

MNCA Website dcmicrominerals.org
The Mineral Mite



Vol. 47 – No. 5

Washington D.C. – A Journal for Micromineralogists

May 2014

Meeting: May 28 Time: 7:45 p.m. – 10 p.m.
Long Branch Nature Center, 625 S. Carlin Springs Rd. Arlington, VA 22204

Program: Franklin / Sterling Hill Zinc Mine - Super Dig & Mine History

By: Dave Fryauff, Vice President

Dave Fryauff recently attended the Franklin Show, and will present details of his travels, as well as the history of the mine. He will also have some mineral specimens for study/observation.

In the small town of Ogdensburg, New Jersey in Sussex County, is a very important historic and geological site. New Jersey can boast having one of the most renowned mineral districts in the world! In total, 357 types of minerals have been found in the mineral district at Sterling Hill Mine. These 357 types account for approximately ten percent of the minerals known to science. Additionally, thirty-five of these minerals have not been found anywhere else and an astounding ninety-one of these minerals fluoresce.

Photo of the Month



President's Message:

By: Dave MacLean

I am delighted that we have a place and date for our 2015 Atlantic Micromounters Conference Fri-Sat 10-11 April, 2015 at the Springhill Marriott in Alexandria.

Thanks to the efforts by many of us, and for the speaker the 2014 our conference was a winner.

It's the little things which count or are most interesting. I remember at one of past shows of the Gem Lapidary Mineral Society of Montgomery County GLMSMC. One vendor had a few rocks with very small black metallic shiny crystals on them. He said that the black crystals were rhenium disulfide ReS_2 . Rhenium is one of the rarer elements, which almost always is found at only ppm concentrations in other sulfide minerals. The seller, a man from the Czech Republic I believe, said he identified the minerals, which he offered by X-ray diffraction and other instrumental means. The price he wanted for his minerals reflected the effort and cost he invested in identification.

Atlantic Micromounters' Conference
April 10 - 11, 2015
SpringHill Suites by Marriott Alexandria,
Virginia

Photo of the Month on left : Cuprosklodowskite (green), Uranophane (yellow), and Kasolite (orange) on a matrix of Torbernite, from Musonoi, Katanga, D R Congo. Field of view=5 mm.

Photomicrographer, Michael Pabst

Micromineralogists of the National Capital Area, Inc.

Previous Meeting Minutes: 4/23/14

By: George Reimherr, Secretary

Vice president David Fryauff opened the meeting at 8:09 p.m. Nine members were present. The minutes for the previous meeting on 3/26/14 were approved, as printed in The Mineral Mite. The treasurer gave his report.



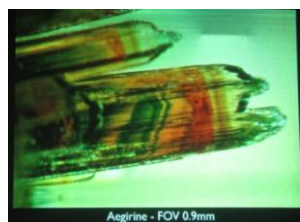
Old business -- The members expressed their appreciation to Kathy Hrechka, for her efforts, as conference chairman, in making our recent conference a success. This appreciation was extended to the other members who helped at the conference. There were 38 persons at the conference, including the speaker and his wife. Member Bob Cooke recorded the conference presentations of speaker Joe Marty (with permission) onto a CD, and he gave out copies of this CD to the members present at the meeting.

New business -- The members began discussing possible dates for the conference in 2015, while avoiding conflicts with other scheduled events. Our club was invited to join other local clubs on field trips to the National Limestone Quarry, Mt Pleasant Mills, PA, on April 26 and on May 10. These became official club field trips, so the members who attend the trips would be covered by club insurance.

Miscellaneous -- Three members -- Michael Pabst, Patrick Haynes, and Kathy Hrechka -- received awards for their contributions to The Mineral Mite. The business meeting ended at 8:48 p.m.

Previous Program Reviewed 4/23/14

The evening's program featured a DVD presentation, produced by Robert Rothenburg, titled "Collecting Minerals in Arkansas Selenite Quarries". This in turn was followed by a showing of photographs of each of the 52 micromineral specimens that were auctioned at the conference on April 5, 2014.



