acicular crystal specimens are known from the Lafayette Mine and Hickory Cane Mines.

Quartz

Quartz crystals may not peak lots of interest with many collectors, but several interesting forms are worthy of note. The Columbia and Eureka Mines both produce small drusy smoky quartz crystals with unknown inclusions (possibly hydrozincite) causing them to fluoresce blue-white in short wave ultraviolet light. The Eureka Mine has produced some short clear quartz crystals with sphalerite inclusions. Small milky quartz crystals are often associated with smallest fluorite crystals

continued next page

Micro Collecting in the Western Kentucky Fluorspar District - *continued*

Smithsonite

Smithsonite is associated with the secondary zone of zinc ore. Botryoidal masses, rounded striated scalenohedrons, and rarer rhombic crystals are known from several District Mines periodically available for collecting. Botryoidal masses seem to predominate at the Columbia and Eureka Mines. Very attractive specimens of the rounded striated scalenohedron form have been found at the Hickory Cane Mine and Babb-Barnes Mine and Mill Complex, sometimes in association with hemimorphite.

Sphalerite

Sphalerite is found at most of the mines in the District. Like fluorite, sphalerite in the District is found in a variety of colors, with red, brown, and black being the most common. Beautiful gemmy red "ruby-jack" crystals are found associated with micro-quartz crystal lined cavities in extremely hard limestone at the Eureka Mine. They can also be found there in cavities within large pieces of massive clear fluorite.

If you take advantage of the collecting opportunities associated with the Western Kentucky Fluorspar District make time to view the incredible mineral collection and archival photos amassed by Mr. Clement at the Ben E. Clement Mineral Museum in Marion, Kentucky. Further details about the Ben E. Clement Mineral Museum and the collecting opportunities it coordinates can be found at:

Ben E. Clement Mineral Museum
205 North Walker Street
Marion, KY 42064
270-965-4263
www.ClementMineralMuseum.org

References:

Kentucky Geological Survey [Internet]. Lexington, Kentucky. [2008 August 15; cited 2008 August 29]. Available from: http://www.uky.edu/KGS/.

Lininger, J. L. 2000. Ben E. Clement and His Influence Upon the History of the Kentucky Fluorspar Industry. Matrix 8(3):115-136.

Mineralogy Database [Internet]. Surry, England. [2008 August 29; cited 2008 August 29]. Available from: http://www.mindat.org/.

DIRECTIONS TO TRINITY LUTHERAN CHURCH, CHELMSFORD MA

170 Old Westford Rd., Chelmsford, MA.
From Rt. 3, take Exit 32, (The "Drum Hill Rotary"). From Rotary, Take Old Westford Rd. towards Westford for about .85 miles to Grandview Rd. Entrance for Trinity Lutheran Church on left. Proceed up rather long driveway to parking area. If things go according to plan, we should be able to use the entrance on the far left side of the church. Our meeting room is just inside this entrance.

Those coming from the south may want to try an alternate route, exiting from Rt. 495 at Exit 33, then taking Rt. 4 north to a left onto Davis Rd…. see map below.