

MNCA Website dcmicrominerals.org
The Mineral Mite



Vol. 47 – No. 4

Washington D.C. – A Journal for Micromineralogists April 2014

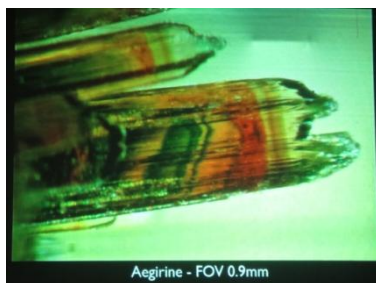
Meeting: April 23 Time: 7:45 p.m. – 10 p.m.
Long Branch Nature Center, 625 S. Carlin Springs Rd. Arlington, VA 22204

Program: "Collecting Minerals in Arkansass' Seyenite Quarries".

By: Dave Fryauff, V.- president

The DVD program was produced by Robert Rothenburg of New York to be shown at our club meeting. Robert is a photomicrographer of excellent micro mineral photos.

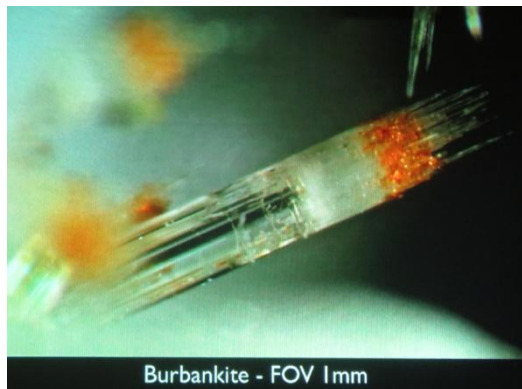
Dave Fryauff has a special interest in the 3M company's Big Rock quarry, just outside of Little Rock because his dad was in the 3M industrial minerals division & was assigned down to Little Rock when Dave was about 4-5 years old... old enough to play in the dirt a lot & start collecting rocks. **Robert Rothenburg & his micro photos**



Aegirine - FOV 0.9mm



Photo of the Month



Burbankite - FOV 1mm

President's Message:

By: Dave MacLean



Congratulations and thank you for putting on our 41st Annual Atlantic Micromounters' Conference on April 4-5, 2014 at the SpringHill Suites by Marriott in Alexandria. Wow

what a success! Kathy's video of Fred Schaefermeyer and tribute to Cynthia Payne celebrated two persons who helped make MNCA what it is today. The video and tribute were joyful moments for me.

Thank you all who helped put on our conference; Michael Pabst , David Fryauff, Jim Kostka, Logan Babcock, Robert Cooke, Scott Braley, Dave Hennessey, George Reimherr, Carolyn Weinberger, and Kathy Hrechka.

As I watched the Joe Marty's slides, especially of rare selenium and tellurium minerals, I am aware that these two much less abundant elements are trapped at low concentration in sulfide minerals. The only time we see selenium and tellurium minerals are in micro as micromineral products of the wet oxidation of sulfide minerals. Finding these selenium and tellurium minerals in bulk or as large specimens is almost unknown. Again it's the little things which count.



Joe Marty, Salt Lake City, Utah

Micromineralogists of the National Capital Area, Inc.

Previous Meeting Minutes: 3/26/14

By: George Reimherr, Secretary

President Dave MacLean opened the meeting at 7:58 p.m. Ten members were present. The minutes for the previous meeting on 2/26/14 were approved, as printed in the Mineral Mite. There was no treasurer's report.



Old business -- Club personnel participation at the recent Montgomery club mineral show, March 15 and 16, 2014, was noted; the club's demo table showed micromounting throughout the hours of the show. The rest of "Old business" was devoted to discussion of items for our upcoming conference on April 4th and 5th. The items discussed included the live and the silent auctions, dealers, food, security, freebee tables, and nearby places to eat supper on Saturday eve. To date, 30 persons have registered for the conference.

New business -- none

Announcements -- In addition to the usual reminders of upcoming events, there was this one -- Rockville Science Day is on Sunday, April 6, 2014, held at the Montgomery College, Rockville, MD. Free admission.

Miscellaneous -- Jim Kostka brought specimens for sale from Simkev Micromounts. The funds collected go to assist the teachers of Wilson Memorial High School, Fishersville, VA to purchase microscopes for their Earth Science classes. George Reimherr brought ore specimens (originally from George Rambo), containing galena, sphalerite, pyrite, and possibly silver minerals and gold -- from Clear Creek County, Colorado.