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
Vice Pres: David Fryauff, fryauffd@yahoo.com
Secretary: George Reimherr, greim@cox.net
Treasurer: Michael Pabst, Michaeljpabst@yahoo.com
Editor: Kathy Hrechka, kshrechka@msn.com
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**

*** D. Hennessey**



Micromineralogists of the National Capital Area, Inc.

**2013 Bulletin Editors Awards
Competition BEAC
EFMLS Eastern Federation
Mineralogical & Lapidary Societies**

**Congratulations to the following
MNCA members:**

EDUCATIONAL ARTICLES:

Trophy - Michael Pabst

“Bequerelite and Kasolite” *The Mineral Mite*



Second Place - Michael Pabst

“Fourmarierite” *The Mineral Mite* MNCA

ORIGINAL NON-TECHNICAL ARTICLES

Second Place - Patrick Hayes

“Archuleta Prospect; Cerro Colorado, Bernalillo County, New Mexico” *The Mineral Mite* MNCA



Sixth Place - Michael Pabst

“The A.E. Seaman Mineral Museum”
The Mineral Mite MNCA

Ninth Place - David J. Fryauff

“Slag Minerals from Laurion, Greece”
The Mineral Mite MNCA

Honorable Mention - Cynthia Payne

“Founding and Early Years of the
Micromineralogist of the National Capital Area”
The Mineral Mite MNCA



SMALL BULLETINS:

Fourth Place - Kathy Hrechka *The Mineral Mite*

Participating Clubs BEAC:

- *Aiken Gem, Mineral & Fossil Society
- *American Fossil Federation
- *Baltimore Mineral Society
- *Central Pennsylvania Rock & Mineral Club
- *Chesapeake Gem & Mineral Society
- *Gem Cutters Guild of Baltimore
- *Gem, Lapidary & Mineral Society of Montgomery Co., MD. Inc.
- *Gem & Mineral Society of Syracuse, NY
- *Maryland Geological Society
- ***Micromineralogists of the National Capital Area, Inc.**
- *Mineralogical Society of the District of Columbia
- *New York Mineralogical Club
- *Richmond Gem & Mineral Society
- *The Northern Virginia Mineral Club
- *The Rock and Mineral Club of Lower Bucks Co., PA, Inc.

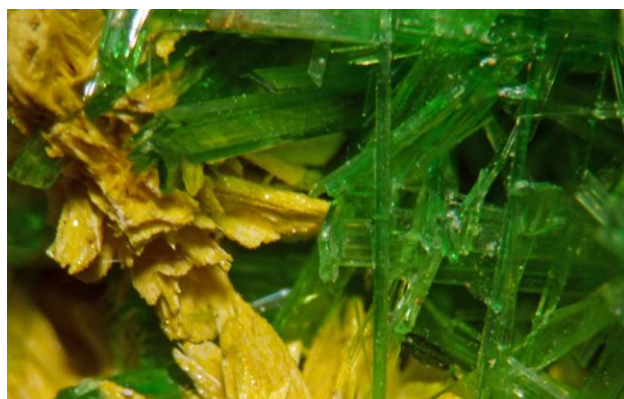
Newer Uranium Minerals: Boltwoodite Haiweeite, Phurcalite and Ulrichite

By Michael Pabst

Before we leave the topic of secondary uranium minerals, I would like to add two pictures of Cuprosklodowskite from Musonoi, Katanga, DR Congo. In the first picture, besides Cuprosklodowskite, there is also yellow Uranophane and orange Kasolite. In the second picture, there is yellow Schoepite coating or replacing tan Rutherfordine, with a little dark green Vandenbrandeite in the corner. (I acquired these two specimens recently from Excalibur Minerals in Charlottesville.)



Cuprosklodowskite (green), Uranophane (yellow), and Kasolite (orange) on a matrix of Torbernite, from Musonoi, Katanga, D R Congo. Field of view=5 mm.



Cuprosklodowskite (bright green), Schoepite (yellow), Rutherfordine (tan) and Vandenbrandeite (dark green in lower left) from Musonoi, Katanga, D R Congo. Field of view = 4 mm.

