THE NORTHERN VIRGINIA MINERAL CLUB INC

Crystals are the flowers of the Mineral Kingdom

THE MINERAL NEWSLETTER

VOLUME 51 NO. 8

NOVEMBER 2010

AUCTION

Twice a year our club holds an auction during the meeting. It is a lively time due to the variety of minerals and fossils that show up for sale, and the usually good deals on these minerals that can be found. We try to hold our regular business meeting to a "short and sweet" type of format so that we can spend as much time as possible on the auction. Show up early and plan to leave at 9:50pm. Showing up early gives you a chance to setup your auction goods (if you are planning to sell some items) or to view the neat specimens that others have brought. Don't forget to bring auction bid slips if you are selling, and don't forget to write down a bid on specimens you want to see go up for sale.

Due to time restrictions, there is seldom time to bring up all items for bidding. So, make sure you write down a bid on a bid slip if you want to see it make it to the floor for bidding: the items with bids on the bid slips are the items that are first brought forward for bidding. If an item has no bids on the bid slip, it may not make it to the floor for bidding.

Please see page 3 for bid slips. Please bring one bid slip for each item you want to have up for auction.

Happy Bidding!

SPECIAL REQUEST: PLEASE ALSO BRING "HIGHER QUALITY" ITEMS FOR AUCTION
Some members would like to bid on the nicer, more unusual items.

NVMC Schedule:

20-21 Nov. Our 19th Annual Gem, Mineral and Fossil Show at GMU

22 Nov. General meeting of the NVMC and AUCTION at 7:45pm

The date for the December meeting will be forthcoming in the December issue of *The Mineral Newsletter.*

24 Jan. General meeting of the NVMC at 7:45pm

Presented by the Northern Virginia Mineral Club, Inc. **www.novamineralclub.org**

Sponsored by the Dept. of Atmospheric, Oceanic and Earth Sciences at GMU

Date: **November 20 & 21, 2010**

Place: **Student Union II Building**
George Mason University Campus
Braddock Rd. & Route 123, Fairfax, VA

$1 OFF
1 Adult Admission with this card.

Hours: **Saturday 10-6, Sunday 10-4**

Admission: **Adults: $5, Seniors & Teens (13-17): $3, Children 12 & under, Scouts in uniform, and GMU Students w/ valid ID are FREE.**

Demonstrations, Exhibits, and Door Prizes. Mini-mines for children to dig in and get free fossils & minerals. Over 20 dealers with Fossils, Minerals, Crystals, and Gems for sale.

Use Parking Lot A (east), enter Lot A from Nottaway River Lane.
Look for our Courtesy Shuttle to Mineral Show

Inside this issue:

Oct. Meeting Minutes

October 25, 2010

By Kathy Hrechka, Secretary

Vice-President Sue Marcus opened the meeting at 7:55 p.m.

Robert Clemenzi shared brief news about the Science & Engineering Festival on the Mall, Washington, DC which was held on Oct. 23-24.

Show Chair, Tom Taaffe gave an overview of the projected needs of our upcoming show.

1. Members need to promote show

2. Mineral donations are needed for the Silent Auction (Sun. Nov. 21) Rob Robinson needs mineral & help.

3. Data base mailing.

4. Sign-up sheets were circulated to the meeting.

5. Mini-mines will need attention. Juniors, Julia & Alec will be involved there.

6. Help is needed at GMU Friday afternoon & evening.

7. Press releases and flyers are available from Tom Taaffe.

November 29 meeting will be the Club Auction.

Door prizes were won by Paul Davis, Rick Reiber, and Pat Haynes.

Geology Show & Tells were presented by Sheryl Sims, Dave MacLean, Karen Lewis, & George Reimher. Jim Kostka had give-aways from Marie Brown.

Break for refreshments.

Guests for this meeting included Dan Calahan, Jenny & Emily Flanigan.

Program: "A Tale of Two Diamonds" by Dr. Jeffery E. Post, Curator-in-charge of the Gem & Mineral collections of the National Museum of Natural History.