The business meeting ended at 8:48 p.m.

Previous Program Reviewed 3/26/14

By: George Reimherr, Secretary

The evening's program featured a DVD presentation of Jolyon Ralph titled "Mindat and its Uses". Jolyon was one of many presenters at the 2013 Mineral Symposium held in Dallas, Texas last August.



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.

Pres: Dave MacLean, dbmaclean@maclean-fogg.com
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Website: Julia Hrechka, dcmicrominerals@gmail.com
Conference: Kathy Hrechka, kshrechka@msn.com

The society is a member of:

* Eastern Federation of Mineralogical and Lapidary Societies

(EFMLS) www.amfed.org/efmls

* American Federation of Mineralogical Societies (AFMS) www.amfed.org

2014 Dues are Due

Dues: MNCA Membership Dues for 2014

\$15 (single) or \$20 (family)

Payable to MNCA

Michael Pabst

270 Rachel Drive

Penn Laird, VA 22846



Editor's

Notes:

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.

AFMS Editor's Award
First Place 2011 - Mini Bulletins



April Articles:

***Michael Pabst**

***Kathy Hrechka**

***Jim Kostka**



Vanadates of Uranium

By Michael Pabst

The uranyl ion (UO_2) likes to associate with phosphate (PO_4) and arsenate (AsO_4) and selenate (SeO_3), as I described in earlier articles about Torbernite, the copper uranyl phosphate, Zeunerite, the copper uranyl arsenate, and Marthozite, the copper uranyl selenate. The uranyl ion also favors another anion, vanadate (VO_4). The only known copper uranyl vanadate is Sengierite ($\text{Cu}_2(\text{UO}_2)_2(\text{VO}_4)_2 \cdot 6\text{H}_2\text{O}$). Sengierite can be distinguished from Torbernite, because Sengierite is yellow-green rather than true green, and Sengierite is monoclinic rather than tetragonal like Torbernite. (Stephan Wolfsried has stunning photos of Sengierite on Mindat.)



Left: Sengierite, Shinkolobwe, Katanga, DR Congo. Fov = 0.5 mm.

Right: Tyuyamunite, Dandy Mine, Warren, Pryor Mountains, Carbon County, Montana. Fov = 1 mm.

In addition to the copper uranyl mineral Sengierite, there are number of other important uranyl vanadates with Ca, K, Pb, Ba or Al as the cation, instead of Cu. One of the most abundant secondary ores of uranium is Carnotite, $\text{K}_2(\text{UO}_2)_2(\text{VO}_4)_2 \cdot 3\text{H}_2\text{O}$, a monoclinic ($\beta=103.83^\circ$) mineral found in many locations in the western United States, as well as in the mines of the Congo. Sengierite is the copper member of the Carnotite Group (also monoclinic with $\beta=103.42^\circ$). Another prominent secondary uranium mineral in the United States and elsewhere is Tyuyamunite, $\text{Ca}(\text{UO}_2)_2(\text{VO}_4)_2 \cdot 5-8\text{H}_2\text{O}$, which is a calcium uranyl vanadate, and which is also considered a member of the Carnotite Group,

although it is orthorhombic ($\beta=90.00^\circ$). One of the classic locations for Carnotite crystals is the Anderson Mine in Arizona, where the Carnotite occurs together with Weeksite ($\text{K}_2(\text{UO}_2)_2(\text{Si}_2\text{O}_5)_3 \cdot 4\text{H}_2\text{O}$), a uranyl silicate. Together, Carnotite and Weeksite look a bit like a tasty fruit salad, although they are tiny enough to prevent confusion among starving prospectors.



Carnotite (orange blocks) and Weeksite (yellow fan), Anderson Mine, Date Creek Basin, Yavapai County, Arizona. Field of view = 2 mm.

Those of you kind enough to read these articles of mine might have detected a slight obsession with secondary uranium minerals. Important influences on me were the articles and pictures by Pierre and Nelly Bariand of the Sorbonne in Paris. They are experts on the Mounana Mine, near Franceville, Haut-Ogooué Province, Gabon. The photography of Nelly Bariand is outstanding, and she inspired me to try micromineral photography back in the ancient days of film cameras. They co-wrote an article about Mounana, Gabon in one of the early volumes of *The Mineralogical Record* that featured wonderful photographs (Cesbron F, Bariand P, The Uranium-Vanadium Deposit of Mounana, Gabon, *Mineralogical Record* 6:237-249, 1975). They also published a book of mineral photography (Bariand, Pierre, *World Treasury of Minerals in Color*, Galahad Books, New York, 1976), which contains pictures from Mounana, as well as from Shinkolobwe and Musonoi in Congo.