Although these classic uranium minerals from Katanga in Congo, shown above, are incomparable, they emerged roughly 25-75 years ago, so they are expensive and hard to find these days. However, there have been more recent discoveries of secondary uranium minerals that are delightful to behold, and sometimes even affordable for a micromineralogist. Two of the minerals that I would like to highlight here are calcium uranyl silicates: Boltwoodite from Namibia and Haiweeite from Brazil.

Boltwoodite, $(K,Na)(UO_2)[HSiO_4] \cdot 0.5H_2O$, is a yellow or yellow-orange monoclinic nesosilicate ($\beta = 105.45^\circ$), that was first described in 1956 from Utah (Pick's Delta Mine, Delta, San Rafael District, Emery Co., Utah) (Fron del C, Ito J (1956) Boltwoodite, a new uranium silicate, Science **124**: 931-931). About 1975, splendid specimens appeared from Namibia. The actual locality of these fine specimens has become clear only recently. They were previously described as coming from Rössing near Arandis, but the Rössing Uranium Mine was not the true location. The true location is about 40 km away from Rössing at the Goanikontes Claim, Goanikontes, Swakopmund District, Erongo Region, Namibia. Nice crystals of the closely related Weeksite, $K_2(UO_2)_2(Si_2O_5)_3 \cdot 4H_2O$, were also found at Goanikontes. (Last month I showed a picture of Weeksite and Carnotite from the Anderson Mine in Arizona.) This Boltwoodite specimen shows weak orange fluorescence in long-wave UV light, and no response in short-wave UV light.



Boltwoodite from Goanikontes, Swakopmund, Erongo, Namibia. Field of view = 5 mm.

Continued on page 5

Haiweeite, $\text{Ca}(\text{UO}_2)_2[\text{Si}_5\text{O}_{12}(\text{OH})_2]\cdot 4.5\text{H}_2\text{O}$, is a cousin of Boltwoodite. Haiweeite was first discovered near the Haiwee Reservoir in the Coso Mountains of California in 1959 (McBurney, T.C. & J. Murdoch (1959): Haiweeite, a new uranium mineral from California: *American Mineralogist*: **44**: 839-843.) My specimen comes from Teófilo Otoni, Minas Gerais, Brazil. The Haiweeite spray of light yellow crystals is perched on dark purple fluorite, and accompanied by darker yellow prismatic crystals of the closely related β -Uranophane, $\text{Ca}(\text{UO}_2)_2[\text{HSiO}_4]_2\cdot 5\text{H}_2\text{O}$. Or perhaps the darker mineral is Phosphuranylite, $(\text{H}_3\text{O})_3\text{KCa}(\text{UO}_2)_7(\text{PO}_4)_4\text{O}_4\cdot 8\text{H}_2\text{O}$, based on some pictures in Mindat. Haiweeite and β -Uranophane are both monoclinic nesosilicates. Phosphuranylite is orthorhombic. But β -Uranophane is hard to distinguish visually from Phosphuranylite, based on crystal system, because $\beta = 91.38^\circ$ for β -Uranophane and $\beta = 90^\circ$ for Phosphuranylite.

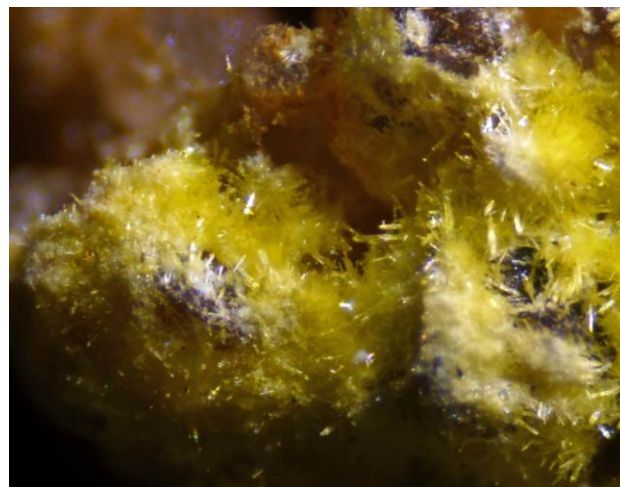
My specimen of Haiweeite shows green fluorescence, as it should (<http://www.fluomin.org/uk/list.php>). The fluorescence is brighter in long-wave than in short-wave UV light. The darker yellow prismatic crystals show no fluorescence, but lack of fluorescence is characteristic of both β -Uranophane and Phosphuranylite, so fluorescence does not help to distinguish between them. (The website above indicates the Phosphuranylite has a “very weak” green fluorescence, and β -Uranophane is said to have a green fluorescence, but there is no indication of intensity and no spectrum is given. So I interpret this as “no fluorescence” for either mineral, for practical purposes.)

