



June 22 Time: 7:30 p.m. – 10 p.m.

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

Program: "Exploring the Mines of Dal'Negorsk, Siberia"

By David Fryauff, Vice President

Club members will view a DVD presentation by Rock Currier from the Dallas Mineral Collecting Symposium 2012. He passed away just this past year and was a legendary collector. Thanks to Jim Kostka for the DVD that contains this presentation. Members who have Dal'Negorsk mineral specimens in their collections are invited to bring them in to the meeting so we can see some of these natural wonders. Cynthia Payne had a good number of Dal'Negorsk specimens in her collection, and I believe I have several of these in my collection. Details on page 2



President's Message:

By: Dave MacLean

I heard three very different and interesting talks at the Northern Virginia Mineral club Monday 23 May. Sheryl Sims talked about her becoming a rock hound. She said that she got lots of one on one help from members including Karen Lewis who identified her finds at an amethyst dig in south Virginia, somebody who told her about NVMC meetings, another persons who cleared out the frogs in her hole at the dig, another who suggested going to the NVMC show. I remember Paul Smith inviting me to the 1980 MNCA conference in 1980



The point is one on one word of mouth and friendly sharing knowhow with each other is what strong clubs do. I see this sharing with adults and children when we demo at the shows to introduce the wonder of small crystals.

One of our grandsons Max age 8 and grandnephew Henry age 8 are enthralled by bigger crystals. Max saw pictures of big crystals in a book and wants some. His eyes lit up when we gave him a crystalline quartz and a crystalline calcite on limestone for his first communion present. I ponder how to interest him in the wonders of the "small things". I picked up some Mineral Mites with micro photos to give to him. I hope I can plant some seeds.

The 27 June meeting is the last before our summer break. I wish us all a safe and an enjoyable summer. Let us look forward to sharing our finds and experiences on Wednesday 27 September.

Photo of the Month



Crocoite with white Dundasite, West Comet Mine, Dundas, Tasmania, Australia. FOV 3 mm.

Photomicrographer Michael Pabst

Micromineralogists of the National Capital Area, Inc.

Previous Meeting Minutes: 5/25/16

By Bob Cooke for George Reimherr, secretary

President Dave MacLean called the meeting to order at 7:45 PM.

No past Presidents nor guests were present. Minutes of the April meeting were approved as published in The Mineral Mite.



Kathy Hrechka reported the Atlantic Micromounters Conference was a success due to the core MNCA members coordinating duties, along with numerous attendees expressing total satisfaction.

Despite last month's enticing reports of the affordable SEM products developed by NanoScience, there was no news of any possible developments between the MNCA and NanoScience. Kathy Hrechka will follow up.

Bob Cooke reported that his search for a supply of loupes to sell at MNCA demonstrations was unsuccessful. The loupes previously acquired on Alibaba by Jim Kostka and Dave Nanney are no longer available. Alternative loupes were either too expensive or required a minimum purchase that exceeded MNCA capabilities. Several club members offered suggestions for other sources.

Dave Fryauff announced a field trip to the CK Williams Quarry in Easton, PA on Saturday. Also, there would be trips to the Vulcan Quarry in Manassas, VA on June 4 and June 18.

Dave Hennessey invited members to attend the next meeting of the Mineral Society of the District of Columbia (MSDC) on Monday, June 1 when Susan Fisher will discuss Mississippi Valley-type deposits of lead, zinc and fluorite. The meeting adjourned at 8:15 PM.



Eric Grundel found link for loupes

http://www.amazon.com/Illuminated-Jewelers-Loupe-40x-25mm-Lighting/dp/B007GJJRZC/ref=sr_1_5?ie=UTF8&qid=1464277620&sr=8-5&keywords=magnifying+loupe

Previous Program Reviewed: 5/25/16

By Bob Cooke

Dave Fryauff gave a report on his 9-10 days in Western NC. He attended Wildacres from May 9-15 taking the field geology course under USGS geologist Rob Robinson. Dave visited the Crabtree Emerald Mine there in Spruce Pine & also the Ray Mica Mines in Burnsville, NC. He shared photos of both places & gave a report on the collecting.