Auction Details....Operating Procedures

Members who've participated in Northern Virginia Mineral Club auctions know that they are a lot of fun, and contain spirited bidding. For efficient use of time we have developed the following procedures:

We have the old rule that says, you must be a member of the NVMC to sell material at the auction.

We have the old rule that says, anyone can be a bidder and buyer at the auction. NVMC membership is not needed to be a buyer.

We have the old rule that says, all material for auction must be hobby related.

We have an old rule; all bid increments must be at least $1 for bids on items between $1 and $25. Above $25 bid increments must be $5.

We have an old rule; items with multiple bids on the bid slip before the auction begins will be auctioned early in the evening.

All bidders must sign in, and be given a numbered card. You bid by raising your number.

All payments are made when the bidding is ended. The bidding will be stopped at 9:30 p.m. so we can be the out of the building by the10 p.m. requirement.

In full force is the trusted and true old rule that's at the heart of all auctions; bid often and bid quickly. Winning is fun. Bidding against friends and yourself are not only allowed, they are encouraged. Remember that the NVMC gets 15% of the sale price of all items and 100%^ of the sale price of club items.

Bid Slips - Please print and bring one for each item you wish to auction

AUCTION BID SLIP

ITEM # _____

DESCRIPTION_____

FROM _____

DATE of FIND _____

Starting Bid amount:_____

Bidders: You need to bid on this item if you want it to be auctioned! Place bid below.

NAME	BID

Cut along line and bring one for each item

AUCTION BID SLIP

ITEM # _____

DESCRIPTION_____

FROM _____

DATE of FIND _____

Starting Bid amount:_____

Bidders: You need to bid on this item if you want it to be auctioned! Place bid below.

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Cut along line and bring one for each item

Diggin' Dinos in North Dakota

Becoming a Real Paleontologist:

Article and Photos By Alec Brenner

I'm sure that all of us in the NVMC have cool (or hot, to be more realistic) stories to share from the summer. My mom and I are no exception – in August, we traveled to North Dakota and eastern Montana to participate in a professional fossil dig, namely the Marmarth Research Foundation (or MRF for short). Based out of Marmarth, North Dakota, this nonprofit group digs up dinosaurs, turtles, and other fossils from the late Cretaceous period, and lets volunteers like us come to help them out. Our trip with MRF showed us how field work (and lab work) is done in dinosaur paleontology.

The author, next to the plastered femur of a Hadrosaur, weighing about 350 lbs!

The badlands where we worked have an extremely rich geology. Nearly all of the exposed rock is part of the Hell Creek Formation, part of the late Maastrichtian stage of the late Cretaceous (65-67 million years old). At a few localities, the K/T-Boundary (the rock layer in which the dinosaurs died out 65 million years ago) is exposed as well. The rocks in the badlands are primarily siltstone, mudstone, and clay; these rocks are very soft, and erosion takes place quickly, exposing countless thousands of fossils each year. Chunks of red-brown siderite are abundant, along with yellow sulfur balls (composed of a rocky core encased in layers of sulfur-rich siltstone). Fossils are often encased in sulfur balls and siderite concretions, making excavation difficult.

The landscape of the badlands region was gorgeous – colorfully layered buttes and sod tables stretch farther than one can see, even from a good vantage point. Beyond the badlands were endless rolling prairies, dotted with oil pumps tapping a vast reservoir under the plains. The climate was hot and dry, even considering the unusual amounts of rain which had come before our one-week visit.

The prehistoric landscape of the region was much different. In the late Cretaceous, it was a lush, humid floodplain, on the edge of a shallow inland sea. The oxygen content of the atmosphere was much higher than it is today, allowing huge animals such as the dinosaurs to thrive. Sycamores, maple trees, and dawn redwoods formed dense forests along the region's hundreds of rivers, which were inhabited by softshell and hardshell turtles, champsosaurs (like modern gavials), crocodiles, and garfish. Herds of the giant bull-like Triceratops grazed on the mudflats, along with duck-billed hadrosaurs such as Edmontosuarus. Smaller, man-sized herbivores called Thesce-

The inside of the well-equipped fossil prep lab: fossils and tools line each workstation.