Haiweeite (left), and β -Uranophane or Phosphuranylite (right), Teófilo Otoni, Minas Gerais



There have been other fairly recent discoveries of uranium minerals, including Phurcalite and Ulrichite, two new uranyl phosphates. Phurcalite, $\text{Ca}_2(\text{UO}_2)_3(\text{PO}_4)_2\text{O}_2\cdot 7\text{H}_2\text{O}$, was discovered in Saxony, Germany (type locality) and at Shinkolowbe, Katanga, D R Congo (co-type locality) in 1977 (Deliens, M. & P. Piret (1978): La phurcalite, $\text{Ca}_2(\text{UO}_2)_3(\text{PO}_4)_2(\text{OH})_4\cdot 4\text{H}_2\text{O}$, nouveau mineral. *Bulletin de Minéralogie*: **101**: 356-358). Phurcalite forms yellow orthorhombic needles. Since its discovery in Germany and in the Congo, Phurcalite has been found in many locations around the world, including the Posey Mine in San Juan County, Utah, which is the source of specimen pictured below. Phurcalite shows yellow-green fluorescence, brighter in long-wave than in short-wave UV light.

Phurcalite, Posey Mine, San Juan County, Utah.



Field of view = 2 mm.

An even more recent discovery of a new secondary uranium mineral, Ulrichite, occurred in Australia in 1988 (Birch WD, Mumme WG, Segnit ER (1988): Ulrichite: a new copper calcium uranium phosphate from Lake Boga, Victoria, Australia. *Australian Mineralogist*: **3**:125-131). Ulrichite, $\text{CaCu}(\text{UO}_2)(\text{PO}_4)_2\cdot 4\text{H}_2\text{O}$, is similar in composition to Torbernite, $\text{Cu}(\text{UO}_2)_2(\text{PO}_4)_2\cdot 12\text{H}_2\text{O}$, except that Ulrichite adds Ca to the formula. Another difference is that Ulrichite is monoclinic, whereas Torbernite is tetragonal. Ulrichite shows no fluorescence. Ulrichite sometimes occurs as beautiful green sprays, but my specimen is more of a random mess of needles, as befits my collection and personality.

Continued on page 6

Continued "Newer Uranium Minerals: Boltwoodite Haiweeite, Phurcalite and Ulrichite" By Michael Pabst



Ulrichite, Lake Boda Granite Quarry, Victoria, Australia. Field of view = 3 mm.

There are many more secondary uranium minerals that I have not written about, because I lack a photogenic specimen. I welcome anyone who would like to lend me a photogenic uranium mineral to add to our *Mineral Mite* catalog of colorful uranium minerals.

Our collections of uranium minerals have been enriched by classics from Congo and Gabon and Europe and the American Southwest, and by more recent discoveries in Namibia, Brazil, Germany and Australia. I wonder what discoveries of new uranium minerals await us in the future. Keep looking! I believe that the name "Virginiaite" is available!

Photomicrographer Michael Pabst is pictured with his velvet lined, sewer pipe bellows and camera set up.



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.



Type Locality of Haynesite Photo: Pat Haynes Repete Mine, Blanding, San Juan Co., Utah 1991 patrickhaynes407@yahoo.com

Light it up Blue for Autism Awareness!



My son is loving the loupe (purchased at the Atlantic Micromounters' Conference on April 5, 2014). He's looking at everything! Trigie

Wankel T. Rex: Smithsonian's New Dinosaur

By Kathy Hrechka

The Nation's T. rex arrived at the Smithsonian's Museum of Natural History on April 15 aboard FedEx from Bozeman, Montana. It will become the centerpiece of a new Fossil Hall that will open in 2019.