"Exploring the Mines of Dal'Negorsk, Siberia" June Program

By David Fryauff, Vice President

The Dalnegorsk ore field in a nut shell: Mineralogy: Complex sulphide & calc silicate deposits, sometimes rich in boron silicates

Crystal Size: Crystals of hedenbergite, calcite and fluorite (and possibly Danburite and Datolite?) may all reach sizes of up to 1 m (confirmed). There are also giant, leather like aggregates of danemorite, which may cover several square meters!

Geology & formation: Complex skarn type mineralization, rich in sulfide and boron.

Current status: Ongoing mining activity in both the sulfide and boron deposits.

Remarks: Mineralogically extremely rich with splendid and large mineral specimen. Easily one of the most spectacular mining districts both in terms of mineralogy and geology. Mindat.org lists 231 entries & 167 valid mineral species, no Type Locality species.



GeoWord of the Day and its definition:

lithiotantite (lith'-i-o-tan'-tite) A colorless monoclinic mineral: $\text{Li}(\text{Ta},\text{Nb})_3\text{O}_8$.

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

GeoWord of the Day is brought to you by Thermo Scientific! Check them out at thermoscientific.com

Crocoite

By Michael Pabst

This report features the chromium mineral Crocoite. Crocoite is a lead chromate, $\text{Pb}(\text{CrO}_4)$, a popular mineral with a striking orange-red color. Crocoite was named for the *Crocus sativus* plant that produces orange-red saffron. Crocoite is monoclinic prismatic $2/m$, $\beta = 102.41^\circ$, meaning that crocoite has one mirror plane and one 2-fold axis of rotation, so crystals are truly less symmetrical than many specimens might suggest.



I was wrong in an earlier article, where I said that the oxidation state of chromium in minerals was Cr^{3+} . This is true for the minerals that I have written about until now, including those Chromian minerals, like Chromian Clinocllore, where Cr^{3+} substitutes (at less than 50%) for Al^{3+} or Fe^{3+} . However, Crocoite contains the chromate anion: $(\text{CrO}_4)^{2-}$, which contains Cr^{6+} . There are, in fact, other rarer minerals that also contain the chromate anion, some of which we will examine in my next article. So, chromium minerals may contain either Cr^{3+} or Cr^{6+} . Since nature is endlessly variable, I would not be surprised to someday see a mineral with Cr^{4+} .

Although we are most familiar with Crocoite from Tasmania, where wonderful long orange-red crystals are abundant, the type locality for Crocoite is the Tsvetnoi Mine, Uspenskaya Mountain, Berezovskoye Gold Deposit, Berezovskii, Ekaterinburg, Sverdlovskaya Oblast', Middle Urals, Russia. Crystals of Crocoite from Russia tend to be less elongated than those from Tasmania. You can see some old-time crystal drawings of Russian Crocoite at: www.mindat.org/getphoto-448-600-cr00001.jpg.

These drawing are from Koksharov's *Materialein zur Mineralogie Russlands* from 1853. Crocoite was the first new mineral discovered in Russia; it was reported in 1766. The element chromium was discovered by L.N. Vauquelin in this "red ore" in 1797. Here is a picture of my specimen of Russian Crocoite:



Crocoite from Berezoyskoe, Middle Urals, Russia. FOV 5 mm.

Capturing the color of Crocoite is tricky. With a halogen light, the photo of the Russian specimen looks more orange, but in daylight, the color is more orange-red, as shown here. In addition, Crocoite is pleochroic, meaning that the color changes from orange-red to red depending on the angle of view.

Although Berezoyskoe is the type-locality for Crocoite, the specimens of Crocoite that we usually see at mineral shows come from the mines near Dundas, Tasmania, Australia. These mines produce impressive cabinet specimens of Crocoite, that bristle with long orange-red needles (and that feature moderately high price tags). These are definitely worth viewing, for example:

www.mindat.org/photo-674191.

However, I prefer specimens of Crocoite that have a contrasting matrix. Fortunately, these beautiful combination specimens are available as inexpensive micro-minerals. In the next picture, the Crocoite is surrounded by white crystals of Dundasite, according to the label. The white crystals look like ice, but this picture was taken at room temperature. (Usually Dundasite occurs as balls of tiny needles, so I am not entirely convinced of this identification.) Dundasite is a secondary lead and aluminum carbonate mineral, $\text{PbAl}_2(\text{CO}_3)_2(\text{OH})_4 \cdot \text{H}_2\text{O}$.