Diggin' Dinos in North Dakota (continued)

The author helping dig out a Triceratops tendon at Perilous Point.

losaurs were also common. A few carnivorous dinosaurs were also denizens of this lush forest, including several species of raptors and the giant Tyrannosaurus.

During our visit, we had the opportunity to work in two active dig sites. The first was a site in eastern Montana where a hadrosaur skeleton was being quarried out of a soft mudstone matrix. At this location the bones were somewhat spread out, and looked nearly identical to the surrounding rock until broken. The second location was a Triceratops site called "Perilous Point" due to its location on an outcrop of rock. The bones at this locality were mostly concentrated in a large block of stone, and were fortunately much easier to differentiate from rock. Most of the field work was jacketing (or "plastering") and digging. Jacketing involves running burlap strips through a modified Plaster of Paris solution and placing the strips over a fossil (which was previously wrapped in aluminum foil separator). This helps protect the fossil from the elements in the field and neatly packages it for transportation to the lab, where further work on the fossil is finished. We plastered the femur of the hadrosaur and the Triceratops body block. Digging, meanwhile, is mostly self explanatory: we used exacto knives and small awls to slowly remove rock in layers, while looking for bones as we dug deeper into the rock. On occasion, we had to move huge hunks of plastered rock and bone out of the site, which was not helped by the amazing weight of the rock: the fully jacketed, six foot femur of the hadrosaur weighed an estimated 350 lbs!

One of the MRF staff treats a Triceratops frill found while prospecting.

Team members plaster the Triceratops body at Perilous Point to protect it during the winter.

After a long, hot day of digging, we usually worked at

Diggin' Dinos in North Dakota (continued)

the foundation's fossil prep lab in Marmarth. The lab was extremely well-equipped, with huge, well-organized storerooms containing all of the thousands of fossils that had been found in previous digs. Several dozen workstations with preparatory equipment and fossils lined the entry room. Most fossils are prepared simply by scraping the matrix (surrounding rock) away gradually with dental picks and exacto knives, but some are either too hard or too fragile for this method, so special equipment is needed. Such is the case with the air scribe, which is essentially a miniaturized, stylus-shaped jackhammer. The tip of the tool, when pressed lightly against a rock, vibrates chips of it off, making it useful for removing hard(er) matrix material from fossils, as well as making a great deal of noise. To deal with more fragile specimens or to finish off a fossil, an air abrader is used. This tool, enclosed in a dust-containing chamber, is a handheld pen-like device that fires a mixture of compressed air and baking soda powder, a mixture that is powerful enough to erode most matrices while keeping the slightly harder fossils (mostly) unscathed. We had an opportunity to use both pieces of equipment during our numerous visits to the lab.

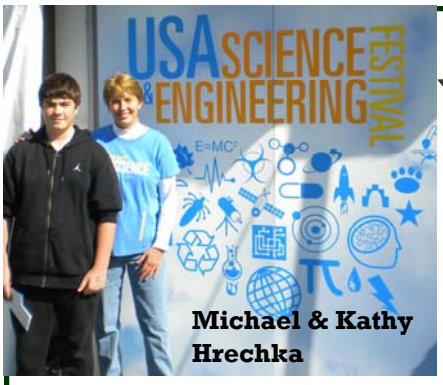
We also visited a nearby fossil casting lab. "Casting" makes a nearly identical copy of a fossil by making a silicone mold around it, and pouring plastic into the mold. The plastic copies are painted, and are so realistic that some experienced fossil hunters cannot tell the difference between a fossil and a plastic model! We got to create casts of the most famous fossil found by MRF: Dakota, a hadrosaur which was so well preserved that impressions of its pebbly skin were found. To create the plastic casts, we quickly made a syrupy mixture of several chemicals, which we poured into molds. This chemical mixture reacted after about 30 seconds, at which point the once clear brown mixture turned an opaque white almost instantaneously. After the plastic set, we pried the finished casts out of the molds.