I had the opportunity, as a museum volunteer to attend the ceremony welcoming the "Wankel T. rex" to the Smithsonian. Dr. Kirk Johnson, Sant Director of Natural History Museum presided, welcoming various people including Dr. Jack Horner, curator of paleontology at Montana State University's Museum of the Rockies, along with Kathy Wankel, the rancher who first discovered the dinosaur's femur bone in 1988.

Today visitors have the once-in-a-lifetime opportunity to see Smithsonian conservators unpack, prepare and 3D scan the T. rex bones in the "Rex Room," adjacent to the Rotunda. I got a chance to go inside the "Rex room" and view crates of the well packed dinosaur bones. I also observed a 3D scan and printing in progress of a miniature Wankel T. rex skull in blue plastic.

As Kathy Wankel told her story, "she was just an ordinary rock hound always looking at the ground". For some reason she noticed a fossil protruding out of the side of a cliff, which looked unusual. Because the land was owned by the US Army Corps of Engineers, Kathy reported the find to Jack Horner at the Museum of the Rockies. Eventually, and for the past twenty years, the Wankel T. rex was displayed in the Museum of the Rockies in the fashion in which it was originally found, lying on its side. It was also an 85 percent complete skeleton. The Smithsonian will display the dinosaur upright, held by specially designed braces, which could allow scientists to remove individual bones for study. FedEx will once again transport the T. rex from Washington to Canada, for that articulation during the hall renovation.



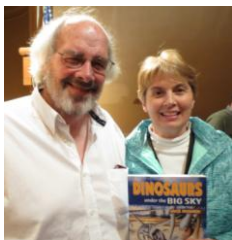
Photo on left: Dr. Kirk Johnson, Sant Director Smithsonian's Museum of Natural History, Kathy & Tom Wankel, and a Representative of the US Army Corps of Engineers presenting the original femur bone discovered by Kathy Wankel.

Micromineralogists of the National Capital Area, Inc.



“Rex Room” Natural History Museum unpacking 16 original crates: T.rex delivered by FedEx

Author’s note: Our family visited the Museum of the Rockies, Bozeman in 2005, where I purchased one of Dr. Jack Horner’s books. His book details the Hell Creek Formation in McCone County, Montana, the area where the Wankel T. rex was discovered by Kathy Wankel. I was happy that he signed my book.



I learned about some interesting discoveries of dinosaur soft tissue at the Museum of the Rockies in Bozeman. Researcher, Mary Higby Schweitzer, formerly of MSU found soft tissue and hollow blood vessels with round microscopic structure inside. The structures looked like cells, leading the scientists to believe that some dinosaur soft tissues may have kept a portion of their flexibility, elasticity and resilience even after 68 million years. That study was on the B Rex, found north of Jordan, Montana in 2000, estimated to be about 68 million years old. Dr. Horner had to consider the discoveries of cellular preservation, a new paleontology: cellular and molecular paleontology.

What a coincidence, having seen the Wankel T.rex in Montana in 2005, and now volunteering in the Natural History Museum today. I am grateful to be a volunteer at the Smithsonian, for it has provided me extraordinary opportunities.

Photo right: Kathy Hrechka, Visitor Concierge



Photo: Michael & Julia Hrechka in 2005 at the Museum of the Rockies in Montana in front of the replica of the Wankel T.rex.



Wankel T.rex on display for 20 years at the MOR as originally found in the Hell Creek Formation.



& Kathy Wankel, Discoverer of the T.rex

Rochester Mineralogical Symposium, 2014

By Dave Hennessey

Fellow member George Loud and I had the opportunity to attend the 41st Rochester Mineralogical Symposium held April 24-27, 2014. It was George's 41st visit - well maybe not quite - but he has attended many times in the past. For me, it was the first time.



This is quite an event, with an impressive line-up of speakers from its opening on Thursday evening through midday Sunday. The presentation from each speaker (each about an hour in length) would make for an excellent club program, in fact the presentations were all filmed and will be available on DVD if we ever want to consider getting one to use for a club program. The presentations took us around the world, with stops in Ontario, Tanzania, Ukraine, Colorado, Sicily, England and Scotland, and a presentation on the final day by Jeff Scovill on "What's New in Minerals", based on new specimens that have come to him for his professional photography treatment over the past year. I was a little worried that I would be drinking from the fire house with so many presentations in a relatively short time, but the presentations were informative, often humorous, filled with wonderful slides, and thoroughly enjoyable.