Continued on next page

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Crocoite with white Dundasite, West Comet Mine, Dundas, Tasmania, Australia. FOV 3 mm.

One of my favorite color combinations in the mineral kingdom is orange-red Crocoite on a matrix of green Pyromorphite. Like Crocoite, Pyromorphite is a lead mineral, $Pb_5(PO_4)_3Cl$. The next picture shows a specimen from the Platt Prospect, where this combination occurs on many specimens.



Crocoite on green Pyromorphite, Platt Prospect, Dundas, Zeehan District, Tasmania, Australia. FOV 4 mm.

Next time, we will look at some other minerals that contain the chromate anion. But I doubt that I will soon get another photo as good as that of the Crocoite from Platt Prospect above.



Photomicrography by Michael Pabst

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Rocks from Space

Presentation by Tony Nikischer at the Atlantic Micromounters' Conference on April 23, 2016
By Dave MacLean

On the cold morning of 15 February 2013 at 0920 Yekaterinburg time a fireball brighter than the sun appeared over Kazakhstan and traveled WNW to explode in a bright flash at a height of 29.7 Km (97,000 feet) 40 km (25 miles) south of Chelyabinsk, Russian Federation. The shock wave from the explosion injured 1,500 people and broke every window in Chelyabinsk. The meteor was brighter than the sun up to 100 km (60 miles) away. Subsequent estimates said the meteor was 22m (68 Ft) in diameter, weighed 10,000 metric tons, and exploded with a force of 460-470 +/- 50% kilotons of TNT, 23-24x the atomic bomb at Hiroshima.

The blast generated a rain of small stony meteorites. The biggest piece, 654 kg, was rescued from the bottom of an area lake. The fall of this piece was observed on a video. The meteorite was a chondrite with 10% iron. After this meteorite fall there was a local market in small meteorite fragments.

There are 60,000 known meteorites. Meteorites are named for where they fell, or where they were found. Meteorites come from finds or falls up to thousands of years ago and falls observed as they occurred. The first recorded fall was 861 CE in Japan. Another fall was observed in Ensisheim, Germany in 1492. Meteorite iron was used a precious stone in jewelry in the Mediterranean region in ancient times. The Kaaba in Mecca, revered after 605 CE, was reputed to be from Abraham.

The largest recent meteorite event was in Tunguska, Russian Federation on June 30, 1908 which leveled 80 million trees. No fragments were found suggesting that the meteor was a comet, which exploded at high altitude.

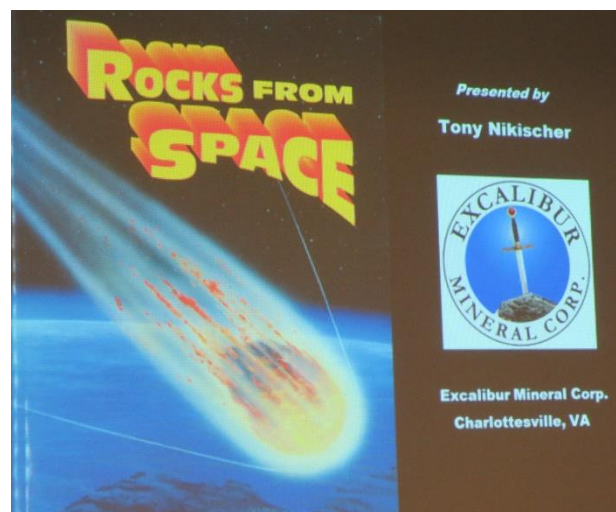
Benjamin Silliman, Yale University, concluded that the meteorite which fell in Weston, CT in 1807 was extraterrestrial in origin.