In the several days after finishing our work at the dig sites, we went prospecting. The aim of prospecting is to find new fossils to dig up in the next season, as well as to collect and catalogue specimens for research projects. Prospecting takes two forms: hiking and looking in the dirt, sand, and rocks for bones (which had a characteristic tan-brown to bleached color) and stopping at microsites, or areas where small (mostly <1") fossils wash into after eroding out of the buttes. Microsites usually have lots of champsosaur and softshell turtle remains, but a huge variety of other fossils can be found: crocodile/alligator scutes/teeth, fish bones/scales, ray teeth, amber, shards of Triceratops teeth, a turtle claw, a lizard jawbone, pine cones, leaves, and the ever-present chunks of dinosaur bone. My mom and I found several interesting fossils while prospecting: I found a tooth from Nanotyrannus lancensis, a smaller relative of T. rex. I also found a chunk of bone with bite marks in it, which I got to keep. My mom, meanwhile, found a Hadrosaur vertebra and a nearly complete Hadrosaur hoof, both of which were proclaimed by the group leader to be "badass." To all of our surprise, she also found a genuine 1907 Indian Head penny – likely from a gold prospector! Along with that, we had the chance to meet a rattlesnake curled up in the grass – heartwarming (cough, cough)!

Overall, we enjoyed our trip tremendously. We highly recommend signing up to participate for anyone willing to travel to dig dinos, or for those who are up for an adventure. To find out more about MRF, visit the foundation's website:

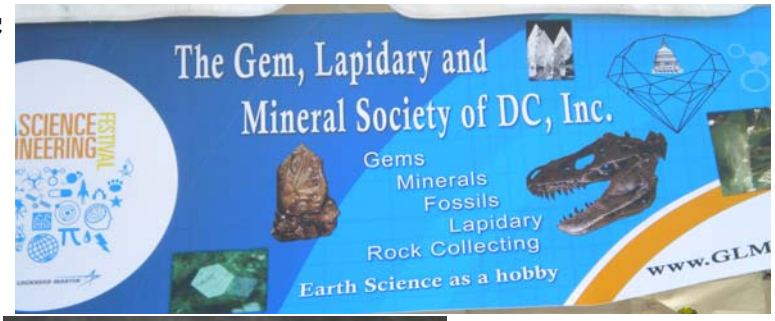
http://www.mrfdigs.com

The group working at a microsite: everyone picks a small spot to scan for fossils.



Michael & Kathy Hrechka

GLMSDC Booth



USA Science & Engineering Festival Expo:

National Mall, D.C. Oct. 23-24, 2010

By Kathy Hrechka 11/10

The inaugural USA Science & Engineering Festival, hosted by Lockheed Martin was recently held on the Mall, in Washington, D.C. this past October 23-24. It featured over 1,500 free hands-on science activities designed to inspire the next generation of scientists and engineers.


Albert De Milo


Mad Scientist

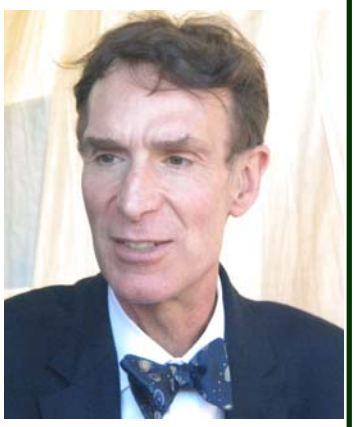
Meteorite Man, Geoff Notkin & Kathy

Featured sponsors included Life Technologies Foundation, Science Channel, Popular Science, Science Illustrated, etc. The Gem, Lapidary and Mineral Society of D.C. promoted geology. Our club vice-president, Sue Marcus became a Rock Detective for the day. Kathy & son, Michael Hrechka volunteered as ambassadors for the festival, by passing out brochures, etc. Check out the website

www.usasciencefestival.org

Geology Conductivity

Bill Nye Science Guy




Tim Morgan

Einstein Relativity

Sue Marcus Rock Detective

FINDING KYANITE IS DYNAMITE!