In addition to the opportunity to learn, the Symposium also presented the opportunity to acquire mineral specimens. The symposium is held in a Radisson hotel and the top floor of the hotel is occupied by mineral dealers. Several of the dealers were program presenters. Dealers ranged from big time (Dave Bunk, John Betts, etc.) to small time local club members. There was something for everyone. The dealers were not open during the times of the presentations. During the course of the symposium there was also both a silent auction and a live auction. I should also mention that Mineralogical Record and Rocks and Minerals were both present in the hotel lobby area, selling books and magazines. Also in the lobby area was Lithographie, with their selection of wonderful books. I picked up a copy of "Minerals of Mexico" to add to my library. It's a nice coffee table book

with killer photos of specimens that I wish were all mine.

Each evening, there was an available dinner at the hotel, but there was no requirement to sign up for any of the dinners. However, you would not want to miss the Saturday night dinner - a 3 ring circus that included both the silent auction and the live auction.

There was an exhibits room next to the main conference room with about 25 cases. The cases were made available to dealers and attendees (they signed up in advance) and included many wonderful themed displays. George brought along Centreville, Virginia minerals and filled two of the cases. The exhibition room guards/attendants had to come by regularly with Windex to clear away my slobber from the front of those cases. Another of our members, Bruce Gaber, had two cases in the exhibit room including one that was XXX rated. I never knew so many mineral could look like naughty body parts. Enough said.

A big part of the fun was all the people who are as crazy about minerals as I am, and some who are even crazier. Talking and visiting in the dealer rooms went on until midnight every night. For me anyway midnight was about it. I heard other folks talking about being up until 3:30 am. I had several chats with John Medici who many of you may remember as one of the collectors of the formidable apophyllite roses on prehnite from Centerville, found in 1967. (As you'll recall, an amazing example is on display at the Smithsonian.) Some of our usual local suspects were there as well - Mike Wise and his wife, Lance and Cindy Kearns and a handful of their students.

Lastly, I must mention the "Micromounter's Playroom" which was available for the micromounter crowd. Sort of like a micromount symposium happening inside of the larger overall symposium. Sign up to participate in the playroom had to occur in advance and as with the dealer rooms, the playroom was closed during the presentations. I didn't get to hang around the playroom much - your name tag had to have a special designation to enter the room - and it was always guarded because of the value of so many microscopes, etc. that attendees brought along.

All in all, the trip was a pleasure and I would highly recommend it. This was my first Rochester Mineralogical Symposium but I don't expect it to be my last.

Micromineralogists of the National Capital Area, Inc.



American Federation of Mineralogical Societies

(AFMS) www.amfed.org



Eastern Federation of Mineralogical and Lapidary Societies

(EFMLS) www.amfed.org/efmls

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

Tulsa Rock & Mineral Society Presents
"ROCK AND GEMS OF THE INDIAN TERRIORITY" 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

Museum of the Rockies T. Rex Bite:



Michael & Julia Hrechka in 2005

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

Geology Events: By Matt Charsky

May:

18: Cynthia Payne's Mineral Sorting - 11am-5pm
If you can help, please contact Ed Fisher
703-830-9733 or (cell) 703-209-6121 Limited parking.

19: NVMC Meeting: Jim Kostka presents
"Radiation and Radioactive Minerals", Long Branch Nature Center, Arlington 7:45 pm

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

28: MNCA Meeting: Dave Fryauff presents
"Sterling Hill, NJ Fluorescent Mineral Locality",
Long Branch Nature Center, Arlington 7:45 pm

July

11-13: 2014 AFMS/RMFMS Convention and Show; Central Park Hall, Tulsa Expo Square, 21st and Yale, Tulsa, OK; Finis Riggs, 918-587-4400, Email - Lriggs1331@cox.net

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 Mineral Collecting Symposium