Meteorites are classed:

- *Iron with up to 7% nickel
- *Stony-iron, iron-nickel with olivine-fosterite phenocrysts, Palasites
- *Stony chondrites
- *Stony achondrites

The relative percentage of meteorites collected include iron 5%, stony-iron 1%, chondrites 86%, a-chondrites 8%. Reported origins of meteorites include the asteroid belt between Mars and Jupiter, the Moon and Mars. 350 minerals have been identified in meteorites such as iron-nickel, olivine, fosterite fayalite, anorthite, pyroxene-augite, enstatite-hypersthene. 30 minerals are unique to meteorites such as stanfieldite in the Estherville, IA meteorite 1879 and Barringerite.

Many chondrites escape detection because they weather rapidly and are no longer recognizable. Meteorites appear to be more easily recognizable in Antarctica where glacial ice reaches a mountain and evaporates leaving meteorites exposed, desert regions like Morocco, and in the loess hills of NW Iowa where any rock in the windblown fine soil is worth examining as a potential meteorite.



Mineral Localities of Kola Peninsula

Presentation by Tony Nikischer at the Atlantic Micromounters' Conference on April 23, 2016
By Dave MacLean

Alexander Podlesnyi works at the Kirovskii Mine, near Koashva, Europe's largest open pit apatite mine Khibiny, Kola Peninsula, Murmansk Oblast, Russian Federation was examining the rubble after a blast when again he noticed minerals different from what was being mined. He said "shut down this mine and do not haul away this rubble". He immediately called Igor V. Pekov, Moscow University and urged him to come to the mine to investigate and collect the minerals. Where else in the world would a mine be shut down for two days to collect minerals? In the Russian Federation there is great respect for science. Igor Pekov, describer of more than 200 new minerals, and Podlesnyi have worked together for years. The mineral Podlesnyite $Ba_2Ca_2(CO_3)_2F_2$ is named after him. Other minerals identified at this mine include such as villaumite, red NaF, eudialyte, pirssonite, kentbrooksitite, astrophyllite, and loparite. The Koashva mine host rock was formed 365-370 million years ago.

The Kola Peninsula, southeast of Murmansk, Russian Federation and bordered on the west by Finland and Norway, on the north by the Barents Sea and South and east by the White Sea. The north is tundra with low mosses and low plants and the south is forested taiga. Murmansk is the urban center. All of the Kola Peninsula was scraped clean by the glaciers. The Kola Peninsula is the eastern part of the Baltic shield. Mining includes copper, silver, iron, apatite, niobium and tantalum, and lanthanide elements (rare earths).

Tony Nikischer showed slides of visits to the Lovozero alkaline massif (home of Sami reindeer herding people) where the world's largest niobium and tantalum mines are located. Minerals in area mines including the Palitra peralkaline pegmatite included such as lilac sodalite, manaksite, karnasurtite, lorenzenite, lamprophyllite, zircon, and catapleite.

The Kovdor alkaline complex (360-420 MYA) hosts iron mines where 174 mineral species including magnetite, carbonate-fluoro apatite, kovdorskite, bobierite, and labuntsovite are found.

One site in the Western Keivy was an abandoned quarry containing large veins of blue amazonite. One entrepreneur tried to mine the amazonite and helicopter it out. The entrepreneur found helicoptering was too expensive and presumably went broke.

The Kola Peninsula is largely an empty place with a population of 800,000-900,000 located mostly in urban centers and mining towns. Transportation is by air or railway. The Russian military provides transportation to Igor Pekov's students to go into remote areas. One slide showed a breakdown of a military vehicle on the road. The students, driver and mechanic camped out by the road for two days waiting for help. Many Russian scientists are paid for only six months per year. Some of them do other work such as selling minerals to make up the shortfall. Slightly more than half of the students and presumably faculty are women.

The Kola Peninsula is home to numerous Russian Federation submarine bases and other military facilities off limits to visitors. Wikipedia reports that there are many abandoned nuclear reactors and Soviet nuclear facilities there.



Colorless crystals of **pirssonite** (up to 1 cm) and orange distorted cubes of **villaumite**, Kirovskii Mine, Khibiny. A. S Podlesnyi collection.

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Micromineral Photography

Presentation Michael J. Pabst at the Atlantic Micromounters' Conference on April 23, 2016

By Dave MacLean

As the magnification increases, and the depth and field of view decreases, the challenges and opportunities for attractive micro photos increases.