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The Mounana Mine is famous for several uranium vanadates, including:

Curienite $\text{Pb}(\text{UO}_2)_2(\text{VO}_4)_2 \cdot 5\text{H}_2\text{O}$ Orthorhombic

Francevillite $(\text{Ba},\text{Pb})(\text{UO}_2)_2(\text{VO}_4)_2 \cdot 5\text{H}_2\text{O}$ Ortho

Vanuralite $\text{Al}(\text{UO}_2)_2(\text{VO}_4)_2(\text{OH}) \cdot 11\text{H}_2\text{O}$

Monoclinic $\beta=103^\circ$

Mounanaite $\text{PbFe}_2(\text{VO}_4)_2(\text{OH},\text{F})$ Triclinic

The specimens in the Sorbonne that Nelly Bariand photographed are much better than mine, and she is a more skilled photographer, so you ought to look at her pictures sometime. Meanwhile, here are some pictures of my specimens from the Mounana Mine.

The name Vanuralite comes from its chemical composition which includes vanadium, uranium, and aluminum. I wonder why Vanuralite is not considered to be the Al mineral in the Carnotite Group? Like Carnotite and Sengierite, Vanuralite is monoclinic with $\beta=103^\circ$. Of course, there has to be an $(\text{OH})^-$ in the formula to balance the Al^{3+} .

There is a continuous series between Curienite and Francevillite, which depends upon whether Ba is dominant over Pb. From the pictures that I have seen, apparently either mineral can be either yellow or orange, so a chemical analysis is needed to differentiate the two minerals.

The Mounana Mine opened in 1960, producing 500-1500 tons per year of uranium. The mine closed in 1999, leaving behind an environmental disaster. The mining company has paid 13 million euros towards reclamation and mitigation, along with economic redevelopment of the Mounana area. Some of this money came from taxpayers of the European Union. The extent of the remaining environmental damage remains controversial. If uranium is ever mined in Virginia, I do hope that the problem of permanently disposing of the waste will be dealt with when the mine opens rather than when it closes!



Left: Vanuralite, Mounana, Gabon. Field of view = 1.5 mm.



Right: Francevillite on Mounanaite, Mounana, Gabon. Field of view = 4 mm.

Corrections: By Michael Pabst

George Reimherr brought to my attention that the locality I had given for my picture of Sklodowskite is probably incorrect. I may have been misled by an old label from the days when the true locality was probably being concealed. The Sklodowskite from Chihuahua, Mexico is probably not from Naica, as I wrote, but, based on information from Mindat, may be from the Animas Mine, Francisco Portillo, West Camp, Santa Eulalia District, Mun. de Aquiles Serdan, Chihuahua, Mexico. George Reimherr has a specimen labeled Potosi Mine, Santo Domingo, Santa Eulalia, Chihuahua, Mexico. However, there is a picture of Sklodowskite in the *PhotoAtlas of Minerals* CD that has the locality given as Naica. I cannot say whether my specimen pictured in the article is from the Animas Mine or the Potosi Mine, but it is probably from the Santa Eulalia area near the city of Chihuahua, not from Naica, which is farther South in the state of Chihuahua.

I wrote earlier that Sabugalite was not fluorescent, but that is incorrect. I don't have a specimen to confirm fluorescence for myself. However, Sabugalite is listed as being fluorescent in the very nice website for fluorescent minerals:

<http://www.fluomin.org/uk/list.php> If you have any interest in fluorescent minerals, you should note this site.



Type Locality of Haynesite

Repete Mine, Blanding, San Juan Co., Utah 1991
patrickhaynes407@yahoo.com

Pat Haynes Micro Minerals Available

I have boxes of rough New Mexico micro material such as aurichalcite, bixbyite, chabazite-Ca, descloizite, hematite, heulandite-Ca, magnesiohornblende, smithsonite, vanadinite, wulfenite, etc. for East Coasters. You would have the fun of trimming/discovery. For instance I just listed 10 species, but going through flats to gather ten different things for one box might be problematic. If there is some interest then I can expand the list of species. Thanks. Patrick901 Sean St., Socorro, NM 87801 phone 505-366-3585



Dates: April 26 & 27, 2014 9am-6pm
Free of charge and open to all ages!
Walter E. Washington Convention Center in DC

Over 750 leading STEM organizations will present hands-on science and engineering activities for people of all ages. - See more at:

<http://www.usasciencefestival.org/2014festival.html#sthash.9bDOU5d5.dpuf>

APR 24: X-STEM Symposium Kicks-Off the USA Science & Engineering Festival Expo at the DC Convention Center; "TED-Style" Event Introduces Kids to Science Visionaries

Washington, DC— The first ever X-STEM: Extreme STEM Symposium—presented by Northrop Grumman Foundation and MedImmune—kicks-off the 3rd USA Science & Engineering Festival Expo and Book Fair, hosted by founding and presenting sponsor Lockheed Martin. Being held on April 24th at the Walter E. Washington Convention Center in DC, X-STEM is a "TED-style" event for kids with talks by 50 of the nation's most noted science, technology, engineering and mathematics (STEM) professionals representing top universities, corporations, non-profits, and governmental agencies.

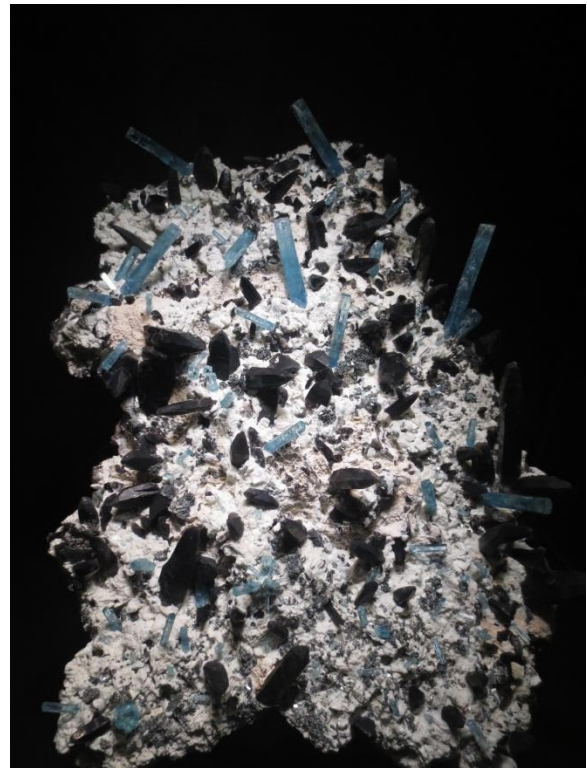
Volunteer 2012 Kathy with Meteorite Man Geoff





By Kathy Hrechka

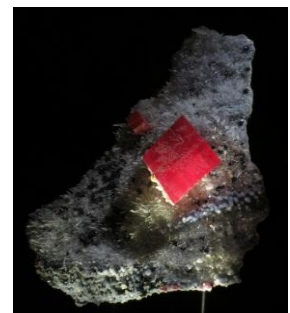
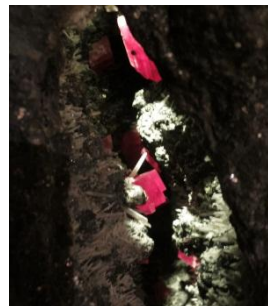
I recently toured the Denver Museum of Nature & Science, Colorado. The geology section of the museum contained a selection of world class minerals including; rhodochrosite, aquamarine, and gold. I enjoyed the case of famous diamond representations too. I photographed some of my favorite minerals so share with you. Actually, the museum visit was a side trip, as I came to Denver to visit my cousin, Cheryl Keydel along with Fred Schaefermeyer & Muriel Frink.



Aquamarine Crystals with white feldspar, black quartz, silvery mica, and red garnets Chaffee County, Colorado Dimensions 5' x 3'



"The Alma King" Rhodochrosite Sweet Home Mine, Alma, Park County Colorado Discovered in 1992. (I'm in the photo to show crystal size.)



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The San Juan Mountains: Prospectors first ventured into these rugged volcanic mountains in southwest Colorado in the 1860's. However, extensive gold mining did not begin until after the Burnot Treaty was signed with the Ute Indians in 1873. Placer mining soon led to pick-and-shovel mining of near-surface veins. Later, extensive mine systems followed the veins underground. Larger scale underground mining had generally reached its peak by 1900, although a few of the largest mines continued production into the 1970's.



Crystallized Leaf Gold Fancomb Hill, Breckenridge Summit County, CO
Gold specimen is featured top, center in vault.

Colorado Museum's Oldest Exhibit **Crystallized Leaf Gold** Fancomb Hill, Breckenridge Summit County, CO This piece of pure crystallized gold was originally discovered in 1887, and rediscovered in a bank vault in 1971. It was donated by John F. Campion collection 1900.