By Sheryl E. Sims

Kyanite: Derived from the Greek word kuanos and referred to as "kyanos", which means deep blue. Typically a blue silicate mineral, commonly found in aluminum-rich metamorphic pegmatites and/or sedimentary rock (blue, green, white, grey and black) Al_2SiO_5.

On October 24, 2010, my daughter, Amber, and my friend and club member, Georgia Stromer, and I headed to Dillwyn, Virginia for an eagerly anticipated field trip organized by Ted Carver and hosted by the Kyanite Mining Co. It's said that the mining company is one of the most productive kyanite mines in the world.[1] After our mining representative, Mike Morris, gave us a safety briefing, members of the NVMC, of which there were five, joined about six or seven other clubs and caravanned up Willis Mountain on a gorgeous, sunny, Saturday morning.

It was great meeting rock hounds from all over the region. One happy hunter drove to Willis Mountain all the way from Troy Alabama! Others were from the Lynchburg, Southern Maryland, Richmond, New Jersey, Pennsylvania, the Tide Water area, etc. A total of about 50-60 of us gathered for the trip up the mountain.

When I first received the email about the trip to the kyanite mine, I must confess that I didn't know a thing about kyanite. However, I did a little research a head of time so that I'd have an inkling as to what I was trying find! First, I was happy to learn that the Kyanite Mine was an open mine. It was welcome news to find that, rather than heading underground, which I must admit, seemed a bit scary after watching trapped Chilean miners being freed recently, we would be in an open mine. The experience was similar to that of previous quarry visits.

What intrigued me most about this field trip was the array of minerals that we looked forward to finding: Augelite, Biotite, Chalcosiderite, Crandallite, Diaspore, Dickite, Enargite, Fluorapatite, Goyazite, Gypsum, Halloysite, Hematite, Kaolinite, Kyanite, Lazulite, Limonite, Lithiophorite, Magnetite, Muscovite, Fuchsite, Paragonite, Pyrite, Pyrophyllite, Quartz, Rutile, Sphalerite, Sulphur, Topaz, Tourmaline, Trolleite, Variscite, and Woodhouseite.

It was my hope that a large list of minerals meant that there would be increased chances for us finding a variety of interesting specimens. We were not disappointed as people began finding minerals right away.

Upon further research, I learned that Kyanite feldspar is formed as a result of high temperatures and pressure which causes the mineral to change. That change alters the clay/sedimentary rock and turns it into kyanite feldspar. It's usually found embedded with "prismatic bladed crystals and radiating masses of crystal formations."[2] Kyanite is used in the manufacturing of refractory products like bricks, furnaces, mortars, etc. It's considered an exotic gemstone and is sometimes used in the making of beads and pendants. [3] Kyanite is also used in ceramic products, porcelain plumbing fixtures, spark plugs and dishware. It can usually be spotted by the elongated shape and columnar form of its crystals. Kyanite is generally found around other minerals such as: andalusite, quartz, staurolite, micas, talc, garnet, mullite, corundum, sillimanite, hornblende and gedrite.[4] Kyanite also goes by the names: disthene, rhaeticite and cyanite[5] and can be found in Brazil, North Carolina, Georgia, Switzerland, Serbia; India, Kenya and Russia. [6] We now know that it is also found in Virginia! In terms of its hardness, Kyanite is widely varied "in the same crystal face." The same is true for diamonds.[7]