Michael J. Pabst described the recently available photo equipment and software one can use. Items include cameras with electronic shutters removable lenses designed for photomicrography, and super macro lenses. Electronic shutters avoid the vibration when one trips a manual shutter. Software advances including Photoshop 14 can correct exposures for vibrations. New advanced "stacking" programs are available. These new cameras and software allow viewing images which one cannot see with the eyes and microscope. Three dimensional photography is in the near future.

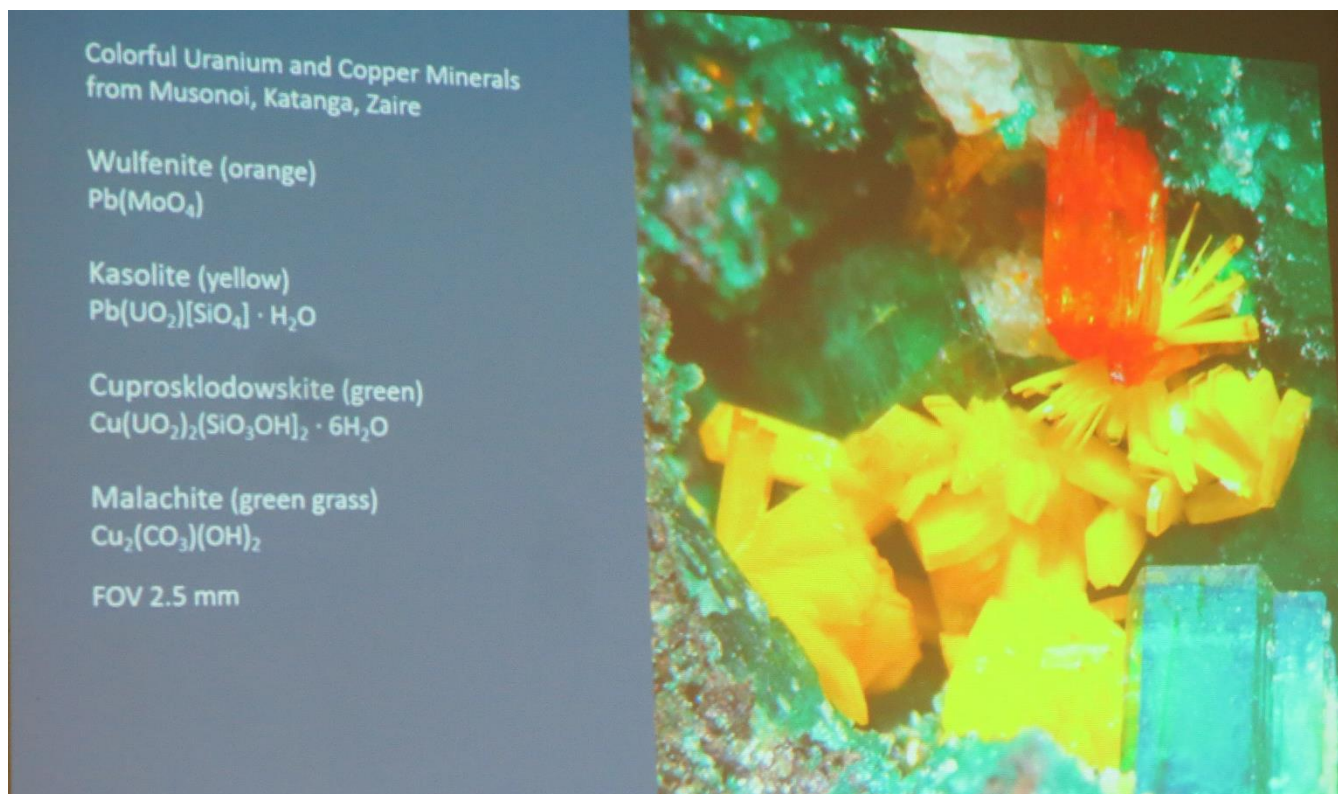
Michael showed a series of photos with different fields of view FOV and described the equipment used. Using intense and different light sources are critical. Light intensity requirements increase as magnification increases. The distribution of wavelengths of light from different sources may change the color or appearance of a mineral.