Fred Schaefermeyer & Muriel Frink

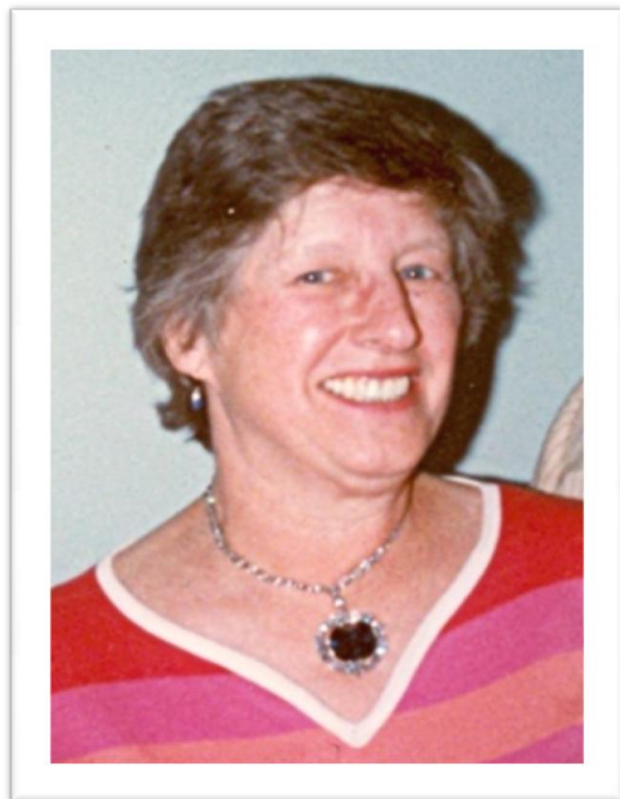


Cousin Cheryl Keydel Ancient Treasures Alpaca

41st Atlantic Micromounters Conference April 4-5, 2014

By Kathy Hrechka, Conference Chair

**Charter Member of 1967
Cynthia Payne
Micromineralogists of the National
Capital Area, Inc.**



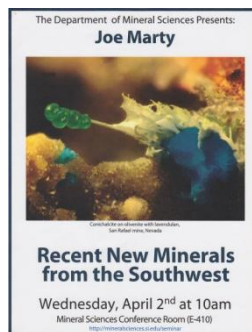
**Congratulations & Thank you for your
dedication and service through 2014.**

I dedicated this year's conference to Cynthia Payne, who is our only remaining chartered club member since 1967. I also included my mineral mentor, Fred Schaefermeyer. It was Fred who first introduced me to the "wonderful world of micromounting" in 1985.

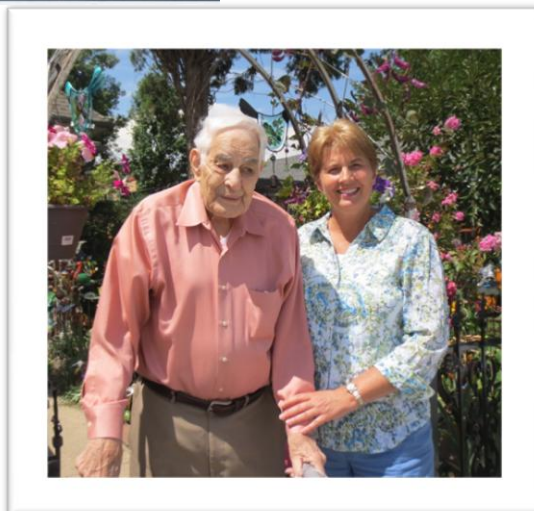
Thank you MNCA members!

Conference Speaker: Micromounter Joe Marty of Salt Lake City, Utah

Our speaker was Joe Marty, a retired medical technologist who taught hematopathology at the University of Utah. Joe is credited for discovering many new minerals, including "postite", named for Dr. Jeffrey Post, Curator of the National Gem and Mineral Collection at the Smithsonian. **Joe and his wife Petrea**, were invited by Dr. Post to give a presentation to the mineral department geologists at the Smithsonian prior to our conference. Joe's conference topics included: Recent Collecting Adventures; Hidden Treasure Mine, Utah – A Mineral Collector's Treasure; New Vanadium Minerals from the Colorado Plateau with an Emphasis on Postite; and My Favorite Microminerals – Self Collected, Trades, and Purchases. **Martyite** Photo Joe Marty