Unbelievably, I found an amazing piece of kyanite just a few hours into the dig! My finding it was purely beginner's luck. I spotted a couple of friends from the South-

ern Maryland club who had been busy finding all kinds of minerals. They advised me to just "fish around" in the mud and see what I find. I did, and much to my surprise, I found a very pretty piece of Kyanite. (I also found what Georgia and I believe are specimens of: Biotite, Diaspore, Fluorapatite, Gypsum, Hematite, Muscovite, Pyrite, Pyrophyllite, Quartz, Rutile, and Sphalerite.) We also found other samples of kyanite. They were clear, light blue and even a light green. None were as deep blue as the one piece that I found. One rock hound from the Richmond club, I believe, offered to buy it from me on the spot! However, a more experience member from a gold mining club advised me to take good care of my find and to hang on to it as it was near gem quality and, therefore, very special. This was further confirmed by many others that heard about it and came to take a look. Well, you can imagine my excitement! It was thrilling to not only stumble upon such a find, but to have other, more experienced rock hounds, to share in my excitement. The club members in general were helpful to, and encouraging of, each other as we chipped away at rock and made our way through the mud. Cautioned to be on the look out for rock slides, copperheads resting under rocks, and swarming bees/wasps, I was happy to discover only minerals that day. When it was time to head home, Amber, Georgia and I left feeling good about our time spent on Willis Mountain. Ted told me at the beginning of the field trip that someone would always find something better than what you might find. At the end of the trip, he told me that that someone was me! What a happy surprise that was!

Note: The team at Kyanite Mining Co. were especially welcoming and that was greatly appreciated by all. They also provided boxed lunches for a nominal fee which were enjoyed on the scenic mountain top. Stating that it was their pleasure to welcome us to the mine, they refused "tokens" of our appreciation for their time spent with us..

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[1] www.nvcc.edu/home/cbentley/Geoblog/2008/10/kyanite-mining-at-willis-mountain

[2] www.ehow.com/about_6129458_kyanite-feldspar_.html

[3] Ibid.

[4] http://en.wikipedia.org/wiki/Kyanite

[5] Ibid.

[6] Ibid.

[7] http://www.galleries.com/minerals/silicate/kyanite/kyanite.htm

Reminder!
Renew Your Membership

It is time to renew your membership in the Northern Virginia Mineral Club if you have not already done so. Please send your membership dues to the following address:

Rick Reiber, Treasurer
Northern Virginia Mineral Club
PO Box 9851
Alexandria, VA 22304

NVMC Newsletter Editor
Robert Winsor
35740 Roundleaf Ct.
Round Hill, VA 20141

Phone: 540-751-0922
Please call between 7pm and 9pm
E-mail: news.nvmc @ gmail.com

PLEASE VISIT OUR WEBSITE:
HTTP:\\www.novamineralclub.org

The Northern Virginia Mineral Club

You can send your Newsletter articles to:

Robert Winsor
35740 Roundleaf Ct.
Round Hill, VA 20141

Or via email: news.nvmc @ gmail.com

Visitors are Always Welcome at our Club Meetings.

PLEASE REMEMBER TO VOLUNTEER TO HELP TOM TAAFFE WITH THE GEM, MINERAL & FOSSIL SHOW ON NOV. 20th, 21st or 22nd!

Please contact Tom at:

rockcllctr @ aol.com

Or call him:
703-281-3767

Purpose: To promote, educate and encourage interest in geology, mineralogy, lapidary arts and related sciences. The society is a member of Eastern Federation of Mineralogical and Lapidary Societies (EFMLS) http://www.amfed.org/efmls and American Federation of Mineralogica1 Societies (AFMS) http://www.amfed.org.

Dues: Due by 1 January of each year; $15.00 Individual, $20.00 Family, and $6.00 Junior (under 16, sponsored by an adult member).

Meetings are held at 7:45 p.m. on the fourth Monday of each month (except

May and December*) at Long Branch Nature Center, *625* Carlin Springs Road, Arlington, VA 22204. Phone (703) *228-6535.* (No meeting in July & August.)

(*Changes announced in the newsletter.) Snow schedule - Arlington county schools.