Field Of View:

- *25 mm with macro lens
- *10 mm macro lens and stereo scope
- *5 mm stereo scope and extension tube or bellows with macro lens
- *2 mm bellows and extension tube or mitituyo or telephoto lens
- *1 mm bellows and extension tube with luminar lens
- *0.2 mm

Michael showed series of slides of different minerals at FOV 20 - .02 mm with a variety of equipment and light and stacking programs and number of "stacks" used.

Photos courtesy of Kathy Hrechka



Rock Hunting in Hungary 2016

By Dave MacLean

On Saturday March 19, 2016 Arpad David, Gordon MacLean and myself were looking for minerals in an abandoned 1970's tertiary age basalt quarry near Tolpuca and Diszer, central Hungary. Arpad David, a geography teacher at the school, where Ildiko and Gordon teach, and a rock hound, had guided us to the one place where there were gas holes in the basalt. There was one very large gas hole in the wall and small gas holes in the rocks piled below it. Most of the gas holes were empty except for some with a very thin films of iridescent goethite and a few vugs with white micro calcite, aragonite, and possibly smectite. The floor of the quarry was covered with variety of low plants, mosses, and small trees.

On Saturday morning we drove about two hours from Budapest BP to the Balaton highlands on the north shore of Lake Balaton, the largest natural lake in Eastern Europe and a popular tourist destination in summer. The Balaton Highlands are a plain with wooded hills consisting of eroded remains of volcanoes active 3.9-7.4 million years ago.

First Arpad guided us into a very small quarry, abandoned in the early 1900's near Szentbekala. The quarry consisted of a flat grassy area and a bluff of stuck together fragments of black basalt, sandstone, pale green olivine, and lighter colored fragments. Apparently the violent eruption threw out rock fragments with little visible magma. There were billboards explaining the volcanism in the Balaton Highlands. The last eruptions were 3.9 MYA.

After looking for minerals in the basalt quarry, Arpad showed us a place at the entrance where the basalt magma had mixed with the overlying much older red brown sandstone.

Near Tihany on the Tihany peninsula on the north shore of Lake Balaton, we examined a bluff of mixed rocks such as black basalt, sandstone, and other rocks from one of the last volcanic eruptions in the area. There was no evidence of any magma at the surface.

Arpad said there are 3,000 places to look for minerals in the present day boundaries of Hungary. We visited four of them. The highly mineralized; gold, lead, zinc etc. part of Hungary; is in Transylvania (Erdely), which was transferred to Romania in June 1920.

The department of Mineralogy, Asvany Tanszek, at Eotvos Lorand Egyetem (University) published a study of the minerals and water enclosed in the olivine lumps from the Balaton Highlands.

Field Trip at Manassas June 4, 2016 Finding Stellerite

By David Fryauff

This beautiful little Stellerite cluster only measures about 5 mm.....the other smaller, darker orange crystals on the matrix are chabazite.

Probably better to saw the excess matrix off rather than try breaking it off & risk popping off the stellerites....they are really fragile.



Micromineralogists of the National Capital Area, Inc.



American Federation of
Mineralogical Societies

(AFMS)
www.amfed.org



Eastern Federation of
Mineralogical Societies

(EFMLS)
www.amfed.org/efmls

Northwest Federation to host the 2016 AFMS Convention – Show July 27-August 1 in Albany, Oregon

Endowment Fund

By Cheryl Neary, Chairperson

The 2016 AFMS Convention is being held in late July of 2016. So what does that mean to you? Hopefully, it means you will purchase your tickets (yes, you need to be in it to win it!) before July for the AFMS Endowment Fund drawing! Why the raffle? The money collected is for the AFMS Endowment Fund. The interest from the monies generated is used for AFMS special projects, such as, junior badges, judges training, digitizing of slide programs, to name a few. Before the clock runs out – why not Purchase tickets? You can also donate an item or two! Why not both options! The tickets are \$5.00 a piece or \$20.00 for five! What a bargain!! Where can you purchase tickets? Great questions- you can always send me a request for the tickets at my email at . I will send you an email version of the tickets and I will fill in all the details on the original ticket, once I receive the money for the tickets. Or better yet- you can purchase them from your Federation's representative!