**Smithsonian's
Museum of
Natural History
Department of
Mineral Sciences
Seminar**



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Happy 21st Birthday Logan Babcock



Thank you Steve & Carolyn Weinberger for mentoring me.
Photos courtesy Kathy Hrechka

Conference Photos Continued

Fred Schaefermeyer Interview in Denver 4/2014



Cynthia Payne - Charter Member since 1967



Barbara Sky, Conference Honoree for 2015



Check our website
www.dcmicrominerals.org

Photos courtesy Patricia Flavin
Our Newest Micromounter



" Geology 101" Leisure World Retirement Community in Maryland

By Jim Kostka

I recently taught twenty-four energetic residents of the Leisure World Retirement Community "Back to Basics Geology 101 / from a Cub Scout's point of view". I gave a Power Point presentation along with posters and teaching mineral samples. The power point was a compilation of the fifteen new Cub Scout posters. The teaching samples were borrowed from Conrad Smith's Eagle Scout project. Most attendees now understand the difference between a rock and a mineral - as well as the three types of rocks and their origins - igneous, sedimentary, and metamorphic. The retirees had many questions, which stimulated great discussion. These folks basically earned their "Geology pin".

The Leisure World's Lapidary Club has a wonderful workshop, full of lapidary machinery. Until a few years ago, the membership was so low, that the LW Board considered taking away their lapidary space. With a little effort from local mineral clubs, membership has grown to over twenty-five. Most of these new members knew very little about geology, but knew how to cut a cab and polish a rock. The lapidary shop was the main reason they initially joined the club.

I believe that my basic "Geology 101" program was most beneficial and eagerly received. These retirees are a very vivacious group, willing to learn. Unlike Cub Scouts, they didn't peel the mica sheets to bits! So, if you have a PowerPoint and wish to be a presenter at the Leisure World Lapidary club, let Chuck Mason know.



Thank you Earl & Linda Smith for allowing me to use parts of Conrad Smith's Eagle project! Jim K.

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American Federation of Mineralogical Societies

(AFMS)
www.amfed.org



Eastern Federation of Mineralogical and Lapidary Societies

(EFMLS)
www.amfed.org/efmls

American Federation Rocky Mountain Federation / Show 2014
July 9 – 13 Tulsa, Oklahoma

Tulsa Rock & Mineral Society Presents
"ROCK AND GEMS OF THE INDIAN TERRIORTY" Tulsa Expo Square – 21st & Yale

Special Speakers include:
Mike Everhart – Author of Oceans of Kansas
Marv Damon – Tri State Minerals
Steve Arnold – Meteorite Man
Bob Jones – Chief Editor of Rock and Gem
Stan Krukowski – Oklahoma Geological Survey

Finis Riggs 918-587-4400--Lriggs1331@cox.net
Ben Thomas 918-486-3788--BThomas630@cox.net

Tulsa Rock and Mineral Society Website:
towntownrockhound.org

Rocky Mountain Federation Website: rmfms.org

Light it up Blue for Autism Awareness!



My son is loving the loupe (purchased at mnca conference) He's looking at everything! Trigie

Communication and Involvement
Are the Keys to Our Success!

Geology Events: By Matt Charsky

April:

18–19: Gem, Mineral, and Fossil Show North Museum of Natural History and Science
Fri. 10am–6pm, Sat. 1am0–5pm; Farm and Home Center, 1383 Arcadia Rd Lancaster, PA
Contact: Alison Mallin, 717/358-7188

23: MNCA Meeting
Long Branch nature Center, Arlington, VA

26: Sterling Hill Super Dig; Ultraviolet Event
Ogdensburg, NJ Registration fee: \$21

26–27: 3rd USA Science and Engineering Festival
Walter E. Washington Convention Center
Washington, DC 9am–6pm free admission

28: Northern Virginia Mineral Club Meeting
Long Branch Nature Center, Arlington, VA 8pm

May:

3–4: Treasures of the Earth: 11th Annual Show and Sale; sponsored by the Mineralogical Society of Northeastern Pennsylvania, Oblates of St. Joseph, 1880 Highway 315, Pittston, PA

24: Ruhl Armory Show; Sat. 10am–4pm
Chesapeake Mineral Club, Baltimore, MD

EFMLS WORKSHOPS AT WILDACRES
Geology Retreat atop the Blue Ridge Mountains in North Carolina. Tuition is \$390.

*** Fall classes September 1 – 7, 2014**
EFMLS website <www.amfed.org/efmls>

August 22-23, 2014
Dallas Symposium