**EFMLS Representative - Carolyn Weinberger PO
Box 302 Glyndon, MD 21071-0302
Email address - editor@amfed.org**

Official Magazine of the AFMS



Communication and Involvement
Are the Keys to Our Success!

Geology Events:

June:

**18: Eastern Federation of Mineralogy &
Lapidary Societies (EFMLS) Region IV Potluck
Picnic & Rock Swap/Sale**

Gilbert Run Recreational Park Charlotte Hall, MD
Saturday, June 18, 2016 9 am - 5 pm The Southern
Maryland Rock & Mineral Club is the proud sponsor
for 2016

22: MNCA Meeting at Long Branch Nature Center,
Arlington, VA

27: NVMC Meeting at Long Branch Nature Center,
Arlington, VA

September:

5 – 11 EFMLS Wild Acres Little Switzerland, NC.
will feature Alfredo Petrov as the “speaker in
residence”. Alfredo has traveled the world and is
extremely knowledgeable about minerals. \$400 plus
materials fee; registration begins Jan 1; information
at <http://efmls-wildacres.org/>
Steve Weinberger, EFMLS Wildacres Chairperson

Appalachian Coal Ash Richest in Rare Earth Elements: Science Daily

Concentrations are highest in coal from Appalachian
Mountains *Date:* May 27, 2016

Source: Duke University

Summary: The first comprehensive study of the content of rare earth elements in coal ashes from the United States shows that coal originating from the Appalachian Mountains has the highest concentrations of scarce elements like neodymium, europium, terbium, dysprosium, yttrium and erbium that are needed for alternative energy and other technologies. The study also reveals how important developing inexpensive, efficient extraction technologies will be to any future recovery program.

[Appalachian coal ash richest in rare earth elements:
Concentrations are highest in coal from Appalachian
Mountains](#)

Submitted by David Fryauff

Micromineralogists of the National Capital Area, Inc.

Eastern Federation of Mineralogy & Lapidary Societies (EFMLS) Region IV Potluck Picnic & Rock Swap/Sale June 18, 2016 9 am - 5 pm

Gilbert Run Recreational Park Charlotte Hall, MD

*The Southern Maryland Rock & Mineral Club is
the proud sponsor for 2016.*

**Schedule of Events 9:00 - 12:00 Swap and Sell
12:00 - 1:30 Potluck Lunch and Auction
1:30 - 5:00 Swap and Sell**

Admission to the Park is \$5 per carload (No charge for swapping or selling) "This is an old-fashioned rock swap where people who collect rocks, minerals and fossils will be selling and trading specimens".

Details: This is a free event for all EFMLS rock club members and their families and friends. In addition to minerals, fossils and lapidary for swap/sale each attendee/family is asked to bring a potluck dish to share, and one labeled specimen donation for an auction that will take place after lunch. The auction will help defray the cost of the event. There is ample parking for tailgate swapping/selling. Please bring your own tables and chairs. There are onsite restrooms and handicap access. Donations of excess rocks and related tools to the "Treasure Box" are welcomed and are free for anyone to take. The Southern Maryland Rock and Mineral Club will provide plates, cups, plastic ware, sodas, and bottled water.

Contact Person: Dave Lines (240)-427-7062

Directions: From the D.C. Beltway: Take Rt. 5 South (Exit 7A) towards Waldorf Go 12.3 miles and turn left onto Mattawoman Beantown Rd. Go 3.2 miles and turn left onto Leonardtown Rd. (Rt.5). Go 4.9 miles and turn right on Olivers Shop Rd. Go 5.9 miles and turn left onto Charles St. (Rt 6) Go 1 mile and turn left into Gilbert Run Recreational Park From Rt. 301, take Rt. 6 East (Charles St) 8.6 miles Turn left into Gilbert Run Park and follow the signs to the Hill top Pavilion parking.

Submitted by Jean Charsky, EFMLS Region IV VP

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

Sixth Place 2014 - Small Bulletins

Second Place 2015 - Small Bulletins

Member inputs:

*Dave MacLean
*Michael Pabst
* David Fryauff
*Bob Cooke
*Jean Charsky